

*The*BlueDot

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HUMANS AND NATURE EXPLORING RELATIONSHIPS



THE BLUE DOT features articles showcasing UNESCO MGIEP's activities and areas of interest.

The magazine's overarching theme is the relationship between education, peace, sustainable development and global citizenship. THE BLUE DOT's role is to engage with readers on these issues in a fun and interactive manner. The magazine is designed to address audiences across generations and walks of life, thereby taking the discourse on education for peace, sustainable development and global citizenship beyond academia, civil society organisations and governments, to the actual stakeholders.

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Director's Note



“Look again at that dot.
That’s here. That’s home. That’s us.

On it, everyone you love,
everyone you know, everyone you ever heard of,
every human being who ever was,
lived out their lives.
The aggregate of our joy and suffering
thousands of confident religions,
ideologies, and economic doctrines,
every hunter and forager, every hero and coward,
every creator and destroyer of civilization,
every king and peasant, every young couple in love,
every mother and father, hopeful child,
inventor and explorer, every teacher of morals,
every corrupt politician, every superstar,
every supreme leader, every saint
and sinner in the history of our species lived there-
on a mote of dust suspended in a sunbeam.”

CARL SAGAN

PALE BLUE DOT: A VISION OF THE HUMAN FUTURE IN SPACE

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Humans and Nature: Understanding and rekindling the emotional connect



“Our task must be to free ourselves... by widening our circle
of compassion to embrace all living creatures and the whole of
nature and it’s beauty.”

- Albert Einstein

Compassion, empathy, emotions are words that we rarely mention when we talk about climate change, biodiversity conservation or nature in general. What we do talk a lot about when it comes to nature is its instrumental value and its value in monetary terms. A tree is valued for its timber or for its carbon sequestration. But rarely do we talk about trees being an emotional part of us; our being.

As an economist and as the co-chair of the biodiversity synthesis group of the Kofi Annan commissioned Millennium Ecosystem Assessment, I never for a moment in that entire exercise heard and even thought about how our emotions are so heavily influenced by the nature that surrounds us. The freshness nature brings to our emotional state cannot be more eloquently put than in Sylvia Plath’s Bell Jar, “I felt my lungs inflate with the onrush of scenery—air, mountains, trees, people. I thought, “This is what it is to be happy.”

The freshness nature brings to our emotional state cannot be more eloquently put than in Sylvia Plath’s Bell Jar, “I felt my lungs inflate with the onrush of scenery—air, mountains, trees, people. I thought, “This is what it is to be happy.”

How does one value the emotions that one feels towards nature? But are we asking the right question here by attempting to find a value in the first place to these emotions. How does one value empathy, compassion and love?

Precisely, we don’t.

It is part of our being; part of our flourishing. It simply makes us feel good. Similarly, an emotional relationship with nature that is one of love and compassion just cannot be monetized or commodified as we presently do but should be embraced as an intrinsic part of ourselves and be cherished and protected. We now know that compassion and empathy can be trained. I use the term trained and not taught as I believe the latter is purely a cognitive exercise while the former involves both cognition with the social and emotional. This is where our education systems need to reimagine; embrace the inter-connectedness

of cognition with social and emotional learning as part of every curricula, assessment and pedagogy.

Similarly, an emotional relationship with nature that is one of love and compassion just cannot be monetized or commodified as we presently do but should be embraced as an intrinsic part of ourselves and be cherished and protected.

In this issue of The Blue DOT, we bring stories, research and acts which demonstrate why and how we must go beyond seeing nature as purely instrumental for our flourishing but an emotional relationship. As always, we get to hear the views and voices of the younger generation, which are always refreshing and offer optimism for the future in contrast with the doom and gloom news we are bombarded daily with media.

Let me finish by quoting one of my favourite quotes of Gandhi who said, “what we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another”.

Let us bring back nature into our “hearts” and let us see our emotional relationship with nature through the lens of empathy, compassion and love. We surely then be able to build peaceful and sustainable societies across this “Blue DOT” we call home.



Anantha Duraiappah
Director, UNESCO MGIEP

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Humans and Nature: Exploring relationships

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Gregoire Borst (Full Professor of Developmental Psychology and Cognitive Neuroscience of Education at the University Paris Descartes)

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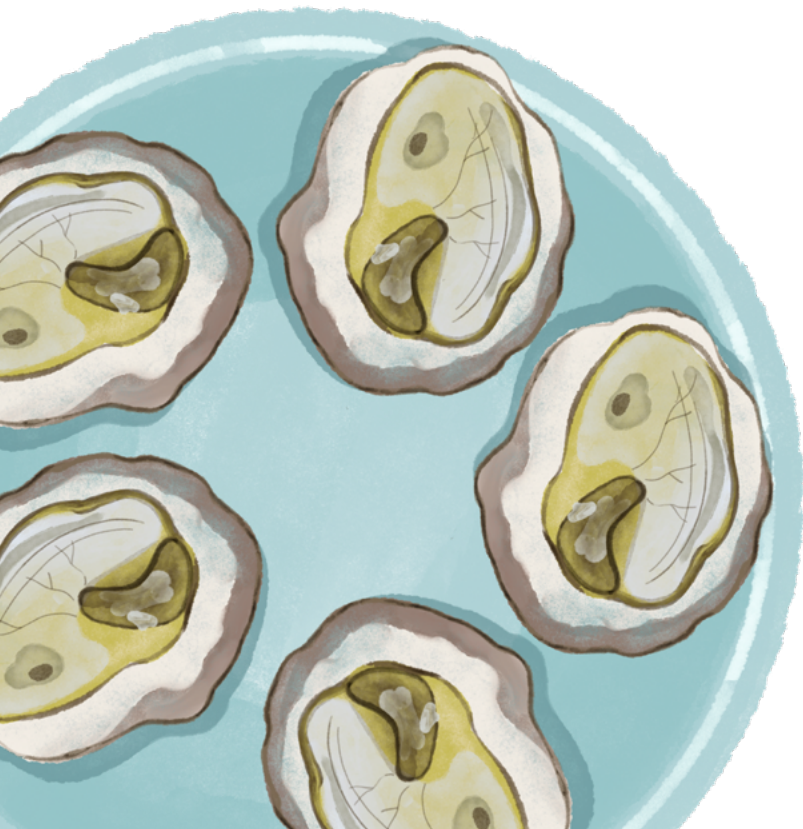
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Humans and Nature: Exploring Relationships

“ One of the first conditions of happiness is that the link between Man and Nature shall not be broken.

Leo Tolstoy



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Nature and Human Relationships

A symbiotic relationship between humans and the natural world is essential to sustain both human well-being and the well-being of ecosystems. There is plenty of evidence to support the claim that interaction with nature is essential for emotional wellbeing^{1,2}. New and emerging research also indicates that close interaction with nature helps humans adopt more pro-ecological attitudes and behaviors^{3,4,5}. Some of the key conceptualizations exploring these interrelationships are *nature relatedness*⁶, *inclusion of nature in self*⁷, *emotional affinity toward nature*⁸ and *connectedness to nature*⁹. These psychological constructs are rooted in the ‘Biophilia Hypothesis’ (also called BET) that humans possess an “innate propensity to approach life and lifelike processes”¹⁵, and have been found – in addition to exposure to nature and proximity to available greenspaces – to be connected to a large variety of outcomes, including

increased positive affect, decreased negative affect, increased generosity, increased cooperation of natural resources, increased attentional capacity, better ability to deal with life stressors, decreased prevalence of respiratory and inflammatory diseases, increased feelings of vitality, improved psychological well-being, and more¹³.

A symbiotic relationship between humans and the natural world is essential to sustain both human well-being and the well-being of ecosystems.

Humans are social beings and their need to relate is fulfilled by making social connections in forms of various relationships. However, the need to relate is not limited to humans but they also *relate to animals, deceased ancestors, deities, abstract entities such as countries, humanity as a whole, or even imagined collectivities in order to meet their need to relate*^{10, 11}. According to environmental psychologists, there is a strong body of evidence to suggest human beings have a fundamental need to experience and feel connected to nature^{12, 13}. The survival of the human race depends on the ecosystems, ecosystem services and biodiversity that surround us. The question to ask here is what can be done to promote a more positive relationship with nature and how do we help our current generation of learners to disengage from unsustainable patterns of behaviors? What role can education play?





Nature, Emotions and Education

It's time to question the way we have been educating our children. We live in a world where anthropogenic climate change, environmental degradation and loss of biodiversity have reached an alarming level. However, the dominant discourse in education continues to see it as a tool for economic growth, ignoring its transformative potential for a peaceful, prosperous and environmentally sustainable planet. The GDP-centric economic model is putting individual and societal flourishing at risk and escalating interconnected environmental and socio-economic crises¹⁴.

In this scenario education can play a very important role in building resilient people and a resilient planet, and helping learners reflect upon their current engagement with nature. We know that education can play a key role in developing attitudes, values, beliefs, and identities; and, emotions play a role in directing us toward what is engaging and interesting, thus influencing our capacity to learn in an interactive and reciprocal way.

It's time to question the way we have been educating our children.

In this context, a greater engagement with nature can stimulate a sense of connectedness to the natural environments that ubiquitously surround us, and a more interactive, outdoor-based education for younger generations can both increase their motivation and attention for learning, while also developing a knowledge-base to add to the robustness of this budding sense of connectedness, as research has shown that childhood experiences with nature can lead to greater nature relatedness in adulthood, and lead to mental-health benefits later in life¹⁶.

education can play a very important role in building resilient people and a resilient planet, and helping learners reflect upon their current engagement with nature.

With this background, the current issue of the Blue Dot will focus on investigating the following questions:

1

What kind of emotions facilitate social connectedness and how? And how one can build emotional resilience within oneself and with others?

2

How can we build resilience of ecosystems, ecosystem services and nature through building the emotional resilience of people?

3

What kind of educational interventions can help build resilient relationships between humans and nature?

4

How mainstreaming social and emotional learning approaches help in better relationships between humans and nature?

5

What kind of initiatives should be taken to strengthen the relationship between humans and nature? Can a resolution on emotional intelligence and education adopted by the CBD be a step in this direction?



Some related initiatives



CBD

Convention of Biological Diversity

The Convention on Biological Diversity (CBD) is the international legal instrument for “the conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources” that has been ratified by 196 nations. **The article 8j of the convention focuses on the participation and role of the indigenous people.** The article states “ Subject to its national legislation, each Contracting Party shall respect, preserve and maintain knowledge, innovations and practices of indigenous and local communities embodying traditional lifestyles relevant for the conservation and sustainable use of biological diversity and promote their wider application with the approval and involvement of the holders of such knowledge, innovations and practices and encourage the equitable sharing of the benefits arising from the utilization of such knowledge, innovations and practices.” **While article 12a and 13 focuses on role of education in enhancing awareness about biological diversity and promoting its sustainable** “The Contracting Parties, shall establish and maintain programmes for scientific and technical education and training in measures for the identification, conservation and sustainable use of biological diversity and its components and provide support for such education and training for the specific needs of developing countries. Parties shall also promote and encourage understanding of the importance of, and the measures required for, the conservation of biological diversity, as well as its propagation through media, and the inclusion of these topics in educational programmes. They shall cooperate, as appropriate, with other States and international organizations in developing educational and public awareness programmes, with respect to conservation and sustainable use of biological diversity.”



UNESCO

United Nations Educational Scientific and Cultural Organization

UNESCO’s interdisciplinary mandate which includes the natural and social sciences and culture makes it uniquely able to explore the diverse values of nature. Biodiversity is central to many cultures and culture itself plays a crucial role in how biodiversity is perceived.UNESCO is the only UN agency with a mandate in the field of culture.

UNESCO’s Culture Sector, through its culture conventions and programmes, plays a unique role in promoting human creativity and safeguarding culture and heritage worldwide. UNESCO’s mandate for the social sciences enables exploration of the ethical considerations of nature’s intrinsic value, while UNESCO’s work on gender provides a space to examine how biodiversity is experienced and utilized differently by women and men. Finally, the work of UNESCO in culture and communication and information demonstrates that language is key to how we understand and perceive the world, and shows how the concepts of ‘biodiversity’ and ‘nature’ are expressed in many different ways in different languages. The UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage contributes to the understanding of traditional knowledge, values and practices accumulated and renewed across generations as part of intangible cultural heritage. This includes the ways in which such in-tangible cultural heritage guided human societies in their interactions with the surrounding natural environment for millennia. Today, the contribution of intangible cultural heritage to environmental sustainability is recognized in many fields such as biodiversity conservation, sustainable natural resource management, climate change, and natural disaster preparedness and response.



UNEP

United Nations Environment Programme

UNEP is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system, and serves as an authoritative advocate for the global environment. UNEP has been trying to strengthen human nature relationships by various initiatives in the fields of education, energy, environment rights and governance.



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One of the first conditions of happiness is that the link between man and nature shall not be broken.

Leo Tolstoy





Foreword

Mr. Shigeatsu Hatakeyama (畠山重篤様)

Chairperson of “Mori wa Umi no Koibito” (The Forest is the Ocean’s Lover); Oyster farmer; Professor of Field Studies and Practical Learning, Field Science Education and Research Center, Kyoto University

法人 森は海の恋人 代表、牡蠣養殖漁業家、京都大学フィールド科学教育研究センター社会連携教授



While running an oyster farm, he has initiated and continued the movement of “Mori wa Umi no Koibito” (The Forest is the Ocean’s Lover) and has engaged in environmental education through welcoming children across the country to his farm. Recipient of the Asahi Forestry Culture Award (1994), the award of Prime Minister’s Commendations for Outstanding Contributions to the National Greening Campaign (2003) and Forest Heroes Award of the United Nations Forum on Forests (UNFF) (2012).

I am an oyster farmer by profession. In 1947, my father returned from the Pacific War barely escaping alive and started a small oyster farm to support his family. I am the eldest son, the second generation of the farm, and now my son is the third generation. My grandson, the fourth-generation heir, celebrated his Coming-of-Age Day ceremony this January. We are about to celebrate our 100th year.

The word “sustainability” has become a popular topic, and the oyster farming industry is a symbol of this.

Oysters are caught in brackish waters where river water flows into the sea. This brackish water is where phytoplankton, which is the food for oysters, flourishes.

In 1962, when I graduated from high school and took over the family business, there were no problems in the sea and oysters were growing well. However, in the 1970s, the sea became polluted and red tide plankton, which is not good for oysters, began to appear.

Japan was entering an era of rapid economic growth. Shallow seaside areas were reclaimed, and river basins continued to be developed one after another.

牡蠣養殖業を営む傍ら「森は海の恋人運動」を続け、環境教育の一助として全国から子どもたちを養殖場に受け入れている。朝日森林文化賞(1994年)、2003年緑化推進功労者内閣総理大臣表彰、2012年国連森林フォーラム「フォレスト・ヒーローズ」を受賞。

Kesennuma, far from the center of Japan, was also hit by this wave. The growth of oysters deteriorated, and deaths began to occur.

The word “sustainable” did not exist in those days.

For the first time, I walked upstream from the mouth of the Okawa River, which flows into Kesennuma Bay. Literally, there was a variety of human patterns lying there. The tidal flats that had formed at the mouth of the river had been filled in, and sewage was being discharged from the fish processing factories that had been built there. Up the river is a paddy field area. The paddy fields are quiet and there is no sign of life. It was obvious that the paddy fields were heavily affected by pesticides and herbicides. Further up the river is a forest area. When I entered the cedar mountain, there were no shadows of insects or birds. After the war, cedar trees were planted as part of the government’s policy, but they were left unattended and in disrepair. With the liberalization of trade and exchange rates, imported lumber became cheaper, and domestic lumber had nowhere to go.

I realized that in order to grow delicious oysters, we need to have a bird’s eye view of the watershed that flows into the sea.

I also realized that we need to share our values with the people living in the watershed.

As a means of achieving this goal, I started to create a forest of deciduous broad-leaved trees such as beech, sawtooth oak (*Quercus acutissima*), and oak (*Quercus*) in the headwaters of Mt. Murone located in Iwate Prefecture.

In 1990, research by Dr. Katsuhiko Matsunaga of the Faculty of Fisheries, Hokkaido University, revealed that iron fulvate, formed in the humus of the forest, is an essential component for the development of phytoplankton.

At the same time as the forest, we began inviting children from schools in the Okawa River basin to the oyster farm to experientially learn about how the forest, river, and ocean are interconnected. A doctor of plankton has also been born from among the children who experienced such a learning. This activity was meant to plant trees in the hearts of the children.

On March 11, 2011, the tsunami caused by the Great East Japan Earthquake devastated the oyster farms. However, the ocean was restored. The environment in the river basin was not damaged.

I was convinced that the slogan “Mori wa umi no koibito (The forest is longing for the sea, the sea is longing for the forest)” is indestructible.





Foreword

私の生業はカキ養殖業です。1947年、太平洋戦争から命可ながら帰ってきた父が

家族を養うために起業した小さなカキ養殖場です。長男の私が二代目、今、三代目の息子たちの時代です。四代目となる跡取り孫がこの一月に成人式を迎えました。もう少しで百年を迎えようとしています。

持続可能性と言う言葉が取り沙汰されていますが、カキ養殖業と言う仕事はその象徴のような存在だと言えます。

カキの漁場は河川水が海に注ぐ汽水域。この汽水域はカキのエサである植物プランクトンが大発生する水域です。

1962年、私は高校を卒業し家業を継いだころの海は何の問題もなくカキは順調に育っていました。しかし、1970年代に入ると海が汚れ出し、赤潮プランクトンと言う牡蠣にとって都合の悪いものが発生するようになったのです。

日本は高度経済成長経済期という時代に入っていました。水深の浅い海辺は埋め立てられ、川の流域は開発に次ぐ開発が続きました。

中央から遠く離れた気仙沼の海辺もその波は押し寄せてきました。カキの成長は悪くなり斃死も起こるようになったのです。

持続可能という言葉は、その時代にはありませんでした。

気仙沼湾に注ぐ大川の河口から初めて上流まで歩いてみました。文字通り、そこには様々な人間模様が横たわっていました。河口に形成されていた干潟は埋め尽くされ、そこに建設された水産加工工場からは汚水が垂れ流されていました。川を遡ると水田地帯です。水田は静かで生物の気配はありません。農薬、除草剤の影響が濃いことは明らかで

す。さらに遡ると森林地帯です。スギ山に立ち入ると虫や鳥の影はありません。戦後、国策で植林されたスギ山手が手入れをされずに荒れ果てていました。貿易、為替の自由化で輸入材が安価になり、国産材が行き場を失っていたのです。

美味なるカキを育てるためには、その海に注ぐ流域を俯瞰する目が必要だときぎきました。流域に暮らす人々と価値観を共有しなければとも思いました。

その手段として、大川源流の岩手県室根山にブナ、クヌグ、ナラなどの落葉広葉樹の森づくりを開始しました。

1990年、北海道大学水産学部の松永勝彦博士の調査によって、森林の腐葉土中で形成されている「フルボ酸鉄」が、植物プランクトンの発生に不可欠な成分であることが解明されたのです。

森林と同時に、大川流域の学校の子どもたちをカキ養殖場に招き、森と川と海はどのようにつながっているかを伝える体験学習を開始しました。体験した子どもたちの中から、プランクトンの博士も誕生しています。この活動は子どもたちの心に木を植える意味がありました。

2011年3月11日、東日本大震災による大津波でカキ養殖場は壊滅的な被害を受けてしまいました。しかし、海は復活しました。川の流域の環境は被害が無かったのです。

「森は海の恋人」というスローガンは不滅だと確信しました。

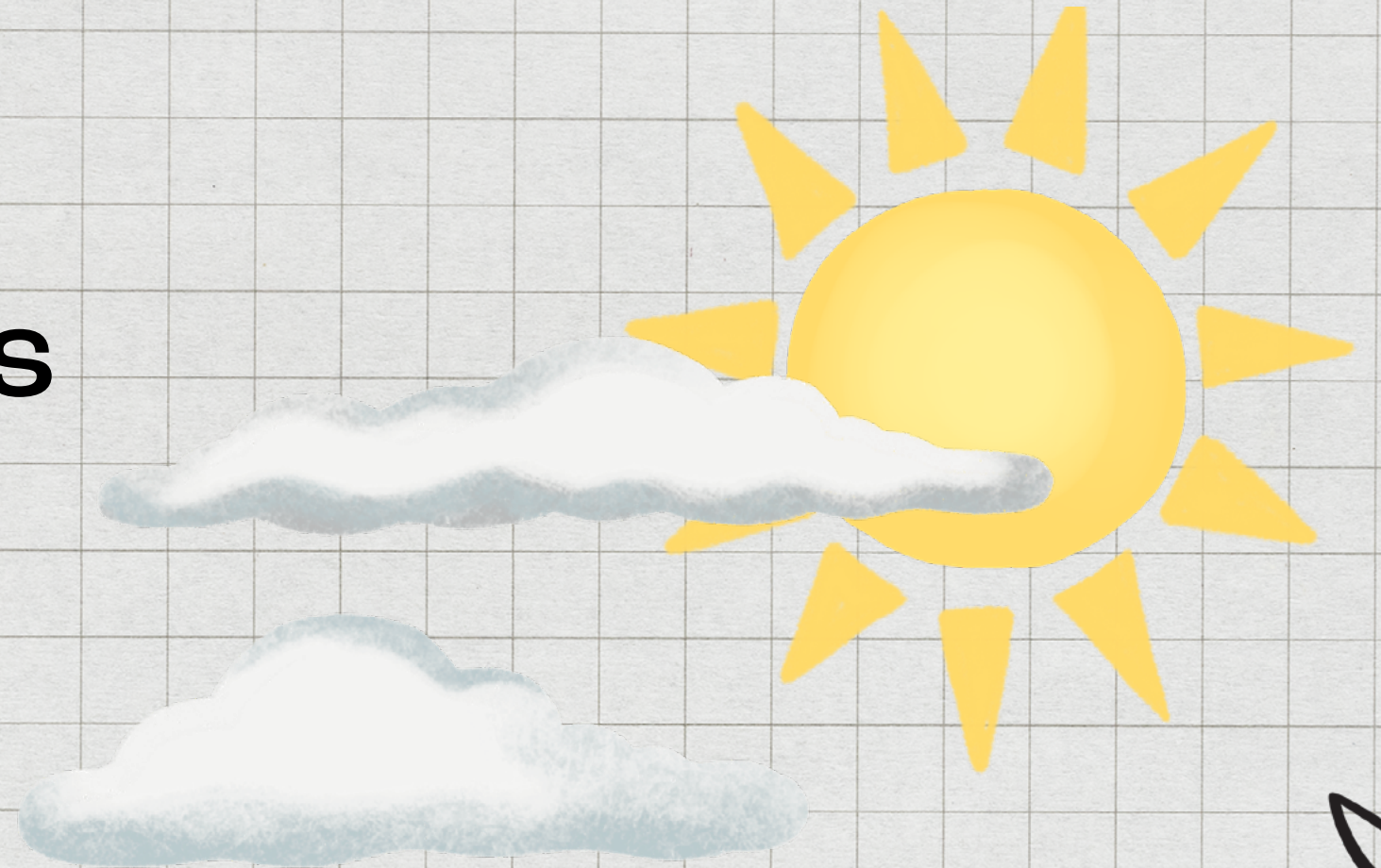
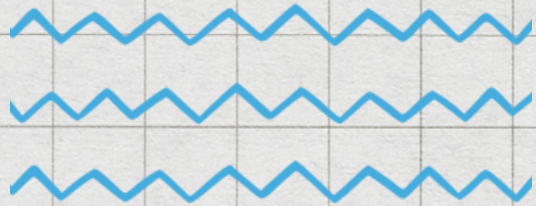
The Earth is a fine place and worth fighting for.

Ernest Hemingway



Humans and Nature

Exploring Relationships



Sir Partha Dasgupta
Economist




Dr Anantha K. Duraiappah
Director, UNESCO MGIEP






Anantha Duraiappah*, Director, UNESCO MGIEP, in conversation with Professor Sir Partha Dasgupta, Economist, Frank Ramsey Professor Emeritus, University of Cambridge, on the key findings of the recently released Dasgupta Review: The Economics of Biodiversity, on the critical role of emotion in cultivating the human–nature relationship and the urgent need for our education systems to be reformed at all levels to incorporate this emotional connection to nature.**

*referred to below as Anantha; **referred to below as Sir Partha

 **Anantha:** Welcome Professor Dasgupta. Really happy to have you here. What I wanted to do today is to glean from you some key findings of the Dasgupta Review, which is timely and long overdue. And then of course, what our readers – that is, the educators in our network – would benefit from is your insights into how education can be reimagined to forge a far greater relationship with nature than we have had in the past.

I remember when you were the senior advisor to the Millennium Ecosystem Assessment, and we worked together on a five-year global biodiversity and ecosystem project. At that time, I’m not sure we did the economic aspect justice, so the Dasgupta Review is a great follow-up to that. It may be a little late in coming, but I am so happy to hear that it was commissioned by the British Government, with you taking the lead on it.

So, if I can ask you now to share with us the key insights that we should take away from the Dasgupta Review.

 **Sir Partha:** Thank you – it is a pleasure to chat to you again. It has been a long time. First of all, it certainly was the UK Government, but more specifically, it was the UK Treasury that commissioned the report. And for a finance ministry to do something like this is rather unusual, but extremely welcome.

So, what are the findings? First of all, the title itself is slightly misleading. It is more than the economics of biodiversity. Biodiversity is a characteristic of ecosystems; it is not an asset per se. It’s akin to the distribution of wealth among people as opposed to “wealth” itself. It’s about the economics of the biosphere. The book is really about our embeddedness in the biosphere and our lives overall, not just our economic lives – recognizing that nature is not external to us, but that we are in fact embedded in and a part of nature.

Now that sounds a bit metaphysical but in fact it can be given a really concrete, analytical, tight formulation and the Review tries to do that. It sees ecosystems as assets on par with produced capital – assets like growth and buildings, and human capital such as education and health. Both produced and human capital are part and parcel of modern economic thinking, but for some reason the biosphere has been left out, and yet everything we do is founded on the goods and services of the biosphere.

The second point is that the biosphere (or Mother Nature) offers us a plethora of goods and services. There are many processes at work here and climate regulation is only one of them. There is also nutrient cycling, nitrogen fixation, pollination, and so on. And the Review found (based on the work of scientists and ecologists) that these processes are complementary; they are

not substitutes for one another or independent of each other. So, you can’t say, for example, I want more of this service and to substitute it for some other service that Mother Nature provides. If you tamper with one process too much, other processes can be damaged as well. So, for example, climate change is intimately connected to biodiversity loss.

I won’t say that the biosphere is in a precarious position because Mother Nature is pretty robust and resilient. But, if we put our minds to it, we ‘smart’ humans could actually turn the biosphere into a house of cards. Over the past 70 years, our demands for Mother Nature’s goods and services have begun to exceed her ability to meet those demands on a sustainable basis. And today the ratio is well over 1 – at around 1.5, 1.6, 1.7. Although these are crude estimates, they indicate the incredible pressure we are putting on nature. Demand exceeding supply is only possible by degrading the biosphere. So, if this gap continues to increase, we further deteriorate the biosphere’s capacity to produce these goods and services. We are essentially firefighting. It is hard to over-emphasize the point that in a period of only 60–70 years, we have moved from a situation of surplus to a huge deficit.

Biodiversity is a characteristic of ecosystems; it is not an asset per se. It’s akin to the distribution of wealth among people as opposed to “wealth”

The third point is that resolving this problem will require action at every level, not just governmentally. We tend to think every issue is a political one – and certainly large chunks of this can only be dealt with by government, not only within each country but also across countries through international effort – but here we also need input from the private sector, at the community level and, importantly, at the household level – in the action taken by individuals. So, we need a transformation and I would not use this explosive term unless the data pointed to it. All the work that earth scientists, ecologists and a few economists (including people like yourself who initiated the Inclusive Wealth Measurement exercise) have produced in recent years in addressing this question, highlights the massive erosion of ecosystems. So, this challenge requires attention at every level and I will give you examples of what I have in mind.

Why is our demand in excess of our supply? Why aren’t human economies able to arrange things such that individual incentives and benefits are in line with the common good (and by common good I mean balancing our demand and supply because we are now in this firefighting situation)? What we want to do

first is ensure sustainability in regard to nature. If sustainable development means anything, it must mean that our demand does not increase our supply of nature’s goods and services.

So, why is that the case? The overarching reason for this is institutional failure – from the international to the household level – given that large chunks of nature are free. We don’t pay for it. But our institutions can’t handle the open seas or the atmosphere – because we don’t pay for their use since nobody owns them. To make matters worse, governments subsidise the usage of (for example) fossil fuels, i.e. through fossil and agricultural subsidies, which together add up to some 4–6 trillion US dollars a year. That is about 3–4% of global GDP. More than it being free, this puts a negative price on nature. So, all these things need to be tackled and, as I say, it needs to be done top-down, from the international level down to the individual.

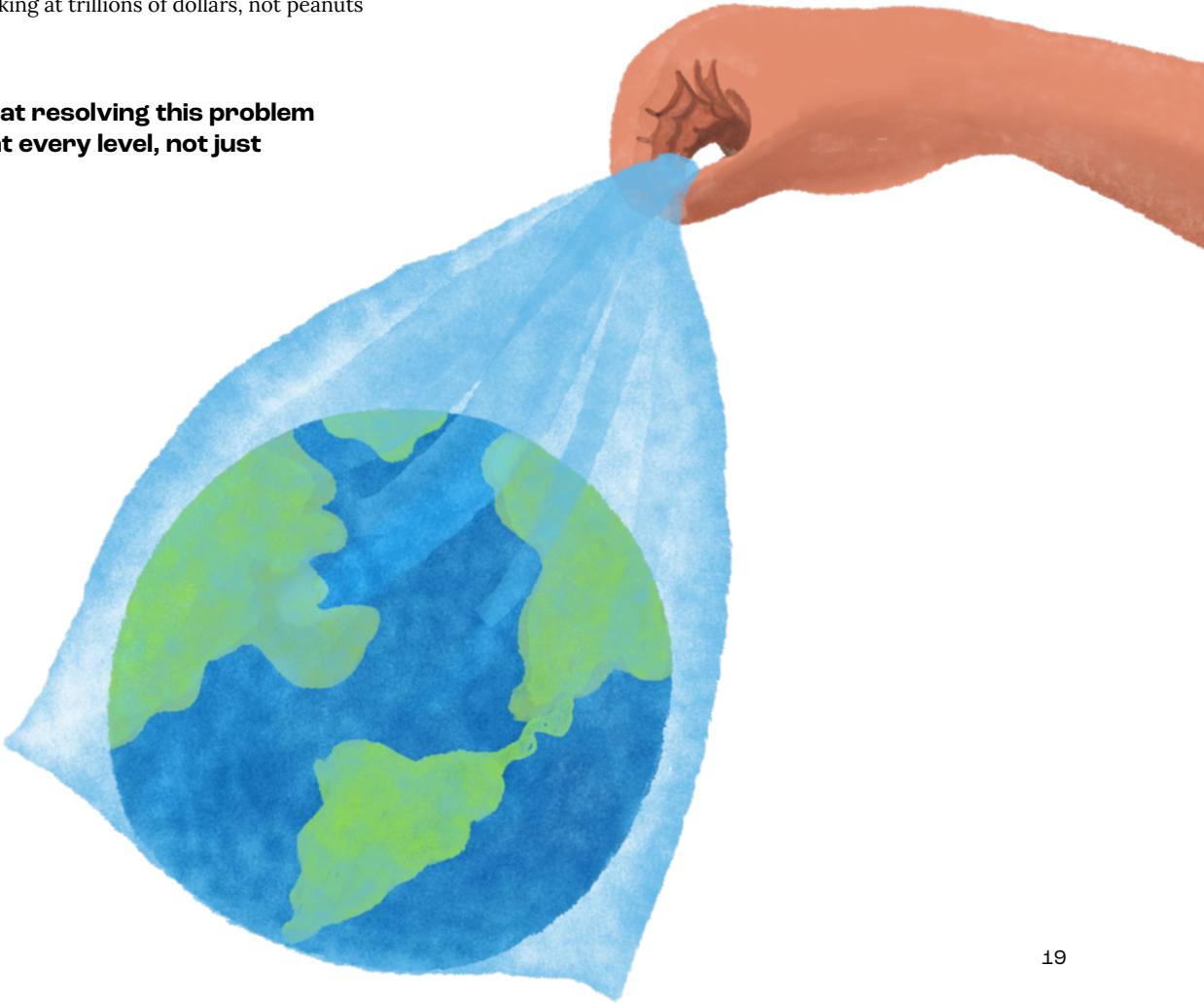
At the international level, I would have hoped that COP15 and COP26 would have made us bold enough, as per previous generations after the Second World War, to create new international institutions like the World Bank and the IMF, to handle the production of global public goods. For the World Bank, it was reconstruction and development; for the IMF, it was financial stability, both of which are hugely important to the global community. We need that now to manage the global commons. Someone should be charging us to transport goods across the Atlantic or the Pacific. Trade involves a huge exploitation of the global commons and yet no one is paying anything for it, for the rent that should be collected. These resources belong to humanity. In the 1970s, they were called the common heritage of mankind. We should be charging ourselves for their use – we are looking at trillions of dollars, not peanuts

The third point is that resolving this problem will require action at every level, not just governmentally.

– and that revenue could then be spent on many positive gains. So that’s one kind of movement change that we could institutionalize and the Review points to that.

I have already hinted at what nations can do at the local level – introduce reduced subsidies, for example, but I want to get to the individual level. And I found something (as far as I know) that has never been discussed, which is a very important feature of nature. What makes nature distinctive as a capital asset, in contrast to the desk you are sitting at or the house or building you are in, is three aspects: the first is its mobility – it moves, all its processes are full of movement. The wind blows and the rivers flow, so your actions have consequences thousands of miles away. You see what I mean – it literally carries the message. And, of course, global climate change is an example of it: an emission here diffuses through the atmosphere far away – which is one reason why property rights are so hard to establish. So, we have to have the commons but we also have to manage the commons, rather than give private property rights.

The second aspect of nature is that many of its processes are silent; you can’t hear them. It is not like an engine churning away and you know that it is malfunctioning. Nature can be deadly silent. And the third aspect is that much of nature is invisible. Think of the many processes that are shaping our entire fabric of life, in the soil under our feet – 3 feet, 4 feet, 6 feet under the surface. Entire forests and their root systems are communicating in a silent, invisible way and their voices are easy to miss.





So, what do I take away from that rather poetic description of nature? What I take away, as an economist, is that no institution can satisfactorily manage our encounters with nature. And what do I mean by that? I mean that our activities, if they are excessive and contrary to the common good, need to be sanctioned so that we have the right incentives to act in accordance with the common good. By common good, I really mean ensuring demand equals supply, given that we all agree that we cannot maintain this gap in demand on nature's goods and services.

The law is one way we manage things – it constrains our behaviour because otherwise chaos prevails. Social norms of behaviour are another vehicle without which chaos is created. Many communities depend on social norms of behaviour, such as some villages in South Asia. And all communities have a mixture of social norms and the law. But each of these institutions has its own methods of verifying or observing who is responsible for what. So if you step beyond your entitlement, it can be monitored somehow – either within a court of law – that's what court cases are about – trying to verify that you did something you should not have done or that you didn't do something you should have done – or, in the case of social norms, having the community observe your misbehaviour, such as you taking too much wood from the forest and so forth.

Now, if neither verification nor observation are possible, because of the silence and the invisibility – as you are alone in the woodlands and no one can see you – what you do there is unobservable and not recordable. And, if you over-use capital assets because no one is observing, what can society do to prevent that from happening? It seems to me that the only way that this excess can be prevented is by self-monitoring – where we as individuals act as judge and jury of our own actions. And, in some ways of course, we do that – our education system at school and our family at home urge us not to litter the streets with our rubbish, even if no one is around. We constrain ourselves, so why do we do that? The hard-headed economist will say that someone will see and you will be admonished. But even when there is no one around, we still feel that we shouldn't do it. That's what I mean by self-monitoring.


What I take away, as an economist, is that no institution can satisfactorily manage our encounters with nature.

Now, how do you get this to work on a larger scale, for nature as a whole, as opposed to the neighbourhood where you are walking and might dump your litter. It seems to me that it can only happen if we have an affection for nature. And then of course, naturally, you don't want to offend or tarnish something you care about. But how do you generate that feeling, particularly in an increasingly urban world where our contact with nature is lessening? It seems to me that education is likely the answer, beginning with primary school nature studies – digging in the soil to see what's going on, looking for earthworms, doing the kind of mucky, messy stuff we all did as kids.


And that needs to be routinized now, with lessons on the rudiments of nature. Of course, we don't know much of what nature does – it is still a mystery. No ecologist will tell you he or she knows all the inner workings of nature. We know bits and

pieces, some principles and so forth. So, there is a huge amount of work that still needs to be done and discoveries to be made that even children can make in their local ecosystems – whether it is a pond or a woodland and so forth.

The Review ends with this plea for the reform of our education systems and I do believe it is probably the most significant recommendation of the Review because I don't think anyone, certainly no economist, has thought of education as being the vehicle, i.e. a necessity, for the economics of the biosphere. Technological economists don't insist that all economists learn how steam engines work because there are experts who are already doing that. Here, we all need to be naturalists, for the reasons of silence and invisibility – the two dimensions I mentioned before.

 **Anantha:** Thank you, Partha. If you can allow us just to explore the second part, on education systems – we have, over two decades, developed something called “education for sustainable development” or ESD, which tends to capture some of what you suggested. In 2015, when I took over this Institute, ESD was one of our mandates but I was not convinced it was working and we did a small survey of about 1,500 young people from over 40 countries. What we found was that there was no real change in perception towards nature (in the way you describe it) among those exposed to ESD versus those with minimal exposure to ESD. That led us to think that the way we teach is just not doing the job, i.e. establishing the required emotional connection with nature, beyond it being a cognitive exercise.

My question is, should we be looking at nature purely from an instrumental perspective in terms of our wellbeing versus something that is more constitutive, and I think that's where you are heading. And I think the pedagogy has to shift because you hit on numerous points, which are (a) experiential – experiencing that relationship, and (b) interactive – you are not just a bystander but you are a part of it. I am just wondering how optimistic you are of the change that might be made in this particular sector, which I think is one of the most difficult ones – for someone who has been working in education. It seems to be one sector that has not really changed in 200–300 years. What you are suggesting requires a radical change in how we teach and learn. Can you provide any pointers as to how the emotional connection between young people and nature may become a trait, or something embedded in us, right from the start to the end of school and beyond?

 **Sir Partha:** That's exactly right. What you have in mind is exactly what the Review is pointing to. When I say reform of the education system, I wasn't thinking only of primary level, though that is where it should start, but also of the undergraduate level where we could have compulsory credits like the American CIV (Civilization) course. It is not for me to say how it should be reformed because I am not an educationalist. It is something that really needs to be introduced by governments now because primary education, for the most part, is a state activity (at least hopefully it is a state activity) so that all children everywhere can have access to it. This (reform) is something for the education ministries, with the assistance and encouragement of the finance departments. And one of the recommendations of the Review is that even finance ministers ought to take nature seriously and have ecologists advising them (not just economists). Yes, education ministers ought to now convene educationalists to reform our education system, as taking care of nature ought to be embedded in it.

It is obviously passing the buck – but I don't feel bad about doing that because I am not an educationalist. I was led to the idea that we really need to reform our education systems through economics, because of the particular properties of nature. It is extremely important that we do this in order for us not to regard nature as being entirely instrumental. The only thing I would say is that your programme did not, ultimately, embed the experiment in the larger context of society. So, one school may start a programme like this but that won't be enough because it will be a single project in isolation. When teachers and pupils see their contemporaries from other institutions, they won't be able to relate to each other, particularly on this theme. The others might say, “What a waste of time you have to go through”; or “Gosh, you are lucky, I never had that chance. Sounds fun”, says a 7-year-old to a 7-year-old. “I wish my teacher would do that.” “You mean you go out once or twice a week by bus and plant trees or cut grass, plants or shrubs or mess around with a spade to see what's going on and take samples back to the classroom to study?”

Someone should be charging us to transport goods across the Atlantic or the Pacific. Trade involves a huge exploitation of the global commons and yet no one is paying anything for it, for the rent that should be collected.

Imagine that all schools in a region start this, along with all the other insights that I had while writing the Review, mainly around the social embeddedness of our wants. We look over our shoulder to see what our neighbours are doing and that influences us because we don't like to stand out from the crowd. We like to conform in so many different ways and here conformity is important when compared to competitiveness. Competitiveness comes in later – “I know more about this than you do because my teacher has taught me this” – with the idea that I want to do it particularly because the other school is doing it. And this mutuality I think could be exploited and can only be exploited at the government level – through true government action – because it has the capacity to insist that all schools come on board with it.

Suppose the idea was that a chosen 50% were put under lockdown while the rest of society could do as it pleased – the costs would have been huge for those locked down. Whereas, if we all have to do it, it is a different matter – we are all trying to ease the pressure or reduce harm by not meeting up in conventional ways. So I think there is a great deal of scope we miss out on in using incorrect modelling. Our economic models have sent us in the wrong direction because of an idea which appears quite innocuous but that pervades our thinking – we long to visit the supermarket, to take out our wallet and buy whatever we want, or can afford, and then go home. At that point, we don't worry what others are buying, except to check that the stuff we are buying is good. So I think we can exploit that. And the British press is suggesting that this mis-modelling has really serious consequences elsewhere too – in discussions over, say, climate change or biodiversity loss.


The wind blows and the rivers flow, so your actions have consequences thousands of miles away.





The first question that is always asked is what something is going to cost us. And if the government says that tradeoffs being what they are, we will need to take a cut in our average standard of living (in a rich country that is, such as the UK or the USA), because there is so much waste, or that we have to reduce our subsidies, we react immediately to this, because it will personally cost us much, or more than we want it to. This may be accentuated by the fact that we think we are the only ones who will be paying the price and that it won't be shared.

So, I will leave you with that thought. I haven't done a serious amount of work on the last point I made, but I think we tend to focus too much on our individuality when, of course, we are collective as well. We are social animals, and the formal models that governments use when they draw up their income expenditure forecasts are all based on theories of human nature that are egoistic because they are drawn from consumer demand theory. It can all be altered quite easily if we put our mind to it, and in the Review I show ways in which these socially embedded preferences can be formally modelled and made use of in economic forecasting, for example.

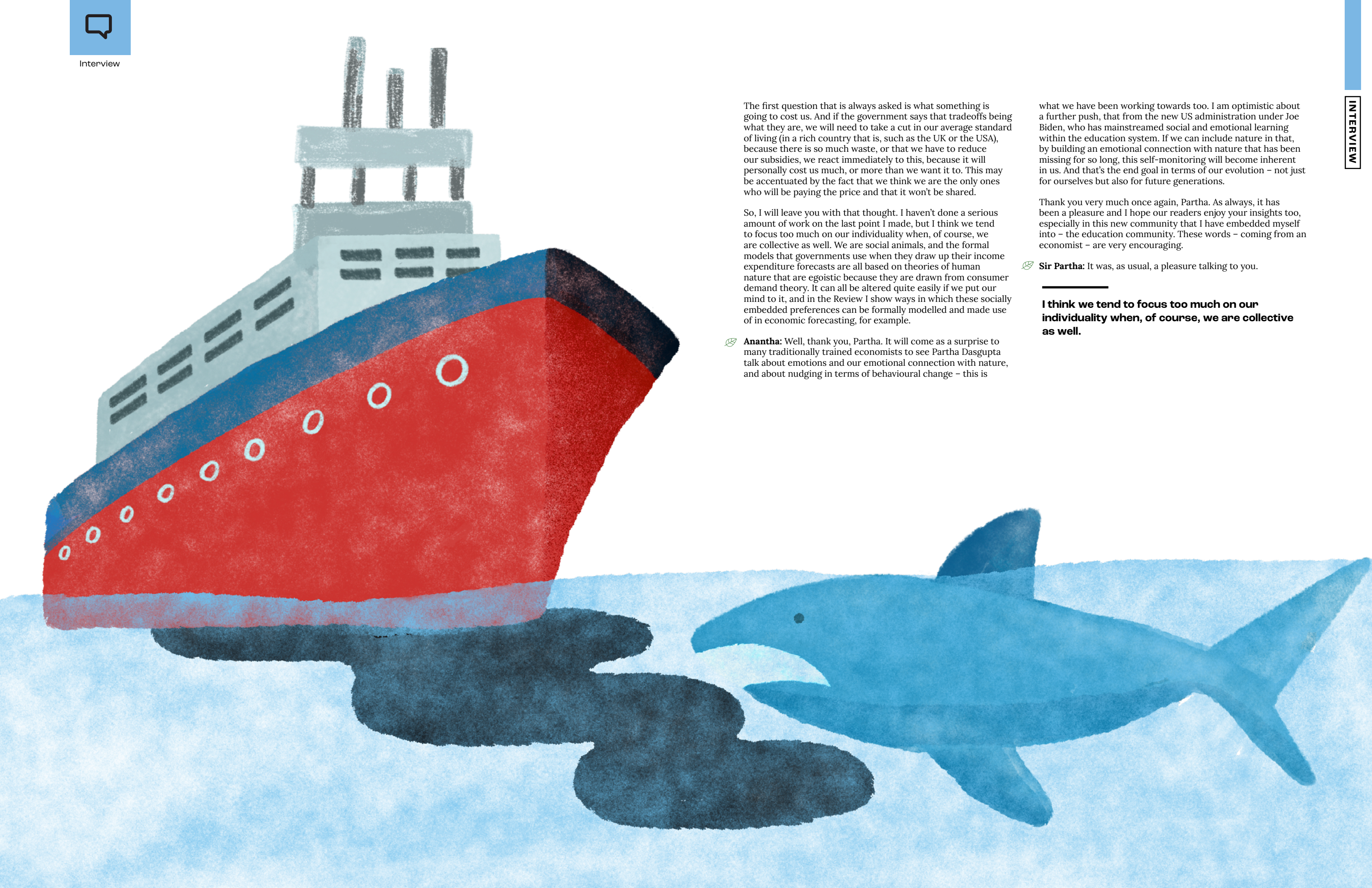
 **Anantha:** Well, thank you, Partha. It will come as a surprise to many traditionally trained economists to see Partha Dasgupta talk about emotions and our emotional connection with nature, and about nudging in terms of behavioural change – this is

what we have been working towards too. I am optimistic about a further push, that from the new US administration under Joe Biden, who has mainstreamed social and emotional learning within the education system. If we can include nature in that, by building an emotional connection with nature that has been missing for so long, this self-monitoring will become inherent in us. And that's the end goal in terms of our evolution – not just for ourselves but also for future generations.

Thank you very much once again, Partha. As always, it has been a pleasure and I hope our readers enjoy your insights too, especially in this new community that I have embedded myself into – the education community. These words – coming from an economist – are very encouraging.

 **Sir Partha:** It was, as usual, a pleasure talking to you.

I think we tend to focus too much on our individuality when, of course, we are collective as well.



“ Our nature has had this unbelievable ability to provide for us all and generations before us with unconditional love. It was and remains ever so giving without asking a return nor judging our actions. It is time for us all to return this act of kindness and provide back to nature what we received so generously — unconditional love without asking a return.. This is the only way.

Dame Tessy Antony de Nassau

Former, HRH Princess of Luxembourg, UNAIDS Ambassador
& Co-Founder of Professors Without Borders



OPINIONS OPINIONS OPINIONS

John M. Zelenski

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The Benefits of Getting Close to Nature



John M. Zelenski

Professor of Psychology at Carleton University

John M. Zelenski is a Professor of Psychology and directs the Carleton University Happiness Lab in Ottawa, Canada. His research focuses on introversion-extraversion, how people connect with nature, well-being, and sustainable behaviour.

Trees, birds, water, soil, insects, mammals, and people are all parts of a vast web that can be described as *nature*. Humans are undeniably a part of nature's vast inclusions; yet we commonly distinguish ourselves from the other parts of nature. There are ways to do this which are entirely reasonable; humans are not parakeets just as tuna are not squirrels. However, many people also see the non-human parts of nature as *particularly* distinct from themselves. In this view, fungus and ferrets are more like each other (as 'nature') than either are like people. Some religious teachings emphasize the distinction by suggesting a hierarchy where humans should control nature. Most of the world's governments and economies do the same as they enforce ownership and prices for spaces and natural resources. Other, often indigenous, traditions see people more as part of the natural world where humans are less distinct, even while natural resources are still necessarily consumed for life and well-being. These seem like contrasting worldviews, but people in contemporary post-industrial societies can commonly hold both ideas simultaneously. For example, a clear majority of American students agreed that they were a part of nature (> 75%); still, most also defined 'natural environments' as places where humans and human influence was absent (Vining et al., 2008). In other words, many seem to possess the paradoxical idea that we are both part of nature and that nature is defined as the places where we are not present.

The physical and biological realities of planet Earth clearly link humans with the rest of nature. As environmental problems like the climate crisis become more apparent and pressing, it is difficult to find places that are not influenced by human activity. This is true regardless of our acknowledgement of how people think about nature. People may disagree about whether or not this means we have 'less nature'. Either way, as ecosystems suffer, humans will also miss out on the benefits they (used to) provide. Social scientists increasingly focus on people's subjective sense of connection with nature, or *nature relatedness*, as an important nexus of human behavior, well-being, and environmental health (Nisbet et al., 2009; Tam 2013). Thinking about oneself in a relationship with nature, similar to a relationship with a family member, is common, and individual differences in these human-nature relationships are tied to well-being and sustainable behaviours.

...a clear majority of American students agreed that they were a part of nature (> 75%); still, most also defined 'natural environments' as places where humans and human influence was absent.

Nature relatedness includes a few correlated notions. First, it connotes an understanding of oneself as a part of, rather than distinct from nature; the links among humans and our environments are salient, and this is understood in a personal way as true of oneself. In addition to this belief, there is a sense of emotional connection that can include both pleasant elements (e.g., an enjoyment or love of nature) and potentially unpleasant elements (e.g., concern about the suffering of animals). The relationship can also extend to a spiritual level where nature is imbued with particular meaning. Strong nature relatedness also includes an experiential element where more time is spent in natural spaces, and where natural elements get noticed easily, such as birds or plants in the middle of a city. Just as all people have a mother, everyone has some relationship with nature. Still, variation in the quality of relationships is vast, from warm, fulfilling, and supportive to strained, conflicted, or completely rebuffed. It is possible to have a good life absent a strong relationship with your mother, but it is easier with it. The same may be true of nature.

The metaphor of social relationships is useful in other ways. People are more likely to help close others like friends and family. Similarly, highly nature related people treat the environment better (help it) with more sustainable behaviours (Mackay & Schmitt, 2019). This expresses their view that protecting

nature is a good in and of itself, even while also understanding that a healthy environment is ultimately good for people. Perhaps less obviously, people with strong nature relatedness also report higher levels of well-being. This includes a variety of positive psychological features including more pleasant emotions, life satisfaction, sense of personal growth, and greater meaning in life (Capaldi et al., 2014; Pritchard et al., 2020). Just as physically being in nature promotes well-being, highly nature related people report higher levels of general happiness. Strong social relationships are among the best predictors of well-being, and social scientists typically see this as due to a fundamental human need to connect with other people; we are a social species. Humans may have a similar basic need to connect with healthy nature. Just as humans relied on other people to survive and thrive in early evolutionary environments, our ancestors also needed to put themselves into healthy and resource rich environments. Socio-biologist Wilson (1984) proposed *biophilia*, an innate attraction to other life and lifelike things, as a motivating force behind our selection of healthy environments. A drive for nature relatedness may operate like a basic need, similar to our drive to connect with other people (Baxter & Pelletier, 2019). As one example, office workers without windows (i.e., deprived

of nature) are more likely to add plants or nature pictures to their workspace (Bringslimark et al., 2011). Exposure to healthy nature can produce a wide range of pleasant emotions, such as relaxation, excitement, vitality, awe, gratitude, interest, etc., depending on the details (Capaldi et al., 2015). Healthy environments may be perceived so pleasantly because we evolved to appreciate them as a key to survival.

Thinking about oneself in a relationship with nature, similar to a relationship with a family member, is common, and individual differences in these human-nature relationships are tied to well-being and sustainable behaviours.

Extending the relationship metaphor further, even good relationships have difficult elements. Some parts of nature are unpleasant and dangerous. Nature related people understand these as important elements of larger

ecosystems, even if poor candidates for physical connection; moreover, humans' tendency to easily fear snakes and spiders is evidence for the same kind of evolutionary-based knowledge that drives biophilia. Additionally, just as seeing a loved one suffer hurts, seeing the natural environment become polluted or degraded is unpleasant, and probably particularly so for people with a strong connection to nature. Fortunately, a strong relationship with nature, even with this risk, still seems better than the reasonable alternatives. For example, general pro-environmental attitudes (i.e., that do not include a close connection with nature) are not associated with happiness the way nature relatedness is. Having a close relationship with nature seems to buffer some of the stress that environmentally concerned people would otherwise feel. Anecdotal evidence suggests that people can cope with eco-anxiety (extreme worry about the state of the environment) by engaging in environmental action; highly nature related people tend to be more motivated and engaged in pro-environmental action (Nisbet et al. 2009). Highly nature related people also spend more time in restorative natural environments which is clearly conducive to better mental health. In sum, despite relationship difficulties, benefits seem to outweigh the costs when it comes to nature.



Increasing nature relatedness has potential to improve individual happiness and environmental health. Efforts to promote nature relatedness will undoubtedly benefit from local/personal knowledge and expertise. Still, it is worth noting that many highly nature related people had early positive experiences in nature, suggesting a role for education. One example is forest schools that include much time physically in nature (Dopko et al., 2019), though nature experiences should be extended to all. For adults, augmenting time in nature with a mindful perspective (i.e., focusing on immediate sensations while in nature) also seems to boost the sense of connection (Nisbet et al., 2019). Therefore, I humbly suggest that you take a break from reading this to spend a few mindful moments in nearby nature.

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Just as physically being in nature promotes well-being, highly nature related people report higher levels of general happiness. Strong social relationships are among the best predictors of well-being, and social scientists typically see this as due to a fundamental human need to connect with other people; we are a social species.

Feel Good Neurotransmitters and Hormones For Greener Minds?



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Several scientific researches indicate that contact with nature is beneficial to well-being and can lead to increased positive - and decreased negative - emotions and feelings

Neurotransmitters, along with hormones, are chemicals that carry physiological signals within the brain and also the rest of the body (Dsouza et al., 2020). They are complementary messengers (Lodish et al., 2021), the neurotransmitters being produced in the nervous system (by neurons or glial cells) and the hormones by the endocrine glands (e.g. pituitary for the oxytocin and endorphin). Each of these chemicals binds to specific receptors, like a key in a lock, which then triggers action in the target cells (in the brain cells or glands, in the body muscles, in the digestive system...).

The serotonin, sometime referred as the “confidence molecule”, plays a critical role in the positive feelings (Mitchell and Phillips, 2007). This neurotransmitter also involved when we feel a sense of accomplishment or a recognition from others. Serotonin therefore contributes to build both sides of social dynamics (e.g. it motivates leaders, teachers

or parents to excel and grow their influence but also drive their followers - colleagues, students or children - to work well). Serotonin is secreted when one feels significant. Challenging oneself and attempting something that supports a feeling of hope, fulfilment and significance are known to boost serotonin. Diet has an effect on serotonin level because without some nutrients - like tryptophan, vitamin B6, vitamin D, and omega-3 fatty acids - our body cannot produce serotonin (Jenkins et al., 2016). Exposure to sunshine, which increased Vitamin D level, also contributes to the synthesis of serotonin (Sansone and Sansone, 2013). Fiber-rich diets such as fruits and vegetables increase favourable bacteria in the intestines, which balance the serotonin levels (Carpenter, 2012). Regular sports (swimming, jogging...) are also known to raise serotonin levels (Heijnen et al., 2016, Young, 2007).

In addition to the serotonin, three other primary chemicals drive the positive feelings: Dopamine, Oxytocin and Endorphins. Each of these chemicals contribute to different facets of feeling good.

The dopamine is involved in motivation and reward-driven behaviour (Berridge, 2007). When one scores a goal, hits a target, or achieves a task, a pleasurable hit of dopamine is received. Dopamine works by anticipating, rather than



creating, good feelings. This neurotransmitter plays an important role in reinforcement and motivation. Low level of dopamine is linked with self-doubt, low energy and low self-esteem. Dopamine also signals the desirability or aversiveness of an outcome. A way to increase dopamine levels is to fragment the big goals into smaller units. The fulfilment of each small goal becomes easy and leads to frequent dopamine discharge. Sleep deprivation can decrease dopamine sensitivity while regular sleep helps in managing the dopamine levels and helps us to be more alert and motivated (Volkow et al., 2012). The body needs certain amino acids to produce dopamine, and amino acids are found in protein-rich foods (Briguglio et al., 2018). Eating high amounts of saturated fat can lead to lower dopamine activity (Hryhorczuk et al., 2016).

The oxytocin, the well-known “love hormone”, is involved in social recognition and pair bonding (Lee et al., 2009). This hormone, produced in abundance during pregnancy and breastfeeding, is the glue that secures relationships and attachment. Physical affection - like a hug or kissing - or social activities - like working together with others, sharing a meal - lead to the discharge of oxytocin and further

strengthen human bonds. Oxytocin stimulates dopamine and serotonin, which in turn increase good feelings. Unlike dopamine which is largely related to instant gratification, oxytocin gives lasting feelings of calm and safety (Gouin et al., 2010).

The endorphins, often referred as the “pain-killing hormone”, are natural pain reliever, produced in response to pain and stress, minimizing discomfort and maximizing pleasure (Rokade, 2011). For instance, taking a cold shower can give a boost of endorphins after a short moment of physical discomfort ; similarly, spicy foods, such as pepper and green chilies, trigger a pain sensation in the mouth which induces the rise in endorphins (Bosland, 2016). Endorphins (literally endogenous morphine) temporarily buffer pain in a similar way as drugs such as morphine. Endorphins help to push beyond the comfort levels and persist. Endorphin production can be triggered by vigorous exercise and contribute to the phenomenon known as a “runner’s high”, a euphoric state resulting from long-distance running (Boecker et al., 2008). Other activities, like social laughter can raise endorphin levels (Manninen et al., 2017).

These four chemicals, also referred as

D.O.S.E (Dopamine, Oxytocin, Serotonin and Endorphins) are the leader actors of feeling good. But other chemicals also contribute to the complex chemistry of feeling good (Dfarhud et al., 2014, Dsouza et al., 2020), including the endocannabinoids, epinephrine, noradrenaline / norepinephrine, cortisol, melatonin....

Different factors at different levels therefore contribute to well-being and nature connectedness. Recently, the ‘Green Mind Theory’ has been proposed to link the human mind with the brain and body, and connect the body into natural and social environments (Pretty et al., 2017). Based on neuroscience, physiology, psychology and economy, such integration of different factors at different scales paves the way for improving individual well-being and pro-environmental behaviors while building towards greener economies.

Recently, the ‘Green Mind Theory’ has been proposed to link the human mind with the brain and body, and connect the body into natural and social environments

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Interrelationship Depends on Consciousness and Awareness, Not On Overall Knowledge.



Rosalinda Ramirez-Yrizarry
Advisor at PULL TOGETHER NOW

A teacher, community organizer, spiritual guide and author, Rosalinda has served the disenfranchised on four continents. Raised to be honest about history, to be faithful to history, and to engage history, she has lectured, organized, taught, trained and guided those who would challenge the illusions of progress and reclaim their rightful connections to the earth and others.

Mother Nature is fighting back.

What is the earth saying to us? The earth is demonstrating its struggle to return to balance. Humans think that we need to dominate anything and anyone to obtain whatever desired results. The earth is telling us that human beings do not have dominion over the earth and other life. Humans act as seeing themselves outside of nature. As a result, humans see the world as mindless, not worthy of ethical and moral consideration. The environment is there to exploit with no awareness or consideration of the imbalance being created. Imbalance leads to more imbalance. Survival becomes you and your people against other social units, other races, and nature. Historically, victims of imbalance eventually fight for balance. *Mother Nature is fighting back.*

Consciousness is the awareness of interrelationships.

You can collect facts and information, but have no understanding. Understanding comes from relationships. Relationships require attention and time to develop the awareness, the ability to see (insight), that leads to proper relationship which in turn results in the ability to create proper action. Modern civilization values dominance with no time for awareness or proper relationship. *There is great pressure not to see because of fear that it will not feed the established profit margin.*

Nature abhors a vacuum.

Remember that Aristotelian principle? A vacuum creates imbalance. If the balance is maintained, the ecosystem is viable, the environment sustained. What is at stake here is a question of means and ends. We cannot use the means provided by Nature and ignore the ends of Nature. Nature's goal is not the survival of human beings; it is the survival of life itself. Whatever values and actions are decided upon must conform to the required balance of Nature. *The basic principle in the rituals of all ancient cultures is returning energy to Nature.*

The earth is demonstrating its struggle to return to balance. Humans think that we need to dominate anything and anyone to obtain whatever desired results.

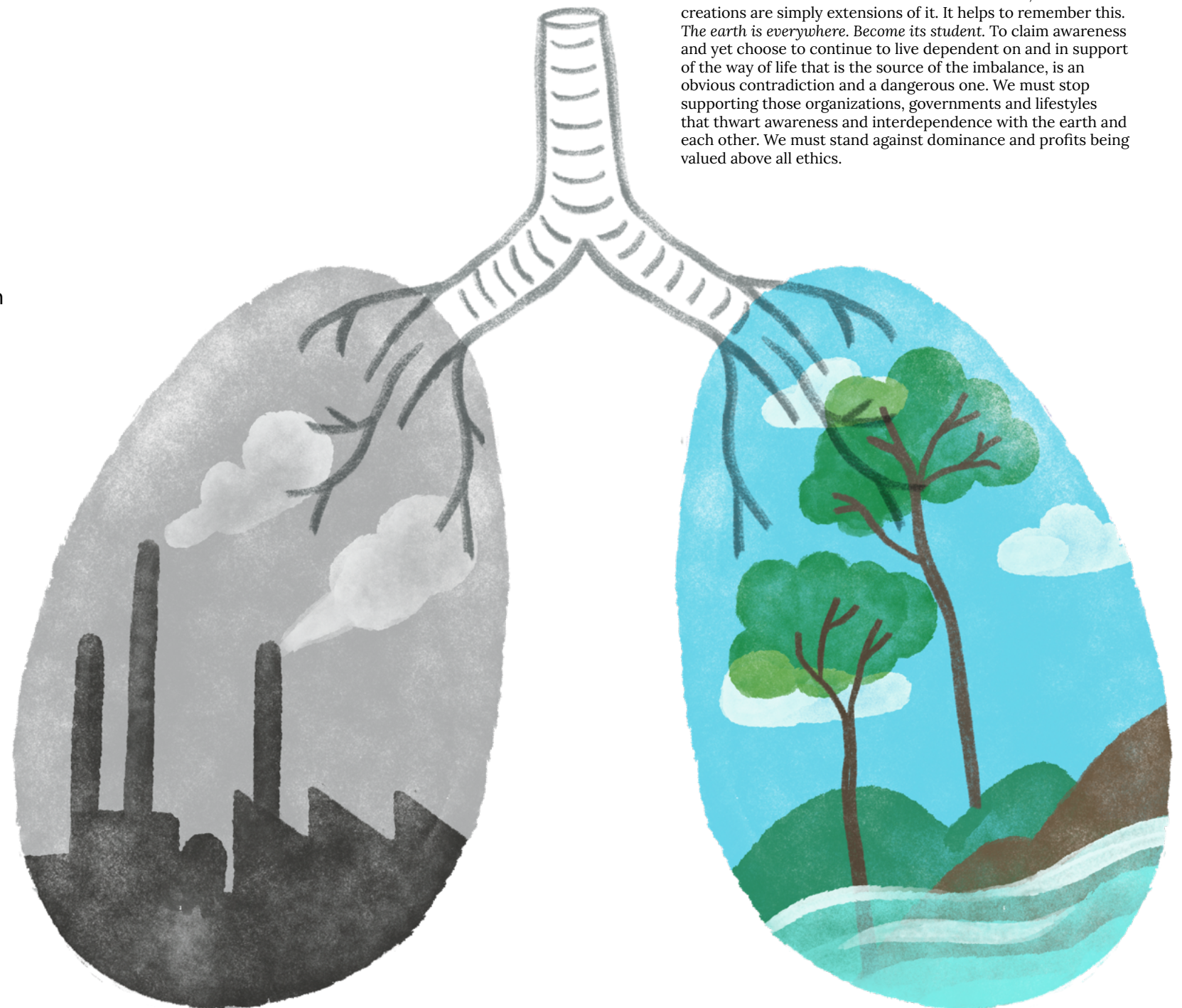
Ultimately, the earth itself teaches.

To stop the current insanity, it is only necessary to cultivate an *awareness of self in the environment*; in other words, to become an *observant human being*. It is by seeing other beings in the environment, not simply as things to be used by humanity but as beings in their own right, does the human being move toward relationship. Only in the context of other beings in this world, can the human being begin to grasp the meaning of becoming truly human. Then, the right action will come. Ultimately it is the earth itself which teaches us this balance.

To stop the current insanity, it is only necessary to cultivate an awareness of self in the environment; in other words, to become an observant human being.

The earth is everywhere.

So don't put all your energy in worrying about organizations or governments or laws, begin now to become aware of your place and work with it. One way to begin is to set aside a tiny place of your land as your own sacred spot. Replant it with native vegetation. This will be for "re-creation" both of yourself and the natural environment. Even in the city, brick and cement are made from nature. The natural world is the world, and man's creations are simply extensions of it. It helps to remember this. *The earth is everywhere. Become its student.* To claim awareness and yet choose to continue to live dependent on and in support of the way of life that is the source of the imbalance, is an obvious contradiction and a dangerous one. We must stop supporting those organizations, governments and lifestyles that thwart awareness and interdependence with the earth and each other. We must stand against dominance and profits being valued above all ethics.





1923! This is not a new issue.

For almost 100 years we have managed to ignore it. There are records of expressed concern even earlier in history. It was the growing use of knowledge for the pursuit of power, dominance, and wealth that has driven humanity. Awareness has been avoided. We human beings are parts of the whole system that comprises the earth and the universe. We may not know the whole, but we can begin to recognize our relationship to the other parts of this whole by engaging these relationships. This is what the Ancients did and what many traditional peoples all over the world still do.

Beyond being informed, we must become aware.

If I recall my early research correctly, all the major prophetic religions began with one man's relationship to a particular place...a mountain, a valley, a field, a tree, a rock...and so on. We too can have rituals through which we can admit these other relationships of the earth. Take a hike, literally! Pay attention to the trees and the ground, the flowers, the wildlife, the sounds. Recent climate disasters have made clear our relationship with places. The relationship of each of us to our place is not only our life but our religion too. A religious life is complete unity produced not by thought but by awareness. There is no other path for humanity. Beyond being informed, we must become aware.

Perhaps a new kind of education is required.

Education that puts things together in wholes instead of taking them apart to dissect and analyze. If we accept that the world of the human being comes about through human interaction with the earth, sky, and place, then education must be concerned with place itself. Education for total awareness. This is what we Indigenous do in ritual. Through ritual we learn not only from Elders, but from each other and from all the beings in the locality, including the earth itself. It reveals interdependence and change.

Education that puts things together in wholes instead of taking them apart to dissect and analyze.

Humans further this disconnection by how they speak about place.

The current clear lack of awareness that has brought us to this potential cataclysmic time is evidence of the human separation from place by the way humans have changed the way they live, creating an illusion of independence from, rather than interdependence with the earth. To assist this awareness development, humans need to learn to speak of place and creatures differently. Early in my life I had problems with such terms as wilderness and jungle. We had no such words in our indigenous language. Apparently, if a human has not developed (plowed, built up, adjusted, or raped) a stretch of land, it is referred to as undeveloped, wilderness or jungle. Is it not the height of arrogance to suggest that land has no value unless a human develops it to serve the profit margin? What is even more arrogant is that Indigenous are not considered “using the land” and are discounted along with all other species in the wilderness. The life flourishing in the jungle or the wilderness does not count as civilization. This arrogant perception, now heightened by technology has contributed to even greater separation and placed humans in opposition to the earth.

Let me close by quoting from the Lakota author, Joseph Marshall, *The Arrival of Wilderness*, p 233.

It does appear that we humans may have defined ourselves out of any direct relationship or responsibility to what we now term the “natural environment.” We have created isolated, artificial environments for ourselves that we control with the touch of a button or the flick of a switch. But we seem to have also isolated ourselves from a basic, ancient reality as well – the cause-and-effect interrelationship. That is, we seem to have forgotten that what ever happens to the natural environment will affect us: conversely, what we think and do will have an effect on the natural environment. In that reality lies a part of, if not the entire, solution.

Rosalinda Ramirez-Yrizarry
Catitonaauh
The Ancient One



Perhaps, when the new Bible of Science is written, one may read of man as the prodigal son of Mother Nature, flouting for a time her admonition and her wisdom, spending his heritage in riotous living; but at last reduced to the husks upon a barren waste of his own making, he crawls back to his Old Mother’s fire-side and listens obediently to the story of a certain wise man whose name was Ecology.

Clark Wissler
Speech to the Ecological Society, December 1923

RITUAL: BALANCING RELATIONSHIPS

The purpose of ritual is to balance all the factors of you and your environment. In Indigenous cultures, shamans, through ritual, connect and balance opposing forces – the conscious and the unconscious – humans and the natural world. Rituals grew out of the relationship of a particular people and the natural world around them. Appropriating another’s people’s rituals, is well, inappropriate. You are not connected or from the source of the origin of the ritual. So, it cannot be your ritual. Ritual is not the repetition of a formula, like a recipe, that if done accurately will give you the guaranteed result!

Rituals can help build awareness and move us to speak differently of the Earth, the environment, and its varied inhabitants. But simply performing ritual without any conscious effort during the rest of the days of the year is what we refer to as empty ritual...surface only. The “power circle” is the consciousness of a people reacting with the energy of the place, building up the energy, circulating it again and again with each season. Black Elk, the Sioux, called this “the sacred hoop of the world”.

Usually, the important festivals in most cultures have to do with seasonal changes because human beings are affected by the changing relationship of the sun and the earth on the

“balance days”: solstices and equinoxes. To begin to develop nature rituals *pick a season of the year marked by an equinox or solstice*. Rituals are not spur of the moment events. Decide what you want to include in the ritual; what has meaning for you. Start preparing for the ritual long in advance. Without adequate preparation, ritual will fail. Ritual is first and foremost the balancing of relationship. Outer preparation involves meticulous preparation of ritual objects, food, if included, dress, whatever you decide to include. Focus: are you celebrating the new blooms, the return of birds, the rain ...focus. Then there is inner preparation, prayer, meditation, and intentional good will and gratitude. *Preparation is also a demonstration of respect for the ritual...the respect for relationship building. The time spent in ritual preparation is part of the ritual.*

Prepare by paying attention to the land of your place where you are now. Watch where the sun rises and sets through the year and what vegetation is present during each season. Begin your day by greeting the Sun. The dawn and the sun of the day are your relatives. The Morning Star and all the stars of the sacred heavens are your relatives. Always remember this.





We Are the Soil That Walks



Kim Langbecker

Executive Director of the Sacred Fire Foundation

Kim is the Executive Director of the Sacred Fire Foundation with 20 years of experience working in the social sector. Her ED experience includes Terra Conservation Initiative, and two non-profits which she founded: Indigenous Land Rights Fund and Journey to the Heart.

In his recent article for the *Times Colonist*, Dr. Trevor Hancock, retired professor and senior scholar at the University of Victoria's School of Public Health and Social Policy said, "We need to learn from Indigenous people how to be stewards of nature." He cited the 2019 UN Human Development Report (HDR) focused on equalities in the Human Development Index (HDI) that omitted the HDI of Indigenous people.

Dr. Hancock noted that in his December 2020 speech to the UN, Secretary General Antonio Guterres stressed the important role Indigenous peoples play in "protecting nature and helping us move toward a healthy, just and sustainable future." This was evident in the UN's 2020 HDR, which discussed the contribution of Indigenous peoples in achieving sustainable development. Part of the report highlighted Indigenous peoples as "shapers and defenders of nature through agroforestry, the protection of coastal ecosystems and land-use-management". Secretary General Guterres noted that even though their land is among the most vulnerable to climate change and environmental degradation, we need to "heed their voices, reward their knowledge, and respect their rights."

While Indigenous peoples make up less than 5% of the world's population, they are still, as they have done for thousands of years, stewarding 80% of our remaining biodiversity.

In the public discourse, we speak of the environmental changes precipitated by human actions. We speak of sustainability and biodiversity and our relationship with the natural world. Relationship is a two-way reciprocal bond. However, today it seems to be a one-way conversation dominated by humans. At this pivotal moment for life on Earth, we asked Indigenous Elders to help us consider this question: What is nature saying to the human family?

"The healing starts with prayers. Praying and asking for forgiveness from all living beings for the damage humanity is doing. That's enough, to ask the wildfires, trees and waters what they are saying to us. Ancient people understood the language of Nature, there are people who have preserved those capacities and it is important that their legacy continues. Working with youth and teaching them to be one with Nature is important. In sum, earth is asking humans to become one with Nature, stop being violent and listen to Nature." *Zhaparkul Raimbekov*

As *Rain*, a Roma (*Romani*) tribal film maker says, "Every person on Earth is descended from a tribe, whether they know it, accept it, or acknowledge it. And everybody is Indigenous to Earth."

Perhaps at no time in recorded human history, do we have more access to innovative ideas, vast repositories of knowledge, ingenuity, resources, and financial mechanisms. We spend large sums of money sending women and men

into space, researching what life might be like on other planets. Yet, we ignore the only home we have, Earth, and the urgent warnings she is giving us.

While Indigenous peoples make up less than 5% of the world's population, they are still, as they have done for thousands of years, stewarding 80% of our remaining biodiversity.

"Indigenous, people of the earth, people of place and region. We are the soil that walks. The land and waters are evident in the sounds of our languages, our regalia, rich ceremonial life, social and ceremony dances and songs, medicines and foods. Ancient wisdom traditions, millennia old, tell of our origins in the Sky World, describe in detail the creation of this Earth, plant life, animal life, beings in the waters, flyers in the air, and finally human beings. The creation truths provide laws for human beings to take care of each other and take care of all the beings in creation as sentient beings. Ceremonies re-enact the creation of the Earth. The power of prayers, of thanksgiving songs, offerings to the waters, trees, medicines, foods, Spiritual Beings, Thunders, winds, celestial beings and Ancestors ensures their abundance and fortitude. Messages from Mother Earth of fires, floods, hurricanes, signal a human family out of balance with one another, not understanding our roles

and duties to each other and to the natural world. The world will not come back into balance until we do, *as human family.*" *Kahontakwas Diane Longboat*

"You see, the Earth is burning for a reason. The restoration of the sacred feminine is a Doctrine of Recovery for a planet in crisis. The past is always present in the future, and there is a universal knowledge retained by and within the sisterhood. Teetering upon this precipice as we are, tribal women hold and can call forth more of that essential wisdom. This may be the last chance to listen. The last chance to restore balance. The last chance to accept and receive healing. Historical amnesia has terminal consequences. Remember." *Rain.*

Cultures worldwide speak of this time in our human evolution when women and the power of the sacred feminine finds its rightful place, not to dominate but to restore balance. She will bring balance to the fire of the home, to the building of community, to the intentions of commerce and government, and to the healing of the Earth as the source of life.

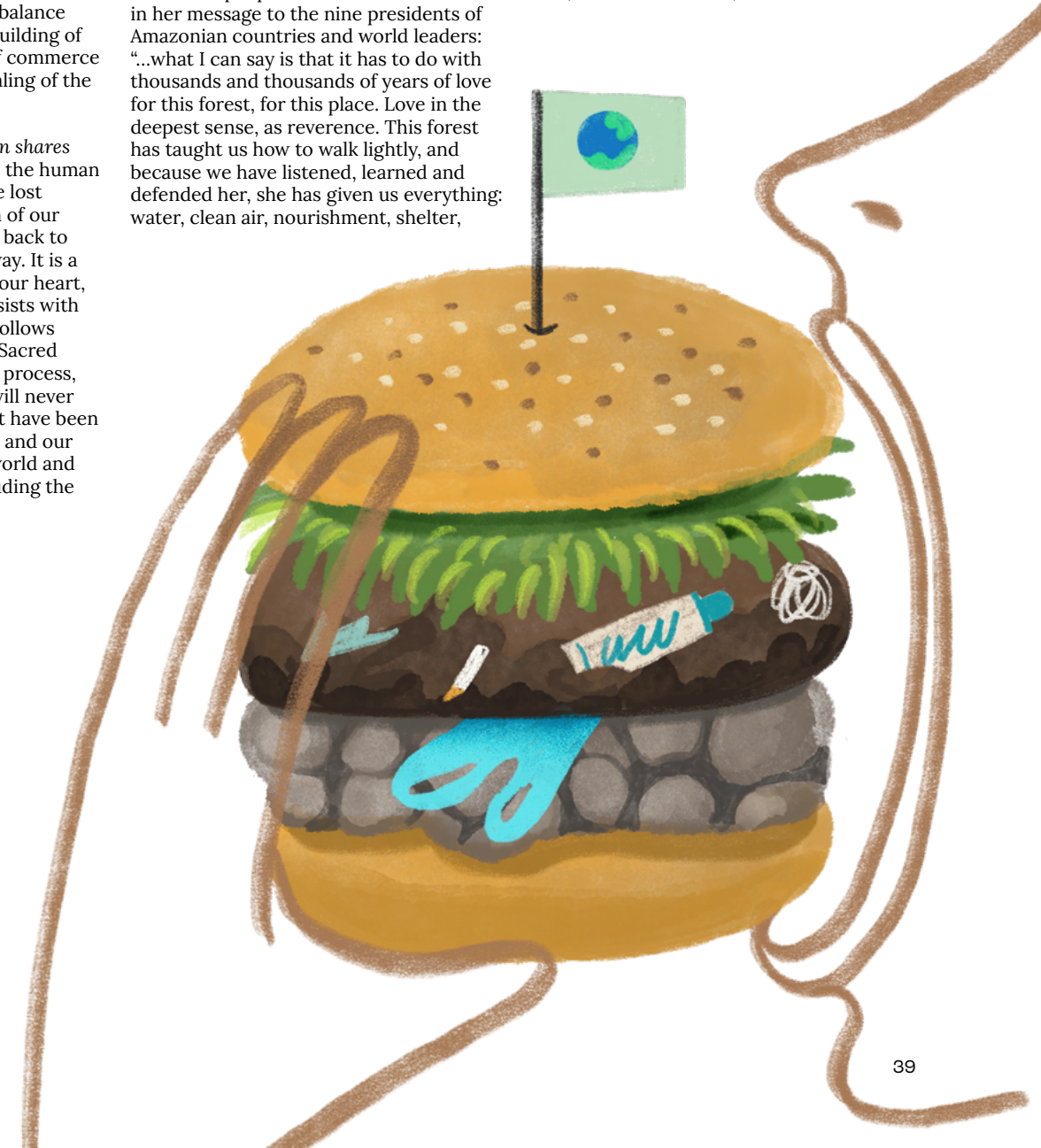
Grandmother Pahan Pte San Win shares "The natural world forever calls the human family back to ourselves. We are lost by trying to live on the strength of our mind and body. When we come back to ourselves, we live in a holistic way. It is a process. First Creator awakens our heart, which informs our mind and assists with decision making. When action follows through the physical body, our Sacred Spirit guarantees success. This process, which begins in a Sacred way, will never allow the kinds of decisions that have been made that pollute the air, water and our food supply, harm the natural world and all of life on Mother Earth, including the human nation.

The natural world, animals, winged ones and medicines, call to us, 'Remember who you are! You are Love and yet you live in suffering. You are joy and yet you live in sorrow. Happiness is your birthright. Seek this. Seek the Sacred.' Then, humankind's insatiable desire for more – more money, more power, more privilege – will be satiated. When we come back to ourselves, we will live in connection and harmony with the natural world. We will seek out sustainable ways that protect the well-being of all from a place of Peace within."

In her opinion piece for *The Guardian*, titled *This is my message to the Western World, your civilization is killing life on earth*, Nemonte Nenquimo, cofounder of the Indigenous-led nonprofit organization Ceibo Alliance, the first female president of the Waorani organization of Pastaza province and one of *Time's* 100 most influential people in the world writes this in her message to the nine presidents of Amazonian countries and world leaders: "...what I can say is that it has to do with thousands and thousands of years of love for this forest, for this place. Love in the deepest sense, as reverence. This forest has taught us how to walk lightly, and because we have listened, learned and defended her, she has given us everything: water, clean air, nourishment, shelter,

medicines, happiness, meaning. And you are taking all this away, not just from us, but from everyone on the planet, and from future generations. And so I say to all of you: the Earth does not expect you to save her, she expects you to respect her. And we, as Indigenous peoples, expect the same."

The Maasai speak of how we have forgotten our connection between Earth and Sky and are waiting for the answers that are already within us. "Between Sky and Earth is a meeting point for all of us to share our vision, to understand and to connect. Mother nature now is responding to how we are smart, but we have less ways of thinking about nature. The response is coming back from Mother Nature to say 'come slowly, be together, work hard for knowing that nature will always win'. Nature was sad, the wind was sad, the Earth was sad, the rivers were sad.





“People are saying “climate change”, and it’s there already. We are missing a strong connection to each other. The Maasai people read the wind, the morning, evening and night sky, changing colors. But now we are not reading directly to each other’s faces, staying quiet to our minds, and reading between me and you. We don’t understand each other, or help our kids to understand. We are not bringing information back to the young generation, and they are not coming back to the ways of nature and traditional beliefs. Number one is to come together for more peaceful and strong beliefs to empower our communities, to know that number one is to love each other.” *Chief Salaton Ole Ntutu*

The Maasai have a name for each and every tree. Trees such as the Oreteti are deeply spiritual.

When they need to gather herbs for healing, they go to the forest and choose a tree, go to that tree, sit and do a prayer to respect the tree and ask permission to cut bark or roots. After they cut, they take soil and apply to the cut area so that it can grow back again, and is not left naked and injured.

When Maasai men have a new age set like beginning warrior training, they cut a branch of the tree and use it to make fire by rubbing it against another kind of wood.

These kinds of rituals are present in every culture around the world. Each has unique harvest and planting rituals, birth and death, rites of passage, and so on. Many hold sophisticated ways of marking seasons using the stars, moon and sun, building their homes and other structures to be in alignment with the movement of the cosmos. Chaco Canyon in New Mexico, USA and Tulum, in Mexico’s Yucatan Peninsula are just two examples.

Dr. Hancock shares this from Wairoa, a Maori word for health that comes from the words for water and life. The *Indigenous Peoples’ Statement for Planetary Health and Sustainable Development*, which resulted from a 2019 global conference on health promotion held in Aotearoa, New Zealand, “Core features of Indigenous worldviews are the interactive relationship between spiritual and material realms, intergenerational and

collective orientations, that Mother Earth is a living being – a ‘person’ with whom we have special relationships that are a foundation for identity, and the interconnectedness and interdependence between all that exists, which locates humanity as part of Mother Earth’s ecosystems alongside our relations in the natural world.”

People are saying “climate change”, and it’s there already. We are missing a strong connection to each other. The Maasai people read the wind, the morning, evening and night sky, changing colors. But now we are not reading directly to each other’s faces, staying quiet to our minds, and reading between me and you.

The Indigenous people of Kyrgyzstan have long held the belief that “humankind was created to hold the balance between sky and earth, and to be one with Nature, small and bigger beings. Because humans were pure, they could understand and know nature, they didn’t even spit into water or break water. Through sacred sites they could navigate nature, for example, some shamans could call for rain in times of drought. Universal power was held by humans because humans were kind and pure and Nature conspired with them. All what I am saying is not ancient history, it’s modern history. 8th century AD. To revive these capabilities, we just need to take care of Mother Nature. Every life being is alive. Each species, each kind had a protector. And Kyrgyz knew how to communicate with them.” *Zhaparkul Raimbekov*

Indigenous technology or innovation is often misunderstood. In his piece written for *The Conversation*, part of Social Sciences Week, Andrew Peters, a lecturer in Indigenous Studies at Swinburne University of Technology notes that the pandemic has “highlighted our need for connection and forced billions of people to adapt to a changed world”. Technology, and in particular information technology which is keeping people connected, is more important than ever. He notes that while “the pandemic is posing many problems for our modern, technological world, it also presents an opportunity to embrace

ancient and valuable Indigenous knowledges”

The Indigenous people of Kyrgyzstan have long held the belief that “humankind was created to hold the balance between sky and earth, and to be one with Nature, small and bigger beings.

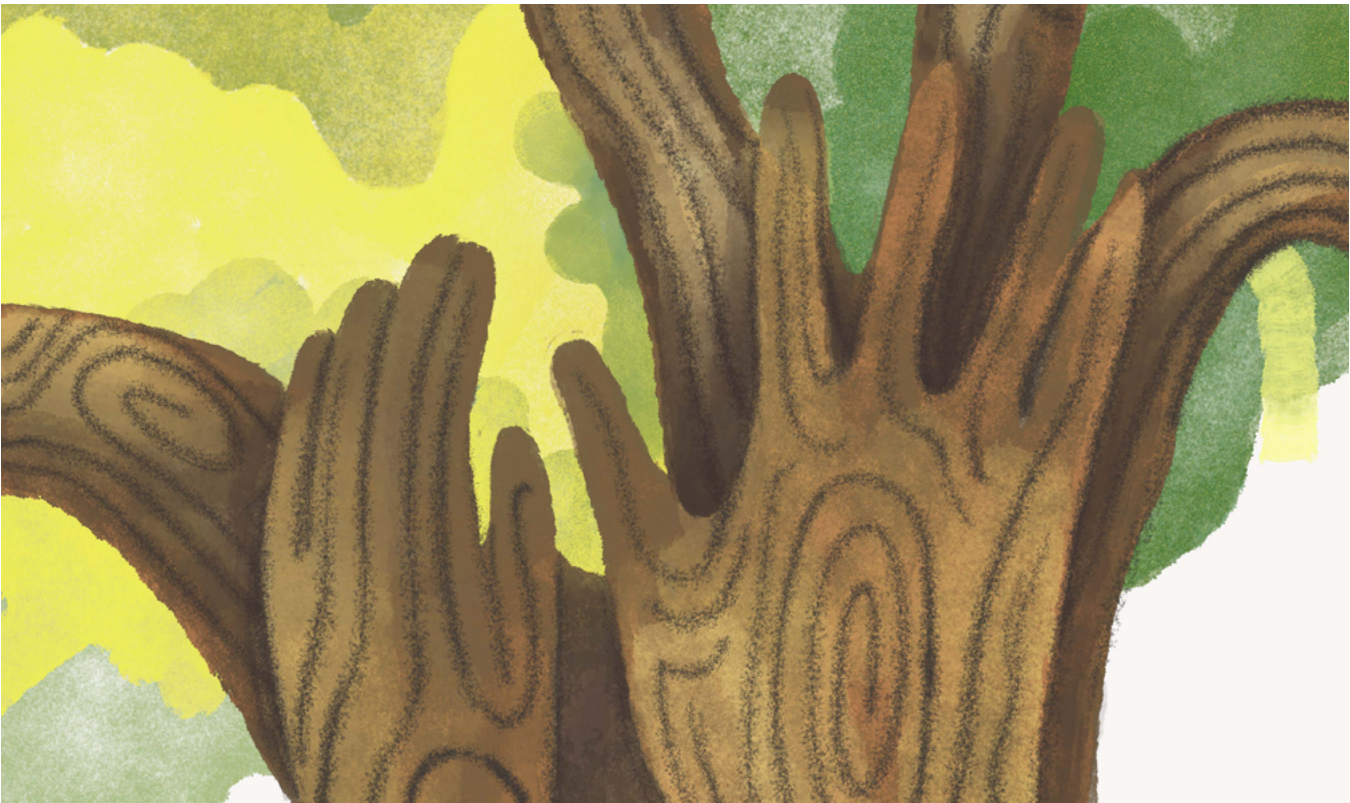
He shares how Indigenous knowledge and technology have existed and been linked since the beginning of time. When thinking about the role of technology and how it can be beneficial rather than destructive, he notes that Indigenous concepts such as relationality and connection, reciprocity, reflexivity, and country are the foundation upon which we can collectively use technology for the good of all.

Mr. Peters sites specific examples such as fire management, Native agriculture and aquaculture, astronomy and geology, health and well-being, as well as Native foods and medicines. While his piece is focused on Aboriginal innovation in Australia, this knowledge lives with Indigenous knowledge holders around the world. Further, these concepts are about working *with* the living world, rather than fighting *against* or dominance over it.

Our human cleverness and capacity to innovate often eclipses our listening. We need to hear what nature is saying and restore our relationship through respectful actions. In our rush to immediate solutions, new technologies often create more problems than they solve, creating new toxins, new sources of trash, increasing extraction that damages fragile ecosystems and imperils lives.

Our human cleverness and capacity to innovate often eclipses our listening. We need to hear what nature is saying and restore our relationship through respectful actions.

“When I was young, we didn’t have plastics. We had gourds or banana leaves.



Everything was biodegradable. What is happening to the waters around the world is just so drastically devastating. I don’t know how long it will take for them to renew themselves. We are children of the same Creator. This is all part of the great creation – everything – all the animals, the trees, the flowers. The ‘Little People’, duendas in my language, are asking for our prayers. They are the helpers, the protectors. They take care of everything and everybody. They have asked to tell the people not to forget to pray for them because they are carrying a heavy load”. *Grandmother Flordemayo*

“For the good of all of nature, including you and your descendants, and to reveal to you the love and unselfishness, order, beauty, variety, diversity of the Big Creator God; please take care of us and don’t abuse us and exploit us. We all have our unique and useful part to play in our co- existence. All these are telling mankind that our dear planet earth is increasingly deteriorating through mankind’s greed, abuse, exploitation and lack of care and wise stewardship. The natural world is telling us through wildfires, soil condition, hurricanes, tornadoes, earthquakes and melting glaciers that this world is heading

towards a catastrophic end.” *Ratu Waisea Vuniwa*

“The ocean reveals and washes up all that we throw in. All the animals and elements show us our actions. When man does wrong and there is human error, we suffer consequences like bushfires. Know fire like your mother and father and respect it. You too can speak to the fire, an element created by the great ones of creation. Without fire there is no light. Earthquakes, hurricanes and tornadoes are all part of the living spirit elements doing their work keeping the balance of living life in the way we live with Mother Earth. We can prevent disaster when we work together and with every nation’s help and support.” *Bunna Lawrie*

“The seasons of the earth have gone deep, and thus a warmer climate. The ocean currents have gone deep, so it feels as if the healers should also gather and go deep to bring healing, and bring everything back up to the surface.” *Lys and Isak Kruiper*

“Recognizing our humanity as part of a larger network of connections that includes all living things.” This important

and prescient statement comes from the 2020 UN HDR focused on urging humanity to return to being relationship with nature, as stewards for future generations.

Over the last few years, the number of articles, research studies, and anecdotal evidence in support of the critical role Indigenous People play in climate change and the environment, has been steadily making its way into the mainstream conversation.

In *5 Reasons Why Indigenous Communities are Imperative to the Climate Change Conversation*, a blog written for Nature Canada, the author says, “Working with Indigenous communities will be imperative to restoring the Earth...”.

We live at a pivotal point in human history. We have a choice, an opportunity to bring balance back to our world if we are willing to listen to the messages and wisdom that has endured for eons.



HOW DO WE INCORPORATE AN INDIGENOUS MINDSET INTO OUR OWN LIVES?

First, and foremost, find out whose land you live and work on. Native-land.ca is an excellent resource, constantly adding new information. Learn about being an ally and how land acknowledgements are an important step in realizing the true history of where you live.

There are many excellent books available written by Indigenous authors that share teachings on how to live more connected to the Earth and all living beings. Braiding Sweetgrass, Sacred Instructions, and SAND TALK are great places to start.

Find out where your ancestors are from, even if you think you know your history.

Mohawk Elder Tom Porter is often asked to visit communities around the world to share his wisdom and teachings. In 2019, he visited an intentional community in Germany. The residents asked if he would teach them a ceremony to help them have a bountiful strawberry harvest. Tom explained that they needed to learn about their own ceremonies. Every ceremony is different. How one tribe celebrates harvest is specific to that community. It is tied directly to the land.

Having an Indigenous mindset doesn't require special training or years of study. It requires us to be in a place of gratitude. To see our place in the world as caretakers for the next generations. To understand that all life is interconnected and precious.

President Biden recently invited Tribal representatives from the United States to the White House to hear their concerns and ideas for working together. One Elder shared that for Indigenous people, they think about 7 generations into the future, not just every 4 years.

We can give thanks every day for the abundance in our lives. We can step outside no matter where we are, and put our face to the sun to feel the warmth. When we walk in the woods or forest, we can take a moment to smell the unique fragrance of the moss, the trees, the creatures who live there. We can stop and take a moment to listen to the bird song, unique to where we live. These are ways of walking in the world that reconnects us to the web of life – simple, yet profound ways to bring the teachings of respect, reciprocity and gratitude into our own lives.

Pacha Kanchay (Yanakuna) from the Sierra Nevada del Cocuy in Colombia gives this perspective on just how connected we are to Mother Earth: the wind through our breath, the fire in our belly, the minerals in our bones, and the water that flows through our body.

Perhaps this remembering, that we are inseparable from Mother Earth is the anecdote we need to begin to address the challenges we collectively face. We when harm her, we're harming ourselves.

“Mother Earth is speaking to us loud and clear. The ways in which we, humans, operate in the world today are hurting Mother Earth and all her children. She is trying to help us correct ourselves before we become threatened as a species. If we don't pay attention NOW, we will soon be “done visiting this planet”. It is not a question about whether or not Mother Earth will survive. She has survived for billions of years, and she will survive for billions more.” Ilarion (Kuuyux) Merculieff

We live at a pivotal point in human history. We have a choice, an opportunity to bring balance back to our world if we are willing to listen to the messages and wisdom that has endured for eons. It is time to make decisions based not on our immediate needs but the needs of those who will come after us. This will require us to come together, with western innovation, Indigenous innovation and Traditional Ecological Knowledge (TEK) to face the dual crises of climate change and species loss. We

cannot do this without honoring the divine feminine, without listening to what Mother Earth is saying, and without understanding what the wisdom keepers still remember. Transformation is possible – Indigenous led and informed. What will we choose?

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- Rain (Náhkaxho'óxeóó'éstse/Bulka Weryn Ninny Waangaka) Kaledrash, Manush & Romanichal
- Grandmother Pahan Pte San Win, Lakota, Cree & Metis
- Chief Salaton Ole Ntutu, Maasai/Kenya
- Grandmother Flordemayo, Mayan
- Ilarion (Larry) 'Kuuyux' Merculieff, Unangan (Aleut)
- Ratu Waisea Vuniwa, Viti/Fiji)
- Whale Songman Bunna Lawrie, Mirning Tribe, Australia
- Lys and Isak Kruiper, Khomani-San

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Complexity of the Human Nature Relationship



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The Good, the Bad and the Ugly: Recognizing the Wildness with Respect

In this issue, we have touched on the concept of reciprocity through the perspectives of numerous authors: a healthy, positive, nourishing relationship is one that involves a mutual concern for each other's welfare (e.g., Baumeister & Leary, 1995). This is true for the relationship between loved ones as well as the relationship between ourselves and natural environments; in fact, we can apply the same conceptualizations of the definition for social relatedness (Baumeister & Leary, 1995) to the concept of nature relatedness (Baxter & Pelletier, 2019). In addition to reciprocity, another foundational element is that the attachment is secure. In the context of interpersonal relationships, this means that we feel safe with that person, and through this safety we feel inspired to explore our self-concept and our capacities. The same can be held true for our relationship with nature: it is hard to imagine being able to generate the feelings of emotional and cognitive restoration, vitality and well-being if we feel that our physical safety is threatened. And even beyond safety, there are also aspects of nature that we may simply not feel very attracted to, just like we are not necessarily attracted to all other people. We can picture a walk in the woods next to a babbling brook, a roving country hillside

with swaying grass and sparrows, the ever-stretching plains from horizon to horizon, and imagine ourselves feeling as if heaven has arrived; but what about a walk into thick brush with a swarm of mosquitoes in your face, or the possibly-disease-carrying ticks at your ankles, or a hungry apex predator roaming nearby, or a fierce winter cold threatening your appendages? Indeed, nature is not always so idyllic: It is wild. It can be dangerous, and even on its best behaviour, it needs to be respected and understood properly.

The same can be held true for our relationship with nature: it is hard to imagine being able to generate the feelings of emotional and cognitive restoration, vitality and well-being if we feel that our physical safety is threatened.

This brings the very interesting question of what does our relationship look like with an environment that has the potential to pose a serious risk? Environmental psychologists have been exploring this question with some

very interesting results! Bruni, Chance, Schultz & Nolan (2012) examined our implicit attitudes (the attitudes we hold of which we are not consciously aware, as compared to attitudes that we can explicitly recall and discuss) toward nature of different valences (positive and negative). These authors found that most people still form a relatively strong nature-self association regardless of the valence of the stimuli used, meaning that, in the authors' own words, "individuals are equally connected to positive and negative aspects of nature", though "this is not to say that individuals like positive and negative nature equally...[rather] that individuals are equally connected to positive and negative natural environments" (p.209). Thus, at an unconscious level, we are ready to form a connection between ourselves and the natural world, regardless of the "good" or the "bad" of it.

This brings the very interesting question of what does our relationship look like with an environment that has the potential to pose a serious risk

On a conscious level, however, not every person desires interaction with the same level of "wildness" (Davis & Gatersleben, 2013), nor feels safe walking in nature alone (Staats & Hartig, 2004), and the degree to which we may consciously reap the restoration well-being benefits of interaction with nature can be impacted, if not eliminated, by the unsafe or noxious side of some natural areas. To be fair, I truly love a good hike in a natural area, but when I am riddled with mosquito bites, swarmed by blackflies, and the deer and horse flies start to come out of the woodwork as well, I have a strong tendency to turn and just head home, filled with more of a sense of frustration (definitionally the emotion we feel when we are thwarted in our pursuit of a goal) than any restoration and peace.

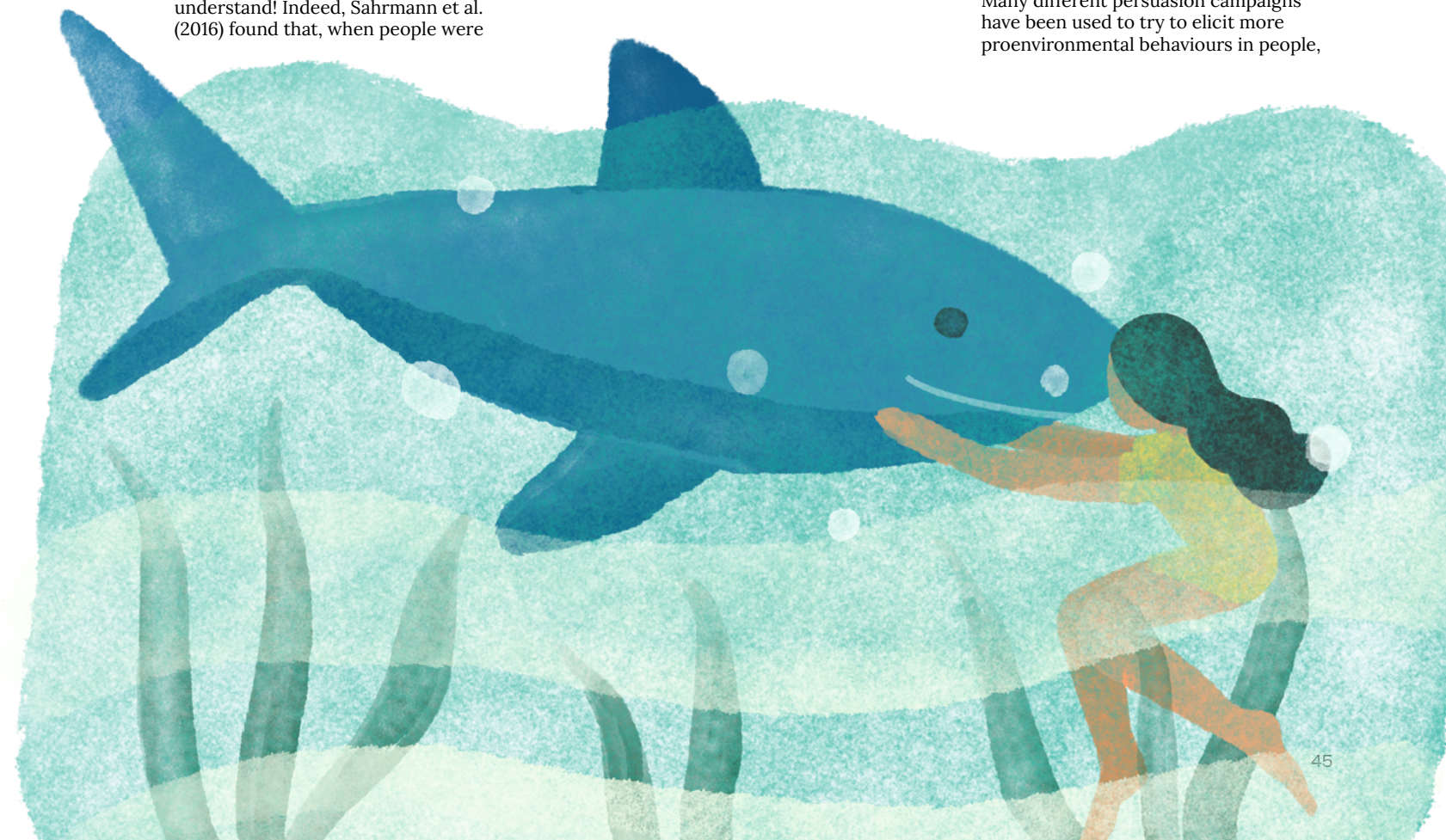
But, does that mean that we should prune out all the bad, and just leave ourselves with the good? How do we balance our needs with the needs of the environment itself? As discussed in this issue, there must be a strong place for the concept of preservation, where we either fit with the environment, or we just stay out entirely, and avoid the manicuring that tends to be adopted in favour of promoting human interaction (e.g., clear, often paved paths or trails, parking lots of cars). Not necessarily, no: instead, we must respect and understand! Indeed, Sahrman et al. (2016) found that, when people were

educated about the proper means of interacting with stingrays and sharks, their heart rate still went up as they were touching them, but they felt noticeably more happiness and energy after the interaction. Wildness is exhilarating, reminding us of the beautiful power of the world we live in; but it is not forgiving to the foolish. When we want nature to simply be tamed to us, to be domesticated instead of wild, we can become fearful and foolish of what it is capable of, as shown by stories and videos of what happens when people start trying to treat wild animals as pets (e.g., leaving food out for coyotes). But when we learn how to treat it with the respect it deserves, we can find ourselves given the respect in kind befitting the station our species is meant to hold in the ecosystems of the world. On the other hand, if a place is too wild for our preference or our knowledgeability, then the answer is to simply leave it alone. We do not need to domesticate everything to be comfortable to our sensibilities. Find the place where you feel secure enough, forge a connection and an attachment to that place, and you'll find yourself willing to protect it (e.g., Vaske & Kobrin, 2001).

To be fair, I truly love a good hike in a natural area, but when I am riddled with mosquito bites, swarmed by blackflies, and the deer and horse flies start to come out of the woodwork as well, I have a strong tendency to turn and just head home, filled with more of a sense of frustration (definitionally the emotion we feel when we are thwarted in our pursuit of a goal) than any restoration and peace.

Persuading the Populace: One Size Does Not Fit All

In acknowledging that not all natural areas will be perceived the same way by all people, and that there are certainly aspects of nature that are unpleasant or even downright dangerous, another important question that arises deals with how do we promote people to form a connection to all of the natural environments that surround them? Many different persuasion campaigns have been used to try to elicit more proenvironmental behaviours in people,



and a higher engagement with the natural world; but, there is still a staggering degree of degradation caused by human behaviours, and a relatively large amount of people who are either ignorant to, apathetic toward, or downright antithetical to issues of environmental degradation. What can we do or say in the face of this?

Psychologists have long studied the topic of persuasion, with a massive myriad of different findings available. Not only this, but environmental psychologists have uncovered even more elements to be considered as well! And yet, these 'languages' of human behaviour are at the very least *somewhat* ignored, if not unjustifiably forgotten or never learned to begin with. In other words, a plethora of researchers have done a very good job giving us the tools, and yet we seem to keep swinging the same blunt instrument at a delicate task. “This is what you’re doing wrong, feel bad about it, stop doing it or we’re all going to lose!”.

Many different persuasion campaigns have been used to try to elicit more proenvironmental behaviours in people, and a higher engagement with the natural world; but, there is still a staggering degree of degradation caused by human behaviours, and a relatively large amount of people who are either ignorant to, apathetic toward, or downright antithetical to issues of environmental degradation.

To begin with, not everybody is concerned with nature to the same degree, or for the same reasons. Even among those who respect environmental damage, there can be different motives toward these issues, with some showing an egoistic concern for the environment (concern for the environment as it relates to one's own health and well-being), some showing an altruistic concern for the environment (concern predicated on the awareness that environmental pollution and damage will spread to others in one's community and harms one's social groups), and some showing biospheric concern for the environment (concern about environmental problems for the sake of protecting biodiversity itself; Schultz, 2001). Thus, it is important to consider why someone may care for the environment when trying to tailor messages to promote greater activism and protective behaviours; while those who are already involved in the ‘environmental fight’, so to speak, may want people to desire a preservation of biodiversity simply for it's own intrinsic sake, this is not necessarily the same reason that others will actually have, nor the one that they will be most likely to develop or be responsive to. And, we should be aware that, even if someone is more strongly motivated by an egoistic concern – which may sound distasteful to some, as it is a more Westernized, self-focused approach to environmental issues – this is still predictive of valuing the preservation of nature over its utilisation (Torkar & Bogner, 2019), and thus should not be discounted as a viable reason to want to care about the environment.

It's also important to note that not everybody is motivated to deeply think about issues and arguments. In fact, this is termed as a ‘need for cognition’, and the use of lengthy, rational arguments on those who are low in such is not a very successful strategy (Cacioppo, Petty, Feinstein & Jarvis, 1996). Instead, such

individuals will be more likely to respond to more emotional, or heuristic-based persuasion attempts. This is especially true for individuals who are not very involved (do not anticipate discussing this topic in the future or engaging with the topic again), where persuasion can be more definitively driven by the simple likability of the persuader, and not by the length or number of rational arguments (Chaiken, 1980). In this case, we should focus on our likability as a messenger, which can be greatly enhanced by showing the common grounds we have together. In addition, acknowledging the other side of the argument – that sometimes proenvironmental behaviours are inconvenient, difficult, or unpleasant for some – can help to let our audience know that we understand the counterarguments as well: we’ve thought of the other side, and are willing to engage it. When we are willing to do so, we can see a marked increase in proenvironmental behaviours such as proper recycling using public receptacles, that is, holding on to cans and bottles until a recycling receptacle is available (Werner et al., 2002).

Not only do messaging campaigns for environmental issues tend to want the ideal – the deep-thinking audience who listens to rational arguments and is ready to make changes accordingly – but even when an emotional argument is employed, the focus is rather singular: bad things are happening, and you should feel bad. Or, to a more melodramatic degree, that we're all doomed if we do not correct course. The strong threat appeal in these messages can actually drive individuals away from actual examination of the argument (Devos-Comby & Salovey, 2002), rather than get them to listen more intently. And, if the threat is not accompanied by an actionable solution or relies too heavily on the appeal to negative emotions, then the result is simply hopelessness, or a loss of feelings of self-efficacy (Davos-Comby et al., 2002). People often discount the day-to-day behaviours, the routine and automatized things we do everyday, that affect the environment right around their homes. Promotion of personal accountability and self-efficacy for problems that one can directly see in their own local environments, with a focus on what can be gained over lost, can help anchor prospective environmentally-friendly individuals with more concrete, local goals; and, if we were all paying more attention to our own “backyards”, so to speak, the world would be much better off than it is now.

It is also important to note that the ability to perform proenvironmental behaviours, especially those that involve differential purchasing of eco-friendly (and quite often much more expensive) products, not everyone is in the same position to contribute. Kennedy & Givens (2019) found that those who are more “high status” with respect to their socioeconomic positions in their society (in this case, Washington, USA) were more likely to consider being “green” as something positive and approach it with a higher sense of self-efficacy; however, those who were from lower socioeconomic strata were more likely to view environmental issues are fearful, to believe that they had little power in effecting change, and to not necessarily have the same level of awareness about how daily behaviours can impact the environment. Thus, it is often not considered that not everybody is in the same position to be able to affect the same amount of change, nor are they necessarily as aware of how their own daily behaviours have an impact on their local environments. To complicate things even further, Schultz et al. (2014) found that, even when people do understand environmental damage, there is an inherent spatial bias to believe one's own local area is less affected, and that the real, bigger problems lie outside in the broader world! Again, focusing

on helping others understand their self-efficacy with making positive changes, and helping understand that no “backyard” is immune to damage can help ground the message, both spatially, temporally and personally. Looking at what a person is able to do, and promoting what can be gained by effecting what's in their power to effect can be a much more fruitful strategy.

How do we put this all together into something practical? First, we must learn to put aside our own ideals when trying to persuade others. Not everyone has the time, nor the same general desire to think deeply about issues. When they do, they will be more impacted by the likability of the persuader, and this likability is, in turn, affected by similarity. If we alienate those we want to listen to us, if we strongly differentiate “them” from “us”, then we push away our audience, and we're only spouting words to ourselves. Moreover, we must consider that there might be multiple roads to the same place. Biodiversity is a wonderful and fragile thing, a gift from hundreds of thousands of years of variation and selection; but, not everyone will be as motivated by this as its own intrinsic reward compared to thinking about how environmental damage affects their own health, or how it may impact others in their community. But if we all get to the same place, does it matter that we all took the same road for the same reason? Furthermore, and to be somewhat brutally honest here, messaging that scares people does not necessarily instill them with a large motivation to

change; rather, it can antithetically cause them to feel helpless in the face of impending doom. The messaging should focus on what can be gained by action, by the raw individual power that every single person has in their every day lives, and that no locality is immune to environmental degradation. And not all people have the same means as others and should necessarily feel ‘punished’ about this inability. There are still many things that can be done by even the most unfortunate among us, and our messages of persuasion should be uplifting to *all*, and not simply a call to those with wealthier bank accounts (e.g., campaigns about public transportation, and the improvement of such, as well as a push for people to move to electric vehicles, which certainly not everyone can afford to just simply jump up and buy!).

If we want more people to listen, then we must also listen ourselves: not *push* our ideals on people, but help motivate people to *want* to be more ideal. If we want more people to act, then we must stand beside them, and not apart. If we feel we cannot reach them, then we must take our own steps to move closer, and not just chastise their inertia. If we want to be understood, then we must also seek to understand. Reciprocity is key; a secure foundation is key; common ground with a common person on common problems, one day and one step at a time, and we'll all get there together.

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OPINIONS

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Regenerating Respectful and Reciprocal Relationships to Nature is an Educational Priority



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Youth Activists as an Immune Response to a Planet in Distress

Young people around the world are rising up for Mother Earth. They are speaking back to political leaders, economic systems and oppressive worldviews which have created the current reality which denies them a promising future. Within education, our learners are grappling with *existential* concerns – not only academic ones. A recent landmark study exploring eco-anxiety in young people in 10 countries around the world (ages 16–25) determined that concern and distress about the future in the context of government inaction on climate change is having a serious mental health impact on the majority of youth surveyed (Marks et al., 2021). As educators, we must carefully consider the kinds of educational environments we are creating that can support K–12 learners in bringing their *whole selves* – not only their minds but their emotions, instincts and bodies – to our classrooms. Without nurturing *all* of who they are and supporting their love and connectedness with the Earth and its relational webs, how could we powerfully support them

in facing the challenging and sometimes devastating realities being enacted in their respective communities with purpose, meaning, hope and agency?

The distress of young people exposes the fallacious paradigms that currently drive many of our economic, social, cultural and political systems – namely that we are separate from ecological webs and that our sense of belonging can be found in disembodied, individualized and hierarchical conceptions of the human as distinct from kinship relationships with all of life. The emboldened demands for genuine systems change from young people's climate justice movements expose the ways that we have harmed our livelihoods, our communities and ourselves when we are indifferent and unconscious of other life forms on this planet. In recognizing their power to make decisions that have a transformative impact on their lives, students can choose to the best of their abilities to live and act with meaning, purpose, empathy, creativity and thoughtfulness in contexts full of

uncertainty and complexity, particularly in relation to the climate emergency. Yet it is important to recognize, as Shields (2012) argues, that learner agency cannot be individualized as the panacea for deeply entrenched social, economic, and cultural dimensions of inequity and injustice that negatively impact well-being. We must look deeply at the root causes of the issues facing us, and be animated rather than frightened by the paradigm shifts being asked of us during this time.

Young people around the world are rising up for Mother Earth. They are speaking back to political leaders, economic systems and oppressive worldviews which have created the current reality which denies them a promising future.



An Educational Remedy for an Educational Ailment

Current education systems operating within neoliberal paradigms are ultimately an extension of anthropocentric, colonial and individualistic logics. By strictly separating disciplinary knowledge and privileging cerebral knowledge systems over affective, ecological and relational ones, current education systems have contributed to the multiple crises facing societies around the world. Transforming our extractive and disconnected relationships to the natural world is a process of supporting all learners to remember “an ethics of ecological belonging” (Gillespie, 2020). Pedagogies that facilitate dialogue, perspective taking, authentic problem solving, direct community engagement, deep listening and place-based encounters with the land nurture creativity, collaboration, and critical thinking, empowering students with a sense of possibility for both deconstructing and remaking their world. Pedagogies that emphasize meaningful inquiry and action rooted in/on/with the land through Indigenous educational principles such as those developed by [Natural Curiosity](#) in the Canadian context deeply ground students in a sense of place

and in restoring the kinship relationships that better reflect the nature of our reality on Earth. Additionally, centering youth voice and leadership as they manifest in climate justice solidarity movements around the world help students connect to collective forms of action that focus on structural change but that can be enacted within their local communities.

Through youth and Indigenous leadership, our conceptions of citizenship are being re-defined from abstract principles to our embodied responsibilities to ecological webs of life. In his visionary book, *Transformative Learning: Educational Vision for the 21st Century*, Ed O'Sullivan asserts that it is Indigenous cosmologies and wisdoms that best support us in developing “a proper orientation to the earth community” (1999, p. 6). The primacy and centrality of land as “first teacher” has been sidelined in Western educational systems while remaining inseparable and inviolable within Indigenous approaches to education (Styres, 2017). The pedagogies developed by [Natural Curiosity](#), for example, form a powerful knowledge constellation between inquiry and knowledge building in relationship with Indigenous perspectives on land-based education. These pedagogies enliven understandings of living webs, spark a remembrance of

spiritually-expansive cosmologies and deepen intimate, caring and respectful relationships with all living beings (Anderson et al., 2017). Challenging the ways in which education has been used as a tool of domination and genocide in diverse global contexts can be done by centering the “learning spirit” of each student (Battiste, 2013) creating spaces where our inherent diversity can thrive and oppressive dynamics are re-imagined through an emphasis on connection, love and solidarity. We do not harm what we love. Creating opportunities for students to fall in love with the land imprints them with a natural desire to protect what they hold as special and meaningful, leading to an ethos of reciprocity and sustainability that can be enacted in various ways as forms of ecological regeneration and restoration.

Current education systems operating within neoliberal paradigms are ultimately an extension of anthropocentric, colonial and individualistic logics.

From Denial and Despair to Courage and Flourishing

For centuries, many education paradigms and systems have promoted conceptions of the Earth as inert and separate from humans. Capitalist economic systems have benefitted from these conceptions and those most privileged by those systems are reluctant to admit that there are, indeed, limits to progress and growth as traditionally understood. As a result, billions of dollars have been spent by the fossil fuel industry to further an epistemic crisis over the last several decades by spreading doubt on anthropogenic climate change (Mann, 2021). These efforts prolonged the necessary affective and cognitive confrontation with paradigms of ‘uncare’ bolstered by neoliberal economic systems (Weintrobe, 2020) and have left many people feeling extremely anxious and despairing about the future.

While there are many profound challenges facing societies around the world, young learners are in an extraordinary position to re-imagine current paradigms that separate them from the natural world and orient their sense of purpose towards the critical and monumental task of regenerating ecological webs. Our education systems must support students to develop the courage to “live with” the realities of climate change (Verlie, 2021), yet do so in ways that support their mental health and well-being. These include opportunities to develop their ability to think critically and discern relevant and credible evidence to support their decision making. Additionally, education systems can foster an action-oriented stance to the climate crisis by centering regenerative projects such as watershed conservation, community gardening, permaculture, tree planting, and water filtration. Modelling for our learners

how to be with climate change and develop a relationship to its challenging realities involves repairing and restoring epistemologies of relationality and reciprocity (Nxumalo, 2019). Our students are inhabiting spaces that may involve flooding, melting, droughts and fire-scarred landscapes. Helping them listen to what the Earth is communicating as signs of imbalance and distress and teaching them how to respond with care, compassion and creativity to these symptoms of imbalance nurtures an agency grounded in wholeness. Teaching students how natural systems are exquisitely designed for health and the sustenance of diverse forms of life keeps alive the possibility that the peril facing our societies might yet to lead to a renaissance of flourishing if those knowledges are harnessed for collective well-being rather than private gain.

May it be so.

While there are many profound challenges facing societies around the world, young learners are in an extraordinary position to re-imagine current paradigms that separate them from the natural world and orient their sense of purpose towards the critical and monumental task of regenerating ecological webs.

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How you feel (about climate change and nature) matters



Joe Duggan
Creator and co-ordinator of ‘[Is This How You Feel?](#)’

Joe Duggan is an experienced science communicator with extensive practical experience in novel STEM engagement approaches. He has worked in Australia, Africa and the Pacific training academics, museum staff and NGO representatives in fundamental science communication techniques at the same time as collaborating with these stakeholders across cultures to co-develop culturally relevant science communication approaches.

Feelings

‘Feelings’ and ‘emotions’ are two terms that have shifting and complex definitions in psychology (Scherer, 2005) but for most of us they are interchangeable and describe our psychological and physiological responses to the world around us.

I have an 18 month old son and he has many, many feelings.

Sometimes he is happy because he gets to splash in puddles, pat a dog or have cheese for breakfast.

Sometimes he is sad because he scrapes his knee, misses his mum or because we won’t let him eat the house plants.

Now, this might be a strange thing for a parent to say, but my son is not unique. At least not in the sense that he has emotions. Most of us know what it feels like to be happy, to be sad, to be scared or optimistic – we have all at some point in our lives experienced all these emotions and more. Regardless of whether we are an 18 month old child, an 80 year old climate scientist or a 23 year old plumber.

It was this fact that led me to create *Is This How You Feel?*

From 2014 to 2020 I approached some of the world’s leading climate researchers and asked them to hand write a letter answering one simple question: “how does climate change make you feel?”. The letters that came back were full of emotion. For many researchers, this was the first time they had been asked this question and they expressed everything from hope and optimism through to anger, fear and sadness. *Is This How You Feel* resonated with many people and I think a huge part of that is because climate change wasn’t being communicated with data, facts and graphs, it was being communicated with real, relatable emotions that in turn, elicited emotions in the people viewing the letters.

From 2014 to 2020 I approached some of the world’s leading climate researchers and asked them to hand write a letter answering one simple question: “how does climate change make you feel?”.

Emotions as a more complex phenomena

Emotions have often been used in climate communication sometimes with [great effect](#), sometimes with mixed results (O’Neil and Nicholson-Cole, 2009). In recent years, the challenge of climate communication has received increased scholarly attention (Moser 2016, Morris et al. 2019, Duggan et al. 2021) and as researchers and practitioners, we are getting better at it. But more work needs to be done in this space, not just in exploring how to use emotion as a communication tool, but also in understanding what emotions can tell us.

Emotions have been shown to influence levels of trust, which can impact levels of knowledge uptake by end users (Dunn and Schweitzer, 2005; Lacey et al 2018). They can also impact how we view risk (Loewenstein et al. 2001) and can be a predictor for policy support (Wang et al. 2018). Not only do they provide insight into people’s dispositions and views, emotions are also a useful, quantifiable metric to show how we are interacting or may interact with the natural world.

Emotions within social-ecological systems

Humans interact with nature all the time and each of us are to a varying degree part of a social-ecological system: we impact nature through our interactions with it and nature in turn impacts us be it through the provision of resources, the occurrence of natural disasters or the simple joy we get when walking through the bush (Folke et al 2016).

Is This How You Feel resonated with many people and I think a huge part of that is because climate change wasn't being communicated with data, facts and graphs, it was being communicated with real, relatable emotions that in turn, elicited emotions in the people viewing the letters.

In understanding the *emotional* elements of social-ecological systems we can better implement management practices and build system resilience. Take a concept such as 'sense of place' a measurement of how an individual feels about a specific place, be it their home, a local mountain or a reef they have read about but never visited. Sense of place is an indication of someone's attachment with, or affinity to a place. It is linked to mental health and wellbeing (Ellis and Albrecht 2017). A strong attachment to place can lead to strengthened communities (Enqvist 2019; Rodríguez-Morales et al. 2020) and those with a strong attachment to place are more likely to show pro environmental behaviour (Alonso-Vasquez et al. 2019).

The question then becomes, can it go the other way? If nature impacts how we feel and as a result we are more likely to act environmentally consciously, can we help people regulate their emotions and in turn encourage pro environmental behaviour? Can treatment of climate fatigue and climate anxiety lead to increased resilience of social-ecological systems and a more environmentally aware and active populous? Perhaps, but more extensive research is needed. One thing is clear though, understanding and exploring the link between feelings and nature are crucial in managing global challenges.

If nature impacts how we feel and as a result we are more likely to act environmentally consciously, can we help people regulate their emotions and in turn encourage pro environmental behaviour?



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Environmental Concern and Emotional Connect: A Perspective



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Loss of forest cover, rising pollution levels, warming trends, and natural resource depletion are compelling environmental issues across the globe. Wildlife habitats are under pressure; many species are under different degrees of threat and are pushed to extinction because of anthropogenic activities. This is despite the fact that environmental laws and regulations are strictly in place, and many countries have invested in various in situ and ex situ conservation strategies. Besides this, non-governmental organisations are working in multiple fields of environment, and many of them are adequately funded with their projects running across the countries. The universities, colleges and schools have environmental clubs busy commemorating the environment days. Despite paying enormous attention to the environment, the question remains: Why are we not successful enough to push our environmental agenda, and why do we often fail in achieving the goals? Why do our conservation efforts dissuade us?

Besides many other shortcomings, one crucial aspect is that our conservation

efforts lack emotional connection. Our conservation efforts are anarchic. Conservation projects and frameworks that underpin conservation strategies do not seem to work. The role of emotional connection is heavily acknowledged in environmental psychology (Hahnel and Brosch 2018). Human emotions such as admiration, empathy and respect are powerful emotions that can play an essential role in humans' connection with nature. A symbiotic relationship between humans and the natural world is essential to sustain both human well-being and the well-being of ecosystems. There is plenty of evidence to support the claim that interaction with nature is essential for emotional wellbeing. New and emerging research indicates that close interaction with nature helps humans adopt a more pro-ecological attitude and behaviour. It is well-understood that human-nature connectedness and interrelationship play an indispensable role in well-being and relieves stress (Wang et al., 2018). This human-nature relationship has evolved and has traversed cultures, and reverence to nature became a part of religious, mystical and philosophical

discourses (Pihkala 2020). Time and again, the sense of belongingness to nature and the feeling of nurturing the bounties that have been bestowed upon us, seem to be the drivers of conservation practices in many parts of the world.

Humans are social beings, and their need to relate is fulfilled by making social connections in the form of various relationships. However, the need to connect is not limited to humans; they also socially relate to animals, deceased ancestors, deities, abstract entities such as countries, humanity as a whole, or even imagined collectivities to meet their need to relate. An example of this is the Bishnoi Tribal Community, which is steering the conservation wheel in India. The Bishnois share a strong connection with nature and see themselves as a part of the larger ecosystem, where they live in harmony with animals. The collective emotion and community confidence have helped conserve wildlife in the area. The reverence to nature, an innate feeling, has led to the sustainable utilisation of natural resources.



Emotional aspects and their relevance to environmental protection have been undermined, and their role in sustainable use of environmental resources has not been emphasised in our policies or discourses. Emotions positively address our environmental concerns and help translate our goals into action (Ojala 2017). And our efforts turn out to be pro-environmental when driven by emotions. Educational institutes, college societies and environmental clubs need to induct people for raising awareness who have strong moral ethics, come from socially connected systems, and take pride in preserving their environmental heritage. It is also essential to put in an emotional element in imparting environmental values and

education right from the early years of life (Baker et al., 2021). As environmental education is imparted from early primary classes and children can relate to many emotions at this age, our efforts will be rewarded more (Verlie et al., 2021). Storytelling is another important way to communicate thoughts, ideas and concepts to the youngsters, especially when talking about nature, biodiversity and conservation. It is well understood that stories compel people to take action for reasons more significant than they otherwise would have felt. Many environmentalists have evoked feelings of love, sharing and contentment through their stories in text, poetry, prose and other art forms. This has particularly helped conserve various

species in different parts of the world.

Over the years, humans spoiled the harmony between them and their environment through their activities. Ruthless exploitation of resources needs to be stopped, and the degradation needs to be substituted by restoration. This can happen only when our approaches are blended with the emotions that may seem abstract but have immense power to heal the environment and bring in a positive change. The emotional element is a new imperative for creating a better environment and resource conservation.

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The proper use of science is not to conquer nature but to live in it.

Barry Commoner





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HUMANS AND NATURE EXPLORING RELATIONSHIPS

Biodiversity Is Its Own Reward

The diversity of how life on Earth expresses itself at its multiple levels of organization, from genes to landscapes and seascapes, through species and ecosystems - is affected by, positively and negatively, humans and their cultures, systems of values, perceptions, and behaviors.

Life is adaptive and opportunistic; it will continue with or without us. However, is it not a beautiful thought to ponder that, if life on our planet expresses itself in so manyfold forms, it is also thanks to us humans? Think of genetic varieties selected through practices in agriculture, the shaping of territories in the forms of mosaics of socio-ecological systems providing multiple services, from regulating to provisioning to spiritual. If one accepts this blend of human life with other forms of life's expression, then perhaps 'nature' is a better word. And if we are part of nature, which we are, do not we wish to, on the one hand, continue benefiting from it and, on the other, nurture it, cherish it and shape it according to our visions, traditions, knowledge, and imagination?



We have tended and continue tending to think that management is a matter of societal choice. Then the question is: what kind of choice(s)? Rational, emotional, a combination of both? Scientific and indigenous knowledge tell us that we have made many mistakes, yet knowledge per se does not seem to lead to action. And if we are part of nature, well maybe there is a more profound button or buttons to dig out and push for our choices and actions relating to biodiversity and the very nature of which we are part to have a better impact?

Life is adaptive and opportunistic; it will continue with or without us. However, is it not a beautiful thought to ponder that, if life on our planet expresses itself in so manyfold forms, it is also thanks to us humans?

One of such buttons is emotions, and the way our brain works. Another is education, and we ought to stop and reflect on the inadequacy of our educational systems, both in terms of contents and pedagogy, in illustrating and exploring such an intricate relationship between us and the rest of nature. This is what this publication is about, or at least intended to unveil: a new relationship between us, biodiversity and the rest of nature, a new deal with our planet so that we can perpetuate this very life of which we are part, which we enjoy and which we have the moral obligation – and privilege – to preserve.

In doing so, we also hope that the special issue of *Blue Dot* will encompass the continuum rather than the dichotomy between spiritual values of indigenous and traditional communities with those who value nature in the modern industrialwestern world – thus stressing the universal contribution of nature to spirituality; the need to consider nature in a real-life context i.e. an increasingly urbanized world but also the livelihood based relation of peoples with biodiversity in rural areas; and, finally but most important, the need to consider nature as a global good, of which we all are the stewards, and as an insurance for equity and social justice.

One of such buttons is emotions, and the way our brain works. Another is education, and we ought to stop and reflect on the inadequacy of our educational systems, both in terms of contents and pedagogy, in illustrating and exploring such an intricate relationship between us and the rest of nature.



A Relationship is Reciprocal: Nature Relatedness as a Symbiosis

As will be discussed by our esteemed authors in this issue, researchers in environmental psychology have devoted much research to studying the antecedents to, and effects of the relationship between human beings and natural environments. From this research has come a plethora of findings, most notably the positive cognitive, emotional, physiological and psychological outcomes that come from time spent in natural environments, or even just viewing images of natural scenes. As a broad summation, research has shown that, while human's built, urban environments allow for greater social contact and practical considerations for daily activities (such as working near one's abode, easier access to goods and services), this comes at a possible cost to our cognitive and emotional systems, which can often become drained or "overworked" by these environments; but through spending time in natural environments and forging a feeling of connection to the natural world, we are able to recharge our attentional capacity, our emotional state, our feelings of vitality and liveliness, and even are able to process current problems better.

While all of this research has spurned a plethora of positive findings, it may be

prudent to address an elephant in the room, so to speak. That is, while feelings of connection to the natural world have shown some promise in research in predicting some environmentally friendly behaviours, the 'ugly truth' nevertheless rears its head at us whenever we step into a public greenspace only to find paper coffee cups, plastic bottles and containers, food wrappers, cigarette butts, and all other forms of garbage strewn about the sides of any given trail. Moreover, to even allow access to these areas requires some form of human intervention, be it in terms of gaining accessibility to the area via automobiles (roads, parking lots), or pruning a kempt trail for people to walk upon (cutting through swaths of the natural area in order to carve a visible route that humans can travel upon), thus disrupting the nearby ecosystems and inevitably affecting the species that will choose to – or even be allowed to – live in that area. In spreading a message of the importance of cultivating a relationship with the natural world, which ultimately involves human beings finding ways to spend more time in greenspaces, it is important not to lose sight of the importance of protecting natural areas: that we may gain some psychological and physiological benefits from our time in

nature should not be coming too heavy a cost to the environment itself, lest the 'medicine' to our urban difficulties simply come at yet another cost to the natural world for our own gain. A relationship must be based on reciprocity, commitment, emotional connection, and cognitive attachment. As we promote the use of natural areas for our own benefits, we must be vigilant that in doing so, and the means with which we do so, are such that those natural areas benefit from our activities, rather than wither and change. In fact, some areas should inherently simply be preserved, free from our contact and the inevitable domestication that comes with human involvement. As we are nourished and nurtured by the wild places of the world, so, too, should they be nourished and nurtured by us, and allowed to remain wild and unaltered.

While all of this research has spurned a plethora of positive findings, it may be prudent to address an elephant in the room, so to speak.





Natural Humans: Beyond the Cognitive and Emotional with an Indigenous Perspective of Nature from Canada

From the time before the creation of Mother Earth, Indigenous Nations world-wide have remembrances of life in the Stars or the Sky World. The challenges of life there build character, and provide pathways embedded with values and principles that are to be emulated here on Mother Earth. Indigenous ceremonies and cosmology provide opportunities for this remembrance of life in the Stars to be mirrored here on Earth. We are the soil that walks, formed from the earth itself in both creation and evolution.

Deep forgetfulness of those First Laws to be thankful each day for all the Beings in Creation, and the gift of Life, to take care of creation, to be generous and share equitably, and to respect and take care of each other, has caused chaos in society and today, we witness the burning of Mother Earth.

Our prophecies show us this time period in which very special children would be born to the Earth and hold all the gifts of the Ancestors to be spiritually connected to a realm beyond human consciousness. These children embody the knowledge that the world needs to evolve into new forms of governance, justice systems, health systems, environmental justice and education. They speak a language of spirit that connects them to the Ancestors and to the living spirit in the waters, trees, animals, birds, winds, thunder, and beyond.

What are we prepared to do to support the spiritual growth of children to realize their full potential in all cultures throughout the planet. How is education taking time for critical self-reflection to shift and accommodate the new “teachers” who are now among us?

Throughout the planet, teachers are witness to the new generation of leaders and the time is now to revitalize how children learn, grow and thrive. If we do not provide the opportunities in Nature’s classroom for children to fall in love with creation, they will never defend it.

What are we prepared to do to support the spiritual growth of children to realize their full potential in all cultures throughout the planet. How is education taking time for critical self-reflection to shift and accommodate the new “teachers” who are now among us?

Growing Minds in a World of Growth

Underscoring much of what has been discussed thus far is a need for a greater interplay between education and nature. In examining biodiversity and the health of variegated ecosystems across the globe, we see that there is an incredible, complex interplay between natural systems. The health of the flora connected to the health of the soil, the air and the water; the health of the fauna connected to the health of the flora (and water as well); and the health of ourselves is connected to all of it. The apex of the trophic pyramid requires the stability of every level beneath it; thus, if we are to claim the top as we are wont to believe we have, we must nurture every step along the way. But the interplay between these systems is often not understood, most especially in the more heavily urbanized societies. Moreover, our own influence within these systems is continually overlooked, as many of our most basic household behaviours have an effect on the world around us. As Henry David Thoreau once wrote in Walden, “from the hearth to the field is a great distance”¹. In our educational systems, we may reduce this gap, and work to create stronger cognitive, emotional and spiritual bridges from our homesteads to our habitats.

The soap we use in our kitchen or for our laundry may seem like just an isolated choice, but those detergents wash into rivers, which wash into oceans, creating a worldwide problem of eutrophication, whereby we are seeing massive dead-zones in coastal areas across every continent. How we choose to deal with our trash – and how much of it we produce – may seem like just an easy toss of the wrist. But, improper waste management and the appropriation of natural areas of landfills can cause soil degradation leading to a toxic, barren wasteland, not to mention the massive amount of time that many materials would take to degrade. Where our energy comes from when we simply turn on the lights, how we choose to get to and from work everyday, what foods we demand year-round from our grocery stores, all have a much larger impact than the reflexive, “isolated” behaviours we think they are. And without a proper infrastructure in education to heighten our understanding of, emotional affinity toward, sense of relatedness to, scope of concern regarding nature and all of its complex systems,

the burden of the sheer weight of modern habits continues burgeoning toward a breaking point. This infrastructure can clear the haze that blurs our vision from inside our cities so that we can see that everything, all places, all things, still exist within natural systems, and are not exempt from influencing and being influenced by those systems.

But the interplay between these systems is often not understood, most especially in the more heavily urbanized societies. Moreover, our own influence within these systems is continually overlooked, as many of our most basic household behaviours have an effect on the world around us.

But nature is not only something to learn *about*, but also something to learn *within*. The inclusion of natural areas in our children’s and youths’ education is a valuable asset, one that has been erroneously ignored. The typical paradigm of sitting a child at a desk for hours a day in front of a chalkboard or a computer screen goes hand-in-hand with the disconnect we must work to sever. More and more, educational researchers are discovering the benefits of taking the learning outside. From the emotionally stimulating effect of outdoor areas, to the intrinsic attentional features of natural stimuli, to the health benefits to our microbiome, incorporating outdoor areas in daily education is being found to uplift the old traditions into a more vital paradigm. What’s more, those children whose behavioural or cognitive difficulties would tend to leave them behind in a traditional classroom setting can thrive to a greater degree by incorporating a more natural educational setting.

Thus, we invite you, the reader, not only to reflect within your own lives, but with those around you on a simple truth: from the hearth to the field is actually no distance at all.





Put Kindness on Repeat

Carina Racine
Consultant, #KindnessMatters,
UNESCO MGIEP



In 2020, we experienced many world-shifting events, from the Australian bushfires, a global movement for racial justice, and most notably the enormous suffering from the ongoing COVID-19 pandemic. Yet, as a community, as one human race, we continue to preserve as we always have.

Despite the destabilization faced by all, pockets of light, kindness, unity, and togetherness were observed all over the world.

As Ms Amanda Gorman, US Poet Laureate asked: “When the day comes, where can we find light in this never-ending shade” [1]. One of the answers to this statement is **KINDNESS**. In the midst of these tragedies “...there was grace, sacrifice, hope – there were people faced with the very worst rising up to be their very best” [2].

With easy access to media, we don’t need to look far to find stories of kindness. We have seen several stories shared of strangers helping strangers, of people helping animals or of people taking care of the planet with the sole intention of being compassionate, generous, and helpful.

These anecdotes have great appeal. After all, who has not felt a boost of happiness when seeing these stories? I allow myself to say that everyone has felt that boost. So, if helping others makes us happier, more empathic, and more compassionate why not spread kindness and encourage people to perform acts of kindness.

Moreover, neuroscientific studies have shown that altruistic or kind behaviour engages brain networks associated with reward processes that improve during youth. With that in mind, once again, why not capitalize this fundamental biological need to build a new way to drive positive change?

This is the goal of the UNESCO MGIEP #KindnessMatters Global Campaign. The campaign aims to create a positive culture of kindness where a person’s selfless act matters and to show how it can make a difference to the SDGs. The campaign celebrates acts of kindness for self, others, and nature.

Launched in 2018, the campaign has now collected more than 1 million stories of kindness.

[1] Amanda Gorman (2021). “The Hill We Climb”.

[2] Jeffrey Kluger (2020). “2020 : Watch The Year in Review”. In Time: <https://time.com/5919837/2020-year-in-review/>

1

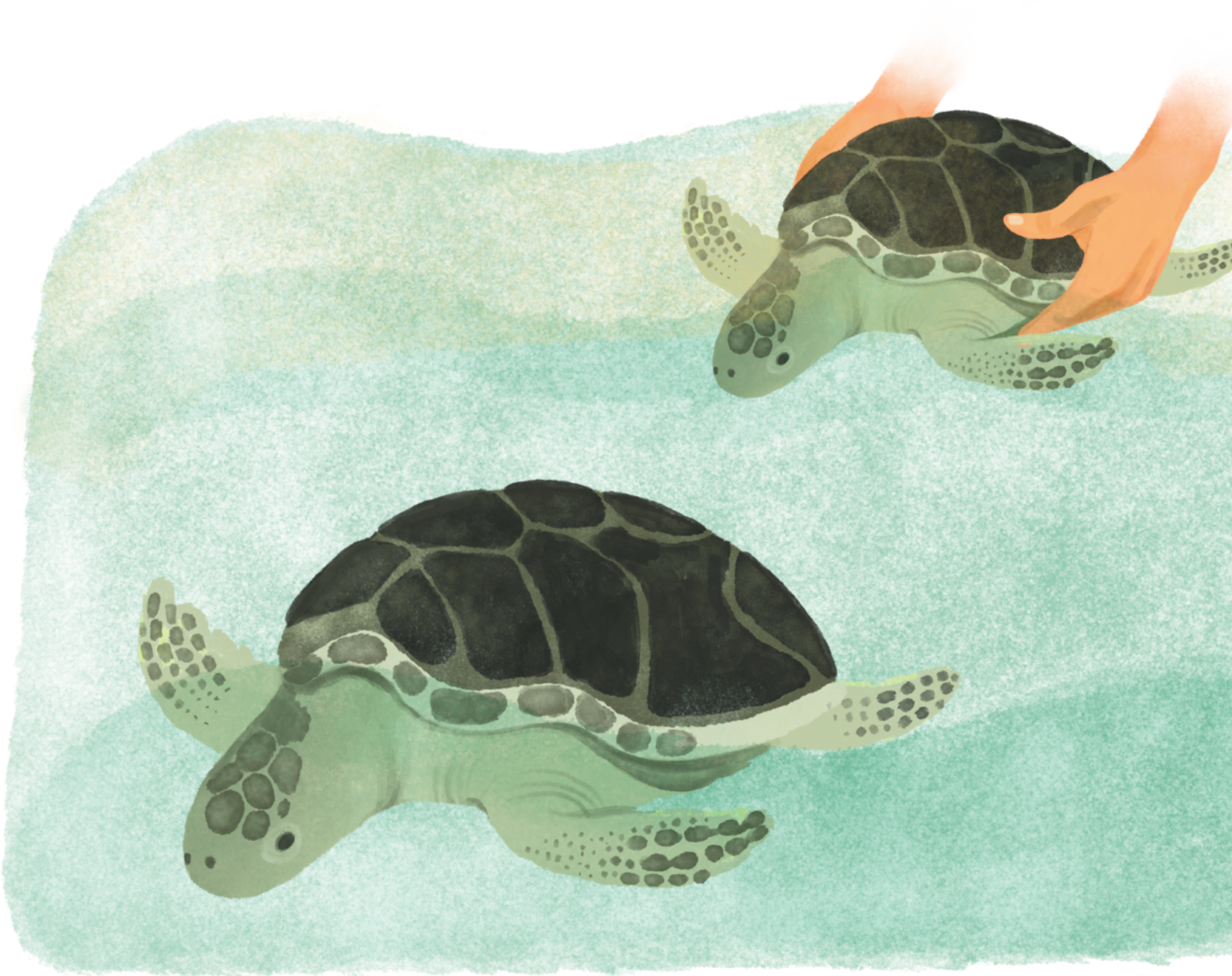
“ I love nature and in order to do kindness for nature, I sit with nature, water my plants regularly and take care of them. I feel happier when I do this which not only helps nature but also soothes my mind...

Anunya, India

2

“ My family and I have a habit of rescuing stray kittens from the street and bringing them home. We feed them, give them a home to stay and keep them in our house till they are big enough to survive on their own. Once they are old enough, we either give them away for adoption or we let them go in our basement so that they can choose to either stay in our basement or go away on the streets. Most of our cats end up not leaving our house and start living in our basement. We give them regular food and also cartons to stay in. Sometimes, they bring in other friends from the streets and let them stay in our house. We absolutely love it when they do so! One of the stray kittens we had brought up, Coco, gave birth to a few kittens in our basement recently. This is the third time she gave birth to kittens! Coco has been with us for a year now and is the daughter of our oldest cat, Cleo, who we had picked up from the streets three years ago. We have a total of 20 cats who live with us, 14 being stray cats who live in our basement, and, we love each and every one of them!

Aashna, Bangladesh



3

“ We were on a visit to an island in Kuwait. Two turtles were in difficulty on the island and could not get out. The first thing that my family and I did was try to save the turtles and return them to the sea. It was one of the most wonderful experiences of kindness with the animals for my children

Khalida Al Failakawi (Kuwait)

#KINDNESSMATTERS GLOBAL CAMPAIGN.

Launched in 2018, the campaign has now collected more than 1 million stories of kindness.



The relationship between humans and nature



Jackie Ryan



Jackie is the founder of Plantings Seeds of Hope, a land-based not-for-profit organization that partners with Indigenous organizations to share traditional knowledge and life principles with children and their families. She is also the national coordinator for Children’s Lands Canada. This global initiative inspires children to see themselves as essential agents of change and allies of Mother Earth as they make decisions that nurture life, biodiversity and generate well-being for themselves, for others and for the natural world.



Joaquín Leguía



Master’s Degree in Environmental Management from Yale University with a specialization in the role of children in community development. Founder of “Asociación para la Niñez y su Ambiente (ANIA)”, creator of the character “Ania”, and “Children’s lands (TiNi)” methodology which has been recognized by UNESCO as a good practice of Education for Sustainable Development and is present in 10 countries.



Monique Lavallee



Monique is a passionate advocate for Indigenous peoples and their right to self-determination. Through her leadership, Niwasa Kendaaswin Teg has created a land-based learning program rooted in Indigenous knowledge and skills. Monique works tirelessly to create opportunities for culture and language acquisition and revitalization in the community. She serves as President for the Ontario Aboriginal Head Start Association and was the First Speaker for the Hamilton Urban Indigenous Strategy.



Click here or scan the QR code to watch the video interview



Youth Voice : Kehkashan Basu

She is the Founder-President of Green Hope Foundation, which is a global social innovation enterprise that works across 25 countries with over 225,000 people to create a better world for all using Education for Sustainable Development that turns into ground-level actions. The enterprise has planted over 400,000 trees, over 7,000 mangroves, recycled over 250,000 kilos of waste, cleaned up over 653 beaches, parks, ravines, canals, and communities.



We are in the age of the Anthropocene, where literally every breath we take, impacts our planet and our future. We, humans, are making our Earth an increasingly broken planet, disrupting not only the natural balance but also social balance, precipitating an era of ecological violence and environmental injustice that is occurring on a scale that is hard to imagine—and is most often directed at the world's poorest people.

All this has an impact in terms of human suffering—lack of place, confusion of identity, psychic numbing, loss of agency, and grief are only a few of the impacts—not to mention the consequences suffered by the non-human world of plants, animals, and all living beings. This impact is felt unequally by young people, by women and girls and in general, by people in the global south. At the root of this environmental injustice is human apathy and it is this lacuna that we, the youth must address. For, it is my firm belief that my generation is the last one that has the opportunity to question this status quo and change it.

This is our mission at Green Hope Foundation, the social innovation enterprise that I founded on my return from Rio+20, to provide young people like, especially those from marginalized communities, with a platform that would build their awareness and provide them with the tools to lead substantive actions both locally and globally. What began as a 12 year old's dream has now evolved into a ECOSOC accredited global social innovation enterprise spanning 25 countries, that has directly built resilience in over 225,000 people – from Syrian refugee children on the war torn Lebanon border, children of prisoners in Kenya and Nepal, cyclone ravaged communities in the Sunderbans, Rohingya refugee children in Kutupalong the world's largest refugee camp that even today houses over 1 million refugees, rural communities in Liberia that are still yet to recover from the ravages of civil war and drought. Climate change and biodiversity loss are both inequality multipliers and have disproportionate impacts on these communities, and within them on women and girls who ironically are the least responsible for it. Our crusade has to be about climate justice

wherein we need to address the impacts of climate change from a humanitarian lens. While we definitely need people-centric policies as well greater accountability and transparency from our leaders, we cannot deny our own individual responsibilities. All of us need to be accountable – why do we need an IPCC report to flash code red warnings? Are we so blind? Unless each one of us moves out of our comfort zones and takes substantive action, we will not be able to create the future that we want.

Unless each one of us moves out of our comfort zones and takes substantive action, we will not be able to create the future that we want.





CLIMATE CHANGE: YOUNG PEOPLE & EMOTIONS

Can Climate Change impact mental health?

Science based evidence confirms the direct co-relation between Climate Change and Emotions. If we truly believe that youth are the future change makers who will slow down and reverse this global emergency, then it's time we take into account their feelings as well.

And who better to put forward the urgency of addressing this polemic issue but the youth. Towards the launch of our institute's free certification course Climate Change: Understand. Reflect. Empathize. Act we worked with young climate change makers from across the world who shared their fears, worries, anger, anxieties, helplessness as well as hope for a sustainable planet in the future.

Mitali Chakraborty

Communications Officer- Social,
UNESCO MGIEP

“

Act as you would in a crisis. I want you to act as if our house is on fire. Because it is.”
- Greta Thunberg at World Economic Forum, 2019

Come and take this journey with us and see what they had to say.



Click here or scan the
QR code to watch the video campaign





The video campaign participants message to the world's youth



Click here or scan the QR code to watch the video campaign

“ Do not wait until someone else takes the first step, there will never be a perfect time to start. You don't need to be experts. Start your journey now and in the course you will meet other people as passionate and determined as you but most importantly who believe in you.



 **QUEK YEW AUN**
Malaysia



 **ADISHREE KASLIWAL**
India



 **JOAN CHEPKOECH TONU**
Kenya



 **ORLANDO ANAYA**
Mexico



 **MOHAMMED ABRAR SHARIFF**
India



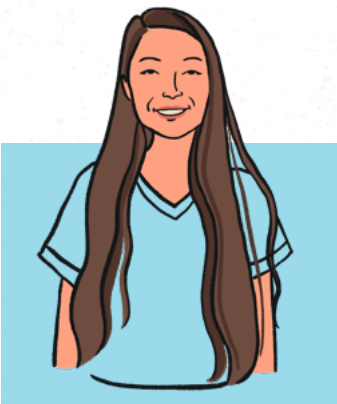
 **KEZIAH GEROSANO**
Philippines



 **TAHSIN UDDIN**
Bangladesh



 **ISABELLA VILLANUEVA-GARCÍA**
Chile



 **SHREYA K.C.**
Nepal



 **RAYYA NASEEM**
Maldives

Campaign Partners





#MGIEPChats

Through our Twitter Chats aka #MGIEPChats we have been working actively to establish UNESCO MGIEP as a centre of excellence in SEL across the globe and in our effort to do so in 2021 we have held conversations with SEL practitioners, influencers, writers, teachers, principals, curriculum and pedagogy designers from the length and breadth of the education Industry.

Mitali Chakraborty

Communications Officer- Social, UNESCO MGIEP

Topics Covered



Mental Health



Child Well-Being



Social and Emotional Learning



School Environment



Climate Change and Emotions



Kindness and SDGs



Teacher Training



Curriculum Design

HERE'S A SUMMARY FROM ONE SUCH CHAT WE HOSTED WITH YOUTH LEADERS ON

CLIMATE CHANGE AND EMOTIONS



An aspect that many of us often forget to focus on: What do you as young people working for the #climatecrisis feel when you hear the word #climatechange?

I won't lie, climate change keeps me up at night.
#MGIEPChat



QUEK YEW AUN
@yewaun92

When I hear #ClimateChange , I feel , Climate Change is Happening Now and We are bearing it's Burnt now. It's Indigenous & Local Communities who immensely Contribute towards #ClimateAction yet are the ones who are most impacted by the Climate Change.
#MGIEPChat



ARCHANA SORENG
@SorengArchana

Participants from Countries



If a young person wants to start taking #climateaction Earth globe americas where should they begin and how should they scale up?



QUEK YEW AUN
@yewaun92

1/3

Then, find allies.



QUEK YEW AUN
@yewaun92

2/3

Look for equally passionate youth to target one problem within the behemoth that is climate change. You can campaign for better regulation, promote sustainable living and spread more awareness, among others.



QUEK YEW AUN
@yewaun92

3/3

Reaching out and joining the Environmental Youth Group, so as to share and learn from each other. Reading about the issues and forming sharing circles with Friends and Speaking up and Contribution in their own levels with unique ideas and solutions. #MGIEPChat



ARCHANA SORENG
@SorengArchana





Exploring the human-nature connection through oyster farming

An interview with Mr. Makoto Hatakeyama, Executive Director of “Mori wa Umi no Koibito” (The Forest is the Ocean’s Lover), Oyster/scallop farmer, Member of Kesennuma-shi Earthquake Disaster Reconstruction Citizen’s Committee. Interview conducted by Ms. Maiko Nishi, Research Fellow, United Nations University Institute for the Advanced Study of Sustainability (UNU-IAS)



Mr. Makoto Hatakeyama

Mr. Makoto Hatakeyama is engaged in community development activities besides oyster farming based in the Karakuwa District of Kesennuma City, Miyazaki, Japan. His efforts are concerned with sustainable use of natural resources and environments to rehabilitate the region affected by the Great East Japan Earthquake.



Ms. Maiko Nishi

Ms. Maiko Nishi is engaged in research activities at the Secretariat of the International Partnership for the Satoyama Initiative (IPSI) since 2019. Her research interests include social-ecological system governance, regional planning, and agricultural land policy. She holds a PhD in Urban Planning from Columbia University.

Credits:

Co-ordination of Interview: Ms. Maiko Nishi

Translation of Interview: Ms. Maiko Nishi



Click here or scan the QR code to watch the video interview

Ms. Maiko Nishi

そうしましたら始めさせていただきますと思います。この度はインタビューをお引き受けくださり、どうもありがとうございます。私は、国連大学サステナビリティ高等研究所で国際SATOYAMAイニシアチブに携わっております西麻衣子と申します。よろしくお願いたします。SATOYAMAイニシアチブでは社会生態学的生産 ランドスケープ・シースケープ(Socio-Ecological Production Landscapes and Seascapes: SEPLS)の持続可能な管理に向けた取り組みの促進に従事しておりますが、このSEPLSという概念の提唱につながった日本の里山里海評価にも事務局として関わっておりました。

この日本の里山里海評価は、生態系サービスの概念を基に、2007年から2010年の4年間で、日本だけでなく海外の専門家も交え、日本の里山里海の現状と傾向、変化の要因、将来シナリオなどを明らかにしたプロジェクトでした。このプロジェクトの成果である書籍にも、牡蠣の森を慕う会による植樹活動、魚つき林のお話などを取り上げさせていただきました。今回のインタビューを実施するユネスコのマハトマガンジー平和と持続可能な開発のための教育研究所(UNESCO MGIEP)の所長であるアナンサ・ドゥライアバ博士も、日本の里山里海評価

の科学評価パネル共同議長を務めていただいた経緯があります。そうしたご縁もあり、「人と自然つながりを模索する」といテーマを掲げたUNESCO MGIEPの雑誌 The Blue DOT の特集号を発刊するに当たり、是非ともアナンサ博士から畠山様にインタビューさせていただきたいというご要望を受け、私の方で調整させていただくことになりました。

Thank you for accepting the interview. My name is Maiko Nishi and I am involved in the International SATOYAMA Initiative at the United Nations University Institute for the Advanced Study of Sustainability. The SATOYAMA Initiative is engaged in promoting efforts for sustainable management of Socio-Ecological Production Landscapes and Seascapes (SEPLS), which led to the advocacy of this concept of SEPLS. I was also involved at the secretariat in the evaluation of Satoyama and Satoumi in Japan.

This evaluation of Satoyama Satoumi in Japan is based on the concept of ecosystem services, during the four years

from 2007 to 2010, with experts from overseas as well as in Japan, examining the current situation, trends, and factors of change in Satoyama Satoumi in Japan. It was a project that clarified future scenarios. In the book that is the result of this project, we also covered the tree planting activities by the oyster forest longing society and the story of the fish forest. Dr. Anantha Duraipapp, the Director of the UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP), on behalf of who I conduct this interview, also co-chaired the Scientific Evaluation Panel for Satoyama Satoumi in Japan. With such a connection, Dr. Anantha Duraipapp would like to feature your interview in the special issue of UNESCO MGIEP's flagship publication, The Blue DOT, which has the theme of “humans and nature: exploring relationships.”



Interview

Makoto Hatakeyama

ありがとうございます。

Thank you very much.

Ms. Maiko Nishi

そうしましたら、最初にご紹介をさせていただきたいと思います。畠山様は、現在2009年に設立されたNPO 法人森は海の恋人の副理事長を務められていますが、もともと宮城県の気仙沼市の唐桑町舞根(もうね)地区でカキやホタテの養殖に携わっていらしさ伺っております。

また、ご実家の漁業養殖漁業を継がれる前には、鹿児島県屋久島などで環境インストラクターなどとして環境教育活動にも長年務めてこれたと伺っております。特に、2011年3月に発生した東日本大震災をご経験され、震災復興にご尽力されつつ、山から海までの総合的な流域管理に根ざした環境教育と森づくり活動に熱心に取り組んでいらっしゃるとう理解しておりますので、今日はそのご経験を踏まえてお話を聞かせていただければと思います。

NPO 法人森は海の恋人の母体である「牡蠣を森の森を募う会」を発足させられたお父様の畠山重篤様は、長年森づくり活動に携わってこれられ、豊かな海は豊かな森から生まれるという概念に基づく「森は海の恋人」運動を開始され、展開されてこれたと存じ上げております。こうしたお父様の情熱、学び、知識が、どのように信様に受け継がれ、どういう形でお父様の意思を引き継ぐ、あるいは支えた形で発展されてこれたかをまずお聞かせいただければと思います。

I would like to start with the introduction to Mr. Makoto Hatakeyama, who is currently serving as Vice President of the Non Profit Organization (NPO) “Mori wa Umi no Koibito” (The Forest is the Lover of the Sea), which was established in 2009. He has been long engaged in oyster and scallop farming in the Moune District of Karakuwa Town in Kesennuma City, Miyagi Prefecture.

Before taking over his family’s fishery and aquaculture business, he worked for many years as an environmental instructor on Yakushima Island in Kagoshima Prefecture, where he was also involved in environmental education activities. In particular, he experienced the Great East Japan Earthquake that occurred in March 2011, and he has been working hard on the recovery from the disaster, while also working diligently on environmental education and reforestation activities based on integrated watershed management from the mountains to the sea.

Mr. Hatakeyama, I understand that you are also enthusiastic about forest-building activities, so today I would like to hear about your connect with nature based on your vast experience.

Your father, Mr. Shigeatsu Hatakeyama, who started the Society to Grow Forests for Oyster (*Kaki no mori o shitau kai*), the parent organization of the current NPO Mori wa Umi no Koibito, has been involved in reforestation activities for many years. I would like to understand from you how your father’s passion, learning and knowledge were passed on to you and how you have been able to carry on his legacy and/or develop it in a way that supports it? I would appreciate it if you could tell me a little bit about this.

Makoto Hatakeyama

畠山です。どうぞよろしく願います。ええそうですね。

何か思想のようなものを受け継いでやるという思いは、私自身はなくて、その時代その時代に合うものを模索しながら活動を始めています。もちろん、木を植える行為自体は、我々だけの話ではないので、植樹する場所の住民の方々と共同で、自治会の方々と話し合いを続けながら、もう30年以上もやっていますので、続けるのかまたはやめるのかとかそんな話もしながら現在に至っております。

必ずしも意思を受け継いだというよりも、とにかくやりたいことについて、ご自身のモチベーションの基に活動されるのを、ある意味で支えてくださり、その中で、周囲の方々とそのやりとりを含め、色々と育まれてきたと理解しました。ありがとうございます。

次の質問として、今畠山様が取り組まれているいっしょる森づくり活動は、人と自然が共生する里山的な活動とリンクするのではないかと考えているんですが、その具体的な取り組みについてお話を伺えればと思います。特にそうした取り組みがどのように人と自然が共生する社会の実現に役立つのかといったあたりについてのお考えを伺いできればと思います。よろしく願います。

I’m Hatakeyama. It’s nice to meet you.

From my view point, my father takes a laissez-faire approach to anything. For example, when I tried to do something and then consulted with him, he would just tell me to do it anyway, and did not give me detailed instructions.

I don’t have an intention to inherit his philosophy, but I started my activities while searching for something that fits the times. Of course, the activity of planting trees is not something that we do alone, and it is a joint effort with the residents of the place where the trees are to be planted, so we continue to work together with them and have discussions with the residents’ associations. We have been doing this for over 30 years now, and we have been talking about whether to continue or to stop.

Ms. Maiko Nishi

必ずしも意思を受け継いだというよりも、とにかくやりたいことについて、ご自身のモチベーションの基に活動されるのを、ある意味で支えてくださり、その中で、周囲の方々とそのやりとりを含め、色々と育まれてきたと理解しました。ありがとうございます。

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It’s not necessarily that you inherited his ideology, but rather how he has supported you in your own motivation to do what you want to do. With this, I understood that he has nurtured you in many ways, including through your interactions with the people around you.

The next question is about your forestation activities. I think the forestation activities that you have been engaged in are in some sense linked to the Satoyama style activities where people and nature coexist in harmony. In particular, I would like to hear your thoughts on how such efforts can help realize a society where people and nature coexist in harmony.

When I see people who have been doing research in completely different fields flock to a field such as biodiversity or climate change the moment it becomes popular, I wonder if I can trust them even if they publish a paper on it.



Interview

Makoto Hatakeyama

はい。それは、植樹祭の話ですね。父が植樹地の住民の方々と一緒に始めた木を植える活動は、当時は、ダム建設の反対運動という側面がかなり強くありました。

日本の場合、シュプレヒコールを挙げて反対って言っても、だいたい負けちゃうんですよね。なので、そうではなく、対外的にアピールする手段としてスタートしたと聞いております。ただ、三十年以上前の話ですから、それから

ダムを造らないということでダム問題が解決した後、ずっと続けているわけですけど、もう世代交代が始まっているんですね。当時子供として参加してた方々は、もう社会の中枢を担う年齢になっていて、自分の子供を連れてまた来るようになって、そういう世代間の交流がもう始まっておりますので、それを途中で止めるということは、おそらくないと思うんですけども。

それはそれとして活動を続けながら、その理由は何かということ、1つは教育ですかね。やっぱり自然体験というものを幼少の頃にしていると、だいたい大人になった時のものの考え方は変わってくるように感じておりますので、教育という部分を含めた木を植えるという行為自体を続けていこうと思っております。

後は、新しく始めた森づくり活動というか、実際その樹を植える活動は年に1回しかやってないんですよまで。

定期的に、さらにそれを深掘りして、街づくり的な活動に落とし込むという活動がいま始まってまして、それは 樹を植える 行為 は 基本的にはしません。荒廃した森というか、流域がまた別にありましたので、それをなんとかしようということで、流域の保全活動を進めております。まだやり始めたばかりで、流域ですので、川が中心にあり、森があって下流に海があるという場所ですが、ベースキャンプになる場所を中流域に今作っている最中で、間伐作業なんかを今メインでやってます。目的としましては、森だけとか海だけという保全活動では、やっぱり流域という大きな保全活動にはなかなかならないので。森から海までを総合的に、アカデミックな調査を入れながら、どう変化していくかをモニタリングしながら、また、その活動に参加する人たちの教育の場でもあるので、一緒に調査をしながら変化を追いながら、実際は間伐をしたり野外活動をしております。

Yes. That's the story about the tree planting festival, isn't it? My father started the tree planting project together with the residents of the planting area where a dam construction was being planned, so there was a strong opposition movement to that.

In Japan, even if you yell and voice your discontent, you usually lose. So, I heard that the project started as a way to appeal to the public. However, this was more than 30 years ago, and after the dam problem was solved by not building dams, we have continued the activity, but the generational transition has already started. Those who participated as children at that time are now old enough to play a central role in society, and they are bringing their own children with them for the activity. This kind of intergenerational exchange has already begun, and so I don't think that there's any way to stop it.

That's what we're continuing as it is, and one of the reasons for it may be education. I feel that if you experience nature when you are young, your way of thinking will change a lot when you grow up. So, I would like to continue the act of planting trees, if I have been educated to do so since I was young.

The forestation activities are actually only held once a year.

In addition, we have started a project to deeply examine the issues and incorporate them into community development activities on a regular basis, which basically does not involve planting trees. There was another forest or watershed that had been devastated, so we decided to do something about it, and we are now working on watershed conservation activities, and we are just starting. We are in the process of building a base camp in the middle basin, which is the central part of the watershed linking from mountain to the sea, so we are mainly working on thinning the forest.

The purpose of the project is to conserve the entire watershed, because we cannot conserve it only with a focus on either the forest or the ocean. We continue monitoring the changes in the watershed from the forest to the sea in an integrated manner, while including academic research. It is also a place to educate the people who participate in the activities, so we follow the changes while conducting surveys together, and actually conduct outdoor activities theres.

I feel that if you experience nature when you are young, your way of thinking will change a lot when you grow up. So, I would like to continue the act of planting trees, if I have been educated to do so since I was young.

Ms. Maiko Nishi

ありがとうございます。地域の問題や地域の人達とのつながりの中でお取り組みをされているところですが、一方では全世界的に見ますと、気候変動や生物多様性の損失が人類の共通課題として最近 は大きく取り上げられるようになってきました。人と自然の関係性について具体的に取り組んで来られる中で、そうした世界的な気候変動や生物多様性の問題は、ご自身にとってどのような課題、重要なものとお考えになっていらっしゃるのでしょうか。

Wonderful, thank you once again for your time and for sharing this experience with us. In this context, you are making good efforts to solve various local problems and build relationships with local people. Since you have been working on various specific issues concerning the relationship between humans and nature, what do you think are the most important issues for you in terms of global climate change and biodiversity?

Makoto Hatakeyama

地球規模の問題となるとですね、我々のような団体が何をやったところで他者に対してその効果が得られるわけではないと考えております。一種の流行のように感じるので、私は特に気候変動に関しては懐疑的な立場にあります。本当に気候変動は起きているのか、気温は上がっているであろう、海面も上がって いるであろうというのは、数値からも見えるんですけども。それに関する研究者たちの動きをモニタリングしていると、ちょっと怪しいと思えるんですね。今までまったく違う分野の研究をした 方々が、生物多様性とか気候変動のことが一気に盛り上がった瞬間に、みんなそこに群がっていくのを見ています、その人たちが論文を出しても、それを信用していいのかどうかというのが僕の中ではあります。また、持続可能性、サステナビリティという言葉もありますけど、あまり現実を見てない気がするんですよね。持続可能を求めない人口が入ってない論文とか報告書ばかりで、実際は全員が持続可能性を

望んでいるわけではないというのが現実だと思います。私は、わりと現実的なところを突き詰める のが好きなので、それも含めた流域保全活動なんですね。

なので、気候変動にしる生物多様性にしろ、まず本当は どのようなかを自分たちで調べて、自分たちで判断 するということ からの スタートなので、今盛り上がってる人たちは、少しスタートラインが違うという認識 です。

When it comes to global issues, I don't believe that anything we as an organization do will have any effect on others. I'm skeptical about climate change in particular because I feel it is kind of a fad. It is clear from the figures that climate change is occurring, that temperatures are rising, and that sea levels are rising, but when I monitor the activities of researchers in Kansai, I find them to be a bit suspicious. When I see people who have been doing research in completely different fields flock to a field such as biodiversity or climate change the moment it becomes popular, I wonder if I can trust them even if they publish a paper on it. I think the reality is that not everyone really wants sustainability and there are many papers and reports that do not include the number of people who do not want to be sustainable, I like to get down to the nitty-gritty of what's really going on, whether it's climate change, biodiversity, or whatever.

So, whether it's climate change or biodiversity, we start by investigating what is really going on and accordingly making our own decisions. We do recognize that the starting line is a little different from those who are currently following the trends.

Ms. Maiko Nishi

ありがとうございます。お取り組みと地球規模の話とはかなりギャップがあり、そうした地球規模の問題は、流行り で終わってしまっているのではないかと懐疑的にみているとお聞かせいただき、非常に 印象的なコメントだったかと思います。先ほども環境教育に関して、 子供が自然体験をするというのは 長期的に色々な意味を持つというお話がありました。長年にわたり、今のご活動の前の屋久島在住の頃から環境教育にさまざまな形で関わってこられたと理解していますが、そもそも最初に環境教育に関わり始められたモチベーションはどんなものだったのか、その当初のモチベーションは今とは変わりつつあるのかといったあたりをお話 していただければと思います。

Thank you. There is certainly considerable gap between your efforts and the global story and I understand that you are skeptical that this is just a fad. Earlier in our discussion, you mentioned that children's experience with nature has a lot of value and meaning in the long run when it comes to environmental education. I understand that you have been involved in environmental education for many years, especially since you have lived on Yakushima before your current activities, and you have been involved in environmental education in various ways. I would like to understand what was your motivation to get involved with environmental education in the first place and has there been a shift in the motivation from where you first started?

Makoto Hatakeyama

私自身は、人が苦手なんですね。環境教育は人を相手にすることなので、矛盾を感じられるかもしれませんが、大好きな人間も含めて私が大好きな生物は何かと言われると、昆虫なんです。もともと昆虫 の分類 とかが大好きで、人よりも虫を相手にしている方が、すごく 楽しい時間を

過ごせるんです。環境 教育というジャンルに僕は二十歳ぐらいに首を突っ込んだんですが、当時、自然体験に取り組むある団体で人が足りないからスタッフで入ってくれということで行ったら、虫をいじってる楽しさが人と接してると何か似通っている部分があると、人という動物が面白いなと感じた瞬間がありまして、それがモチベーションに なってます。そこから人を相手にする環境教育という分野にとっぴり入り、時間が過ぎていくと、自然を良くするも悪くするも、それは人の心持ち次第だなという結論に今のところ達しています。

そう考えると、やはり人の教育が大事なんじゃないか、人の教育には学校教育もありますが、やはり自然体験が一番重要ではないかと考えております。もちろん自然体験がない人でも自然の大切さは知ってるんですよ。ただ、自然体験がある人となない人で、単純な比較は難しいですが、私の中で接してきた 人を比較すると、やはりちょっとズレを感じるんです。どういうズレかというと、実際の自然体験を、子供の頃から意図せず、してきた人は、何かの自然関係の報告書を書いて、すごく胸に落ちる書き方 をしますし、一方で自然体験が全くない人、ただ自然は大事だということは理解してる人の書く報告書 は、同じ課題であってもちよっと違うんですよ、薄い感じがするんですよ。なので、自然体験があった方が、何よりも絶対いいというのは僕の持論になります。なので、環境教育はやはり大事なんだ、特に自然を素材にした環境教育は大事なんだという結論に達しています。

I am not that good a person. I'm not good with people, and environmental education is about dealing with people. I know this might sound like a contradiction. If you ask me what kind of organisms I love, including people, I would say insects. I've always loved insect classification, and I enjoy spending time with insects more than with people. When I was about 20 years old, I got into the genre of environmental education, but at that time, there weren't enough people in a group working on nature experiences. As a child, I enjoyed playing with bugs. I found that the fun of tinkering with insects was similar to that of interacting with people. That was the moment when I felt that the human-animal connect was interesting, and that became my motivation, and from that point on, I became fully involved in the field of environmental education. As time went by, I came to the conclusion that whether nature is good or bad depends on the feelings and mindset of the people.

When I think about it, I believe that the education is certainly important, and that it can be imparted through school education, but in my opinion, the most important thing is to experience nature. It is difficult to make a simple comparison between people who have experienced nature and those who have not, but when I compare people who have experienced nature, I feel that there is a slight gap. On the other hand, a person who has never experienced nature but understands the importance of nature will write a slightly different report on the same subject. Therefore, I have come to the conclusion that environmental education is very important, especially when using nature as a means of teaching environmental education.

If you ask me what kind of organisms I love, including people, I would say insects. I've always loved insect classification, and I enjoy spending time with insects more than with people.



Interview

Ms. Maiko Nishi

ありがとうございます。今のお話は次の質問にも関わり、次世代を担う若者たちが自然環境と良好な関係性を作っていくモチベーションを持つにはどうしたらいいのでしょうかという質問になります。まさに そういった体験が大事だというお考えかと理解したのですが、先程、人と自分との関わりと昆虫と自分 との関わりで似たところがあると言われたかと思うのですが、そこをもう少し掘り下げてお伺いできれば ありがたいです。

Thank you. This brings me to the next question; how can we motivate the next generation of young people to have a good relationship with the natural environment? I understand that you think that such experiences are important, but I believe you mentioned earlier that there are similarities between the relationship between people and yourself and the relationship between insects and yourself, and I would appreciate it if you could delve a little deeper into that.

Makoto Hatakeyama

昆虫は物を言わない、言葉はしゃべれないけれども、昆虫ばかりをずっと追っかけていると、昆虫の考え方みたいなものが少し理解できるようになってくるんです。たとえば、この 蝶々は、蝶々なので人間とはまったく違う感覚で生きていると思うんですよ、でも、特に空間の把握というか、風圧みたいなのは感じてると思うんです。蝶々を採ろうとして追っかけていくと、彼らは猛スピードで逃げていく。

たぶん虫取り網を持っているからというのものもあるかもしれませんが、空気を感知しているんですね、何かがこう迫ってくるような感覚を多分彼らは感じていると思うんです。それが人に代わると何が似てるか、言葉にするのは極めて難しいんですが、ちゃんと言葉にしておかないといけないことですね。他の 生き物、野生動物と人の明らかな違いは、人は先を読もうとする生き物だと思うんです。例えば 日本の子どもたちと接する機会が非常に多いんですが、指導者の大人が欲している言葉を子供たちは吐く。それは、蝶々が空気を感知して逃げる感覚となんか似ているような感じがするんです。

Insects don't say things, they can't speak. But if you have been chasing insects for a long time, you start to understand their way of thinking somewhat. For example, this butterfly is a butterfly, so I think it lives with completely different senses from humans, but I think it has a particularly good grasp of space and feels wind pressure. When I chase after butterflies, they run away from me at high speed.

Maybe it's because they have a need to catch insects, but maybe they feel the air pressure or maybe they feel like something is approaching. It's extremely difficult to put into words and what it may feel like for people. The obvious difference between the paths of humans and those of other creatures, wild animals, is that humans are creatures that try to think ahead. For example, I have a lot of opportunities to interact with Japanese children, but the children express the words that the adult leader wants to hear. To me, it feels like a butterfly feeling air pressure and running away.

When we get feedback from the children during the summary session of environmental education, it should be their own impressions, and they don't have to say anything that would make us, the staff, happy. It may be a problem with the Japanese education system, but they only say things that make adults happy, and I haven't been able to find out if that's their true

intention or not, but I think it's probably not their true intention. I think it would be different if it was a child from overseas, but in Japan, they only give answers that benefit themselves. This is one of the similarities between insects and humans. There are a lot of other things, but if you could give me about 5 hours, then I would be able to tell you about it

Ms. Maiko Nishi

非常に興味深いです。実感として、相手が期待するものとか、相手が何を仕掛けているかに、結構敏感に人も昆虫も反応して命を繋いでいるところがあるというように思いました。その中で、自然に対する 心持ちは徐々に形成され、実際の体験や感情も含めて本当に何か感じたことが、自分の次の行動のモチベーションや考え方につながっていくのかなと感じました。そこで、若い人たちが自然との良好な関係を築いていく中で、どのような価値や学びを、インフォーマル でもフォーマルでも、教育システムに取り入れていくべきとお考えになりますでしょうか。

As a child, I enjoyed playing with bugs. I found that the fun of tinkering with insects was similar to that of interacting with people. That was the moment when I felt that the human-animal connect was interesting, and that became my motivation, and from that point on, I became fully involved in the field of environmental education.

I see. It's very interesting. I think that both humans and insects are quite sensitive to what the other person expects or what the other person is trying to do, and that's what keeps their lives going. In this way, I felt that my feelings toward nature were gradually formed, and my actual experiences, as well as my feelings and emotions, would lead to my motivation for my next actions and thoughts. So, as young people build good relationships with nature, what values and learning do you think should be incorporated into the education system, both informal and formal?

Makoto Hatakeyama

難しいですね。日本の教育システムに限っては、やはり学校の先生にすべて任せすぎなところがあり、担任の先生が疲弊しちゃうので、もし環境教育という授業を1コマ作れるのであれば、そこは環境教育の専門家が授業を行うのが適切なやり方で、海外だとそうですけど。それが発展していくと、政治の話にもなってしまいうんですが、日本の場合は専門家が大臣をやっていないですが、大臣はやはり専門家がやるべきと考えてしまいます。政治家は政治家でいろいろ大変でしょうけども、そこがやはり教育システムの根源にあるんじゃないかという 気がします。あとは自然体験をできるフィールドが日本では非常に少なくなってきてしまった。特に東日本大震災後、東北の海辺はもう大きな壁に囲まれていますので 海に遊びに行こうにも、その壁を乗り越えたり、壁の中に通路が付いてるんでそれを通して行かないと、コンクリートを越えないと海に出られないという場所がほとんどです。

When I think about it, I believe that the education is certainly important, and that it can be imparted through school education, but in my opinion, the most important thing is to experience nature.



So, whether it's climate change or biodiversity, we start by investigating what is really going on and accordingly making our own decisions. We do recognize that the starting line is a little different from those who are currently following the trends.



Yes. That's the story about the tree planting festival, isn't it? It's difficult to say. In the Japanese education system, there is a tendency to leave everything to the school teachers, and the teachers become exhausted, so if you have a class on environmental education, it would be appropriate to have a specialist be in charge of the class. In the case of Japan, we don't have a minister who is an expert, but I think that an expert should be the minister. I think this is the root of our education system. What else can we do? There are very few places in Japan where people can experience nature. In most places, you have to climb over the wall or go through a passage in the wall to get to the ocean.

In the Japanese education system, there is a tendency to leave everything to the school teachers, and the teachers become exhausted, so if you have a class on environmental education, it would be appropriate to have a specialist be in charge of the class.

Ms. Maiko Nishi

若い人たちが自然を体験する機会が作られていない、それがどんどん少なくなってきたというお話 だったかと思います。最後に、今後次世代を担う若者たちへのメッセージと政策立案者側へのメッセージをいただければと思いますが、まず若者のへのメッセージとして、世界規模でもいろいろと環境問題が叫ばれている中、若い人たちがどういったアクションをとればいいかについてご示唆いただくような形でメッセージをいただけれ ばと思います。

I would like to ask you to give us some encouragement on what kind of actions young people should take in the midst of the various environmental issues that are being discussed on a global scale.

Makoto Hatakeyama

私自身が放任主義的な父に育てられているので、どうしてもそれがい い と思ってしま う んですけど、何 かやりたいことがあるのならば、とりあえ ずやっ て みろ と思います。ただ、自分がやったこと、やろう としているこ との検証は忘れちゃいけない と思います。第三者を入れてしっかりと、成功しても失敗し ても、検証することは大事だ と思うんです。成功事例 ってごくわずかと僕は思う んです。数として は失敗事例の方が明らかに 多いですが、その失敗事例の検証が全然されていない。大人がやること でも、子供たちというか若者が活動することでもそうですが、しっかり 検証 することが大事、あと はずりあえ ずやっ て みろ というのが私のメッセ ージ になります。

I'm raised by a free-spirited father, which in hindsight I think is good. I would suggest if there's something you want to do, please give it a try. However, I believe we must not forget to verify what we have done and what we are trying to do. I think its important to include a third party and verify it, whether it succeeds or fails. We must understand that there are only a few success stories. The number of failure cases is clearly higher, but the failure cases have not been verified at all. Whether its what adults do or what children or young people do, it's important to verify it thoroughly.

My personal message is to verify the results thoroughly. My personal message is to try it for now.

I would suggest if there's something you want to do, please give it a try. However, I believe we must not forget to verify what we have done and what we are trying to do.

Ms. Maiko Nishi

ありがとう ございます。非常に建設的で、失敗も次につなげるために は、ひとつのいい勉強材料ということで、私自身も励みになる ところ です。最後に政策立案者へのメッセージですが、世界的には人類はもう危 機 的な状況だ というメッセージがいろいろと流れて います。色々なレベ ルの政策立案者がいる と思いますが、国際から地方まで含め、特にこの 部分のこうした政策 に対してのメッセージを伝えたいという ことがあり ました、ぜひ伺え れば と思います。

Thank you very much for your time, and I am very encouraged by the fact that failure is a good learning experience for the next generation. UNESCO is an international organization, and there are many policy makers at various levels who are also readers of this publication. If you want to send a message to the policymakers and decision makers, what would that message be?

Makoto Hatakeyama

組織のトップに 近い人たちへ のメッセージとするならば、自然体験をし てほしいですね、今からでも 遅くないので。自然体験がない っ て 思う 人が非常に多いように感じます。いろんな人がウチにも来ますが、偉い 人 ほどやはり自然体験がない。

自然体験がなく て も、やっている ので、多分政策立案 というのは、できる ん だ と思う んですが。あと は若者たちが何かしようと動いて る ん だ っ た ら、それを見守ってほしいですね。それで、責任は しっかり 大人 が とるべ き だ と思います。あとは大臣は専門家がやっ て ほしいです。

If I wish to give a message to decision makers and policymakers, I would say, experience nature, because it is not too late.

Once you experience nature, you can make policies and if young people are trying to do something, you can watch over them. I believe that adults should take responsibility firmly. I also want our ministers and decision makers to be experts.

Ms. Maiko Nishi

頭でっかちになっ て、しかもオールマイティー だとすると、実際に政策を立 ててもその実施の部分でやはりうまくいかなかったりとか、地域の人達の 考えも反映しない形で突き進ん でしま っ おそれがある とい った点の ご指摘か と思 いました。一つ だけ最後に、今の点にも関わりますが、放 任主義のもとでとにかくアクションを、その行動を支える姿勢を大人に 期待する とい うことか と思 いますが、全国的に影響 力を持つお父様のも とで、人と人が世代を超えて繋がる意味、その中でのご自身や家族の世 代的な繋がり とい うのはど の ように捉えていら っ しゃいますか。ご自身の 体験 なども踏まえて、お父様の存在はど の ような影響を及ぼしたかも 伺え れば と思 います。

If I wish to give a message to decision makers and policymakers, I would say, experience nature, because it is not too late.

Thank you. And how do you perceive the meaning of connecting people across generations under your father, and the generational connection of yourself and your family? What kind of influence has your father's existence had on your own experience?

Makoto Hatakeyama

父は静かに頑固なところ が ありますけども、基本的には放任主義なの で、何でもとりあえ ず 自分でやっ て みろ という風 に向うのは、トップとし てはいい存在だ と思 います。あれもこれもダメだ っ て 否定的に なるんじ ゃなくて、成功するかはわからないけど、とりあえ ず はやっ て み て、失敗し たら っ かり検証 すれば、それはマイナスではない とい う言 い方 はしま す。トップとしてはそういう人 がいて、あと現場担当者は優秀な仲間を揃 えるべきだ と思 います。

He can be quietly stubborn, but he's basically a laissez-faire person, so I think it's good for a top executive to say, "Just try it, and whatever you do, just try it yourself." I don't want to be negative and say, "Oh, this, that, or the other is no good," but rather, "I don't know if it will succeed or not, but at any rate, I will try it first, and if it fails, I will verify it thoroughly, and it won't be a negative thing. I think we should have such a person at the top, and we should also have excellent colleagues in charge of the field.

Ms. Maiko Nishi

専門やそれぞれの特技を生かした形で構成するということですね。ご家 族の中 でお父様から引き継が れる部分はある と思う んですが、違 う 形で、おじいちゃん、おばあちゃん、お子さんもいる家族の役割の役割は いか が でしょう。

I believe that there are many aspects of the family that are inherited from the father, such as specialties and skills, however, what is the role of that other members of your family had in shaping your connect with nature – such as your grandparents and children?

Makoto Hatakeyama

私個人のマツタケ採り歴は四 十 年 で、三歳からマツタケ採りに山に入 っている んですが、それは父で はなく祖父、祖母に教わった ン ですね。教 わった とい うか、一緒に連れていっ て もら っ た のが僕の中 で原体験に な っ て います。それがあるなしでは、やはり容認する心の器の大ききさ みたいなのは変わるん じゃないか と思 う。例えば気候変動と言われているこ とは実は間違いだった とい うことにな っ た場合、それを拒絶するんじ ゃ なくて受け入れる心の器 とい う ン ですかね。ちょっと仏教がか っ てくるん ですが、例えば私は本業で牡蠣とかの養殖をしていますが、牡蠣は富栄 養化した海域の方がよく育つ。人工的な排水口の近くとかの方がはる かにいい育ち方をする。子供の 頃からそういうものを見たり、そういう場 所で遊んでいたりすると、大人になっ て知識が付いてくると、「うわ 汚い、これは食べ物じゃねえ」みたいな拒絶をしなくなる。

「そうですね、富栄養化って漢字で書いたら、栄養に富んでいることな ので、それはいいものできますよね。いい牡蠣できますよね」と受け入れ

ることができる。それは非常に重要だ と思 います。拒絶し 続 けてしま っ と、それはおそらく封建主義とかになっ ていくので、そう なる と、良い 悪 い だけ だ っ て すべてを切り分ける ような ことになっ ていく。それはおそら く 戦 争につな っ が っ ていくものだと僕は 思 います。お前はいい奴だから生き残 れ、お前はダメな奴だから死ね みたい な、そんな感じに切り分け ちゃ っ う ン ですね。自然環境も人間環境も同じ部分はやはりあ っ て、「中間」 っ て 言う ン ですかね、良いものと悪い ものの間のグラデーションがやはりあ る ン ですよ ね、それを受け入れられるかどうかは 非常に重要だ と 僕は 感じています。

For me personally – I have been going into the mountains to collect matsutake mushrooms for 40 years since I was 3 years old, but it was my grandfather and grandmother who taught me, not my father. I think there is a difference between having that experience and not having it.

For example, my main business is oyster farming and oysters grow well in vibrant, nourished waters. They grow much better near artificial drains, and if you see them or play in such places as a child, when you grow up and become knowledgeable about them, you won't reject them as if they are dirty.

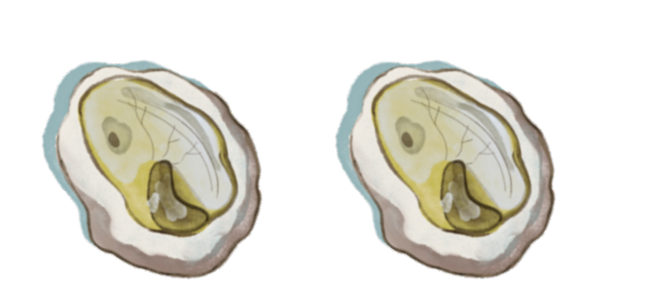
If you write about nutritional value, it means that it is rich in nutrients, so you can write about it in a way that it will be good. If we continue to reject it, it will probably lead to feudalism, and if we continue to separate everything into good and bad, it will probably lead to war, I think. The natural environment and the human environment have the same parts. There is a gradation between what is good and what is bad, and I feel that it is very important to be able to accept this.

if you see them or play in such places as a child, when you grow up and become knowledgeable about them, you won't reject them as if they are dirty.

Ms. Maiko Nishi

ありがとう ございます。非常にご示唆に富んだお話で、私自身も、失敗を 恐れず取り組んでそこ から学ぶという建設的なメッセージをいただきま した。本当にありがとう ございます。

Thank you very much. It has been a very interesting discussion, and I have learnt a lot. In particularly, I will learn from our discussion to work on things without the fear of failure and learn from these experiences. Once again, Mr. Hatakeyama, thank you very much for all your time and for sharing your learnings and experiences with the readers.





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