Choices for Sustainable Living

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DISCUSSION COURSE ON

CHOICES FOR SUSTAINABLE LIVING

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By

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Ecochallenge.org
107 SE Washington Street
Portland, OR 97214
(503) 227-2807
contact@ecochallenge.org
ecochallenge.org

Layout and Typography: Margaret Parker
Cover Design: Lee Benson
Curriculum Development and Editing: Lacy Cagle

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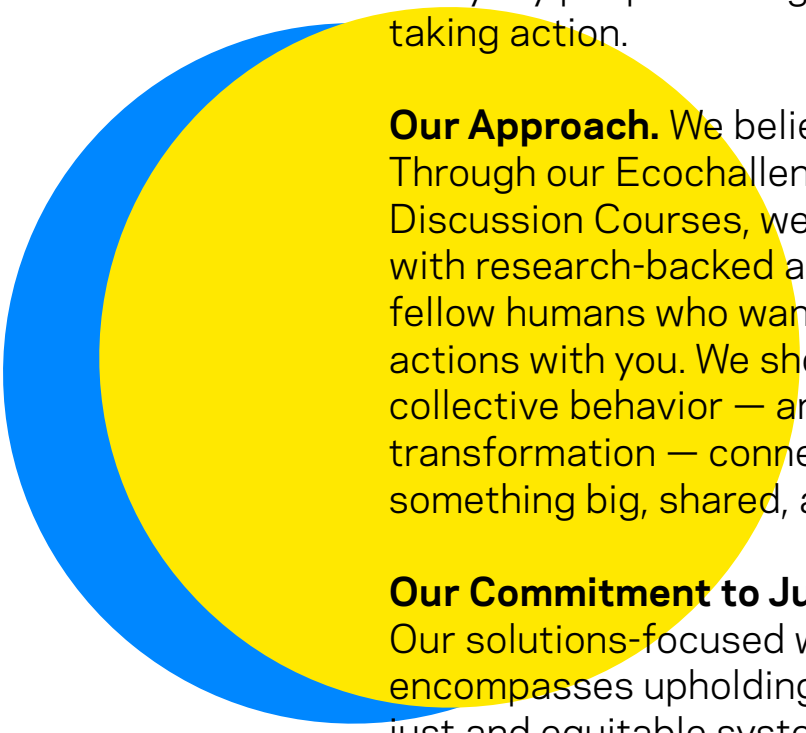
All of us. One better shared future.

Our Vision. We believe in a better shared future, one with fresh air to breathe, clean water to drink, and a stable climate to live in.

Our Model for Change. And we believe that our individual behaviors are pivotal in creating this world, one that is realized by the collective impact of everyday people raising voices and taking action.



Our Approach. We believe in solutions. Through our Ecochallenge Platform and Discussion Courses, we connect you with research-backed actions and with fellow humans who want to take these actions with you. We show you how our collective behavior — and your personal transformation — connect with something big, shared, and better.

Our Commitment to Justice & Equity. Our solutions-focused work encompasses upholding and revitalizing just and equitable systems. We know a better shared future can only exist when we hold in earnest all inhabitants on this dot we call *home*.

Together. We are connecting the dots between our actions, our impact, and our will to create significant global change. Each time our dots are connected, we take another step forward, toward our better shared future. So here we are. Let's begin.

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Together, we're connecting the dots.

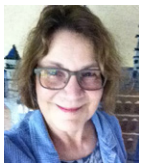
ABOUT THIS CURRICULUM

Lacy Cagle (Editor) is the Director of Learning at Ecochallenge.org, where she oversees the development of discussion courses and other educational programs, and chairs Ecochallenge.org's Diversity, Equity and Inclusion Committee. She holds a MS in Educational Leadership and Policy with a focus on Leadership in Sustainability Education from Portland State University. Lacy's expertise is in sustainability pedagogy, transformative learning, and behavior change. When not working on sustainability-related projects, she sustains herself by exploring new and old places, cooking, playing trivia, and hanging out with her amazing rescue pup, Huey, in St. Louis, Missouri.

CURRICULUM COMMITTEE

This discussion course would not exist without the expertise and time volunteered by the people on our curriculum committee. Ecochallenge.org would like to offer sincere and deep appreciation for the many hours of time they collectively invested in this project.

Emily Mauro (Curriculum and Research Intern) is responsible for helping with curriculum development with Ecochallenge.org, particularly with developing and publicizing a new program on sustainability leadership for change. Her trip to Ecuador in 2015 shed some light on the Rights of Nature, Ecuador's addition to its constitution in 2008. This led her to probe the ethics of biocentrism–ultimately altering her perception of the complex natural world that we are all a part of. She is interested in further exploring the intersections between social equity and environmental sustainability, along with environmental stewardship and its relation to human health. She spends her free time planting trees in urban settings, and volunteering on local farms.



Margaret Parker (Layout Editor) is a freelance graphic artist in Portland, Oregon. She says that after taking several Ecochallenge.org courses that were "life-changing," she jumped at the opportunity to be involved in the creation of Ecochallenge.org course books. Margaret is a native of the Pacific Northwest, spent a year in Poland, and has lived in Portland for the past 13 years.

Lee Benson (Cover Designer) is a freelance graphic designer living in Portland, Oregon. After obtaining a Bachelor's degree in Film & Digital Media, he moved to Portland to study design, earning an AAS at Portland Community College. Since graduating, he has been sole proprietor of City Limit Design. He enjoys working with local nonprofits that work to improve quality of life. In his spare time, he enjoys crafting cocktails, riding his bike and watching classic movies.

Miguel Arellano enjoys taking advantage of the all the great adventures Oregon has to offer with his partner and daughters. Miguel is currently the Coordinator of the Multicultural Center at Portland Community College, where he provides transformative learning opportunities for students through leadership, social change, and civic engagement opportunities where students can engage in shaping a better self and a better world. Miguel's passion lies in the power of education and stories, both in and outside the classroom.

Rick D. Barnes is Professor of Psychology and Environmental Studies at Randolph College in Lynchburg, Virginia, where he teaches courses in social psychology, history of psychology, and environmental studies. He received his BA in psychology from Vanderbilt University and his Ph.D. in social and environmental psychology from the University of Wisconsin—Madison. He was a member of the City of Lynchburg Planning Commission for nine years and has been active in promoting sustainable development at the local level. Dr. Barnes has given workshops and presentations on sustainable campus and city planning at national and international conferences, and has taught courses in sustainable lifestyles and sustainable communities with the Semester at Sea program.

Lisa L. Cagle conducts Public Policy Research through her role at Bi-State Development Research Institute in St. Louis, Missouri. She holds a Master of Arts in Philosophy from the University of Missouri – St. Louis (UMSL), and studied sustainable development at the University of Oslo in Norway on a Fulbright Fellowship. Lisa's current research examines transportation policy from a social and racial justice perspective. Lisa stays busy outside of her work at Bi-State as a leader and active participant in numerous community action groups. She is also a member of the St. Louis Earth Day board of directors.

Jenn DeRose is Program Manager of the Green Dining Alliance (GDA), a program of St. Louis Earth Day. The Green Dining Alliance is a certification program for St. Louis-area restaurants to assess and improve their sustainable practices, which include reducing their waste, water, and carbon footprint, while encouraging the sourcing of local, responsibly raised foods. The GDA also works to educate the public about waste reduction, energy and water consumption, and the importance of fostering a healthy, resilient food system. Jenn is a freelance writer for the Riverfront Times, student of Sustainability at Washington University, and a LEED GA. She enjoys camping, foraging, birdwatching, vegan brownies, and cycling.

Felipe Ferreira (pronouns: he/him/his, they/them/theirs) is a dreamer and budding sustainability educator hailing from Brasilia, Brazil. He has recently graduated from Portland State University with a master's degree in Educational Leadership and Policy with emphases in Leadership for Sustainability Education and Gender, Race, and Nations. As a critical sustainability scholar, his research interests include productions of nature, popular culture and sustainability, and critical consciousness development.

Viniece Jennings, Ph.D., is a research scientist based in Athens, Georgia, who explores the role of urban green spaces on various aspects of health and well-being. Through the years, she has also been involved in initiatives to enhance environmental and sustainability education. Viniece is also a Senior Fellow with the Environmental Leadership Program.

Betty Shelley has been an Ecochallenge.org volunteer since 1994. Betty often tells people "Ecochallenge.org has changed my life." She is a Master Recycler and a former Recycling Information Specialist for Metro Regional Government in Portland, Oregon. In addition, she and her husband have produced just one 35-gallon can of garbage per year since 2006. She offers "Less is More" classes on reducing resource waste in the Portland area. In 2013, she was honored with the NW Earth Institute Founders Award, recognizing her vast contributions to both Ecochallenge.org and sustainability education and practice more broadly.

Liz Zavodsky is the Director of Membership and Engagement at Ecochallenge.org . Liz oversees program engagement with businesses nationwide, sponsorship and corporate partnerships, in addition to managing donor relationships and records. Before joining Ecochallenge.org , Liz worked in Higher Education and Residence Life. She received her BA from University of Northern Colorado, and her MA in Human Development from University of Denver. Previously, she and her husband worked for Semester at Sea, and spent time living in Edinburgh, Scotland.

INTRODUCTION

At this point, the idea of sustainability has infiltrated most of our societies. "Sustainable" products, "sustainable" lifestyles, "sustainable" food, "sustainable" development — the term is used often and widely, and even contradictorily. Regularly, "sustainable" really means "less unsustainable," which can be misleading, at best. The definitions and visions of sustainability differ with each culture in which it is envisioned, and with the agenda of each person or organization promoting it. Sustainability is a complex and contested concept, but at its essence represents the hope for a healthy, just and bright future for us all. We offer this 25th anniversary edition of *Choices for Sustainable Living* as an opportunity to move beyond the hype to explore sustainability more deeply. The course focuses less on defining sustainability than envisioning sustainability — what would a sustainable world look like? And how can we create it together?

We also want to explore with you the idea of "choices" for sustainable living. Some of us have more choice or agency than others, and as individuals, our choices are often constricted or manipulated by complicated and power-laden systems (for example, recent reports suggest just 100 corporations are responsible for the majority of our greenhouse gas emissions). This course book focuses on the choices you do have, in your individual daily life, to contribute to a healthier, more just and more sustainable world. It also focuses on the choices you have to exercise bigger positive impact, by being a leader or agent of change in your communities and in larger systems.

In order to explore the idea of choice, we have to look at power and privilege as well. Those who have power and privilege have bigger voices in our public conversations and often have bigger impact in the world. The perspectives of people with power often become the dominant ones, and some of them can be or have been quite harmful. But just because a perspective is the dominant one, it does not mean it is the most accurate one. Not all opinions are equally valid. We can, however, come to better understandings of sustainability that are grounded in evidence, context, and equity. With that in mind, we have exercised intention in selecting articles that represent distinct views of sustainability, but we have not represented them all. We have elevated less dominant perspectives to encourage conversation about what is both equitable and achievable. We have prioritized content that helps you to connect with your peers, create a community of support, contrast differing views, reflect on your own values and assumptions, and move to action.

Throughout this course, you will examine and envision sustainability from individual, societal and global perspectives. The readings are intended to invoke meaningful discussion. Each week as you meet with your group, we invite you to bring your own experience and critical thinking to the process. Whether you agree or disagree, you will have an opportunity to clarify your views and values. Ultimately, we hope this process inspires you and others to make choices to live with more intention on Earth.

Choices for Sustainable Living is comprised of eight sessions designed for weekly discussion. Each session includes readings, videos, Suggested Discussion Questions, one or more Suggested Group Activities, and a Reflection

prompt. We suggest coming up with a group goal or project during the optional "Call to Action" session. This last session is encouraged as a way for your group to celebrate the completion of the course, share goals and progress and consider ways the group might continue to work together.

INTEGRATING WITH ECOCHALLENGE

For the first time ever, *Choices for Sustainable Living* is using our Ecochallenge platform to enhance your learning experience. Ecochallenge challenges you to choose actions to reduce your impact and stick with each one for one week. You design your Challenge and set a goal that stretches your comfort zone and makes a difference for you, your community and the planet.

Use Ecochallenge for the best possible experience of this course — it will allow your group to better connect, reflect, and act together by opening up new opportunities previously unavailable. Not only does Ecochallenge help your group stay connected in between session meetings, it connects you to others, expanding your network to everyone around the world who is participating in *Choices for Sustainable Living*. It extends your learning, by better connecting you to additional resources and opportunities for action. It allows new opportunities for reflection with your peers by allowing you to share your thoughts as they arise and get feedback from your group. And Ecochallenge is proven to better incentivize your action by providing more ideas for action, more accountability to your commitments, and more support for your attempts. You will see the impact of your individual and Team actions, as well as the collective impact of everyone participating in the Choices Ecochallenge.

Here is how to use the Ecochallenge platform with this course:

1. **Organize your discussion group as an Ecochallenge Team.** Before your first session meeting, sign up for the Ecochallenge using your unique Team URL, which your Team Captain will send to you. Through the Ecochallenge platform, your Team will be able to connect with each other outside of meetings and with other discussion group Teams around the world.
2. **Respond to Reflection prompts offered on the first page of each Session.** Reflection prompts ask participants to post their thoughts and feelings about the session topic in their Ecochallenge Feed each week. Teammates can then respond to each other's posts to offer insight, support and encouragement.
3. **Choose an Action goal to complete on the Ecochallenge platform.** Follow the prompts in the "Putting It Into Practice" boxes at the end of the session readings. These Actions are related to the content for each session and help participants learn more, apply their learning locally, and take action toward a more sustainable way of living. Participants are encouraged to set a goal that stretches their comfort zone and makes a difference for themselves, their community, and the planet. A variety of Actions are available for each session, including Actions that allow participants to measure their individual impact and see the collective impact of everyone doing the Ecochallenge.

The Facilitator for the week should remind participants at the end of the session meeting to log into **choices.ecochallenge.org** to post a Reflection and commit to an Action. It is helpful to allow a few minutes at the end of each session meeting to allow the group to discuss their progress, successes, and difficulties in taking their selected Actions. Remind people that they can stay connected with each other between sessions by posting at **choices.ecochallenge.org**.

You can still use the Reflection and Action prompts even if you choose not to use the Ecochallenge platform, but the best use and experience of *Choices for Sustainable Living* will be with the Ecochallenge helping you to connect with others, reflect on your learning, and act toward a more sustainable world.

Thank you for participating in this discussion course process. For resources on getting your discussion group started, visit **ecochallenge.org/take-action/discussion-courses** to find organizing guides and tips for facilitation. You may also contact our office at (503) 227-2807 or **contact@ecochallenge.org**.

GUIDELINES

FOR THE FACILITATOR, OPENER AND NOTETAKER

This Ecochallenge.org Discussion Course is designed to be much more than a reader; it is designed to be a guide for community building, transformative learning and life-changing action.

When you break big issues into bite-sized pieces and talk through them with others, you discover insights and inspiration that are hard to find on your own. You learn, together. You build a personal network of shared stories and support that makes it easy to take action. In short, you become part of a community for change.

Below you will find guidelines for three of the roles participants can play in this course: the Facilitator, the Opener and the Notetaker. For each session of this course, one participant brings an "Opening," a second participant facilitates the discussion, and a third participant takes notes on the Group Activity (if you choose to do it) and Actions group members commit to. The roles are designed to rotate each week with a different group member doing the opening, facilitating and notetaking, so that each participant has a chance to share leadership in the group. This process is at the core of Ecochallenge.org culture — it assumes we gain our greatest insights through self-discovery, promoting discussion among equals, with each person learning with and from each other. Learn more about organizing an Ecochallenge.org discussion course at ecochallenge.org/take-action/discussion-courses.

FOR THE SESSION FACILITATOR

As Facilitator, your role is to stimulate and moderate the discussion. You do not need to be an expert or the most knowledgeable person about the topic. Your role is to:

- Remind the Opener ahead of time to bring their opening, and remind all participants to read the session before you meet.
- Begin and end on time.
- Ask the questions included in each session, or your own. The Circle Question is designed to get everyone's voice in the room — be sure to start the discussion with it and that everyone answers it briefly without interruption or comment from other participants.
- Remind your group members to log their Actions and Reflections on the Choices Ecochallenge site (choices.ecochallenge.org).
- Keep the discussion focused on the session's topic. A delicate balance is best — don't force the group to answer the questions, but don't allow the discussion to drift too far.
- Manage the group process, using the guidelines below.

A primary goal is for everyone to participate and to learn from themselves and each other. Draw out quiet participants by creating an opportunity for each person to contribute. Don't let one or two people dominate the discussion. Thank them for their opinions and then ask

others to share.

Be an active listener. You need to hear and understand what people say if you are to guide the discussion effectively. Model this for others.

The focus should be on personal reactions to the readings — on personal values, feelings, and experiences. The course is not for judging others' responses. You do not have to come to a consensus on what everyone should say or do.

Each week, course participants will choose an Action goal to complete on the Choices Ecochallenge platform. Participants are encouraged to set a goal that stretches their comfort zone and makes a difference for themselves, their community and the planet. Reflection prompts are also offered in each session for participants to respond to in their Ecochallenge Feed. The Facilitator should remind participants at the end of the session meeting to log into **choices.ecochallenge.org** to commit to an Action and post a Reflection. It is helpful to allow a few minutes at the end of each session meeting to allow the group to discuss their progress, successes, and difficulties in taking their selected Actions. Remind people that they can stay connected with each other between sessions by posting at **choices.ecochallenge.org**.

FOR THE SESSION OPENER

The purpose of the Opening is twofold. First, it provides a transition from other activities of the day into the group discussion. Second, since the Opening is personal, it allows the group to get better acquainted with you. This aspect of the course can be very rewarding.

Bring a short opening, not more than a couple of minutes. It should be something meaningful to you, or that expresses your personal appreciation for the natural world. Examples: a short personal story, an object or photograph that has special meaning, a poem, a visualization, etc. We encourage you to have fun and be creative.

FOR THE NOTETAKER

If your group chooses to use the Group Activity in each session, you will need a Notetaker. It is your responsibility as Notetaker to record the group discussion, any resources shared, and commitments to action, as outlined by the particular Group Activity in the session. Send the notes you took on the Group Activity to each person in your group at the end of your group meeting.

COURSE SCHEDULE FOR *CHOICES FOR SUSTAINABLE LIVING*

This course schedule may be useful to keep track of meeting dates and of who is serving in which role for the next meeting.

Course Coordinator :_____ Contact Info:_____

Location For Future Meetings :_____

SESSION	DATE	OPENING	FACILITATOR	NOTETAKER
A Call to Sustainability				
Ecological Principles				
Food				
Water				
Community				
Transportation				
Consumption & Economy				
Visions of Sustainability				
			PLANNERS	
Celebration and Call to Action*				

*After the last regular session, your group may choose to have a final meeting and celebration. This meeting celebrates the completion of the course, and may include a potluck lunch or dinner and is an opportunity for evaluation and consideration of next steps.

EVALUATION

You can choose to print out this evaluation or complete it online at ecochallenge.org/discussion-course-evaluations

PART 1: Please fill out from your weekly notes.

Rate each session.

1. **A CALL TO SUSTAINABILITY** — NOT AT ALL / VERY MUCH

How informative was this session? (Did you learn anything new?) 1 2 3 4 5

How much did this session help you in changing your behavior or committing to action? 1 2 3 4 5

Did you complete the activity for this session? YES NO

Additional thoughts or comments:

2. **ECOLOGICAL PRINCIPLES** — NOT AT ALL / VERY MUCH

How informative was this session? (Did you learn anything new?) 1 2 3 4 5

How much did this session help you in changing your behavior or committing to action? 1 2 3 4 5

Did you complete the activity for this session? YES NO

Additional thoughts or comments:

3. **FOOD** — NOT AT ALL / VERY MUCH

How informative was this session? (Did you learn anything new?) 1 2 3 4 5

How much did this session help you in changing your behavior or committing to action? 1 2 3 4 5

Did you complete the activity for this session? YES NO

Additional thoughts or comments:

4. **WATER** — NOT AT ALL / VERY MUCH

How informative was this session? (Did you learn anything new?) 1 2 3 4 5

How much did this session help you in changing your behavior or committing to action? 1 2 3 4 5

Did you complete the activity for this session? YES NO

Additional thoughts or comments:

5. **COMMUNITY** — NOT AT ALL / VERY MUCH

How informative was this session? (Did you learn anything new?) 1 2 3 4 5

How much did this session help you in changing your behavior or committing to action? 1 2 3 4 5

Did you complete the activity for this session? YES NO

Additional thoughts or comments:

6. **TRANSPORTATION**

	NOT AT ALL				VERY MUCH
How informative was this session? (Did you learn anything new?)	1	2	3	4	5
How much did this session help you in changing your behavior or committing to action?	1	2	3	4	5
Did you complete the activity for this session?	YES		NO		

Additional thoughts or comments:

7. **CONSUMPTION & ECONOMY**

	NOT AT ALL				VERY MUCH
How informative was this session? (Did you learn anything new?)	1	2	3	4	5
How much did this session help you in changing your behavior or committing to action?	1	2	3	4	5
Did you complete the activity for this session?	YES		NO		

Additional thoughts or comments:

8. **VISIONS OF SUSTAINABILITY**

	NOT AT ALL				VERY MUCH
How informative was this session? (Did you learn anything new?)	1	2	3	4	5
How much did this session help you in changing your behavior or committing to action?	1	2	3	4	5
Did you complete the activity for this session?	YES		NO		

Additional thoughts or comments:

PART 2: PLEASE COMPLETE AT THE END OF THE COURSE.

Has this course made a difference in your life (i.e. your attitudes, beliefs, perspectives, goals, habits)? If so, how?

Please describe what actions you are taking or you plan to take in response to this course.

What has been the most valuable aspect of this course?

Are there other resources you would like to see included in this course?

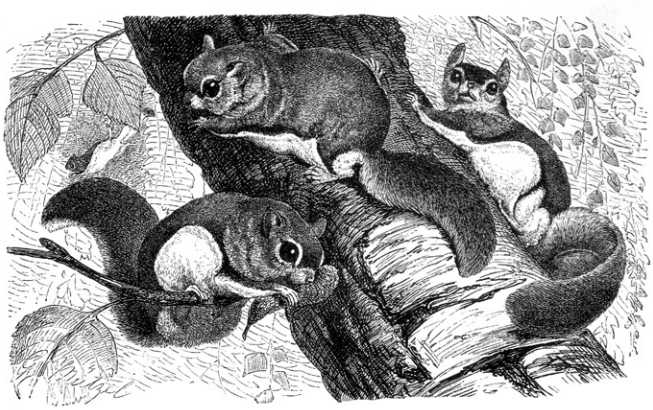
Do you have any additional thoughts or comments to share?

Complete your evaluation online at **ecochallenge.org/discussion-course-evaluations**, or send your completed evaluation via email to **contact@ecochallenge.org** or via snail mail to Ecochallenge.org, 107 SE Washington St., Portland, OR 97214. Thank you for your participation!

Donate to Ecochallenge.org today at **ecochallenge.org/donate**

Follow us at:

SESSION 1



A CALL TO SUSTAINABILITY

"On my first Boy Scout trip, in the mid-1950s, I learned the basic environmental principle that we should leave the campsite as we found it. We were told that the next group of hikers deserved no less, and that in fact we should clean the site up if those before us had been careless. I did not as a child understand that the campsite would be global or that the next hikers would include unborn generations."

— John Sitter

LEARNING OBJECTIVES

- **Identify some ways in which modern human societies have become unsustainable.**
- **Critically examine ways of defining and measuring sustainability, and what each definition assumes and values. Articulate the meanings and measures that align with your values and goals.**
- **Reflect on the roles individuals have in creating and changing practices in society.**
- **Begin to understand and apply systems thinking in your daily life.**

SESSION DESCRIPTION

While sustainability is a term and concept widely referenced around the world, it remains elusive and contested. The definitions and visions of sustainability differ with each culture in which it is envisioned, and the term "sustainable" can be used to promote divergent views. For example, sustainable development places the emphasis on human activity and well-being, while sustainable ecosystems require paying attention to all of the organisms and their relationships within an ecosystem. In this session, we consider ways of grasping the meaning and vision of sustainability, and our roles in creating a sustainable world. The idea and practice of systems thinking as a way toward more sustainable solutions is also introduced.

REFLECTION

What do you hope to gain from this course? Name at least one goal each for something you want to learn, a behavior you want to change to be more sustainable, and something you can contribute to your group. Post your Reflection to your Dashboard on choices.ecochallenge.org. If you are not using the Ecochallenge site, write your thoughts in a journal and then reflect with your group.

Circle Question

Where do you find your deepest connection to the world?

Reminder to the facilitator: The circle question should move quickly. Elicit an answer from each participant without questions or comments from others. The facilitator's guidelines are on page 10.

SUGGESTED DISCUSSION QUESTIONS

1. **Did your conception or definition of sustainability change after reading the articles in Session 1? If so, how is it different?**
2. **Paul Hawken uses many business metaphors in "You Are Brilliant and the Earth Is Hiring." What non-business metaphors might be used to describe the idea that the Earth needs you?**
3. **LaDuke believes that " indigenous ways of living are the only sustainable ways of living. Most indigenous ceremonies, if you look to their essence, are about the restoration of balance — they are a reaffirmation of our relationship to creation. That is our intent: to restore, and then to retain balance and honor our part in creation." What do you agree or disagree with in this statement? Why is balance important to sustainability?**
4. **Identify one value, belief, or assumption from your culture that you believe contributes to the development of a more sustainable world. What is it about this particular value, belief, or assumption that aligns it with sustainability?**
5. **Name and discuss one or more aspects of your culture that you think hinder sustainable practices.**
6. **How does systems thinking shift your perception of the world? Please provide one concrete example.**
7. **What surprised you the most about the effects of the wolves being reintroduced into Yellowstone? After watching the video about the wolves' effects on the Yellowstone ecosystem, what suggestions do you have to improve your local ecosystem?**
8. **How sustainable was your life 5 years ago? How sustainable would you say your life is today?**

SUGGESTED GROUP ACTIVITY

If you would like to do an activity with your group, we recommend these.

- As a group, use the individual definitions of sustainability you wrote this week to create a group definition of sustainability. Is it possible to include all elements?
- Use the Iceberg Model in this session to examine a local issue that your group cares about.
- If you have some extra time, allow yourselves 30+ minutes for the opening this week. The Opener starts by modelling a short (3 minutes or less) story about an experience, place or person that was significant to them in developing their ecological identity. Feel free to bring pictures or items that signify important aspects of your story. The Opener then invites each participant to tell a short story about a significant factor in the development of their own ecological identity.

FURTHER RESOURCES

Interested in finding out more on the topics presented in this session?
Visit our website for further readings and resources: **ecochallenge.org/discussion-course-resources.**
Follow our Facebook page to continue the discussion online:
facebook.com/Ecochallengeorg/

OUR VIEW OF SUSTAINABILITY

By Felipe Ferreira for Ecochallenge.org

Environment, climate change, renewable energy, pollution, recycling, just economies, appropriate technologies… If we were to co-create a word cloud for the term "sustainability," it is very likely that these and/or similar terms would occupy the largest space in it. You can probably brainstorm several more sustainability-related terms right now. But what exactly does sustainability mean?

In its most general sense, sustainability refers to the capacity to maintain a process over time. For example, a business is considered financially sustainable when it can continue to make enough money to pay its employees and produce its products or services. In ecology, a sustainable system is one whose most fundamental functions and features — its carrying capacities — are preserved over time. In practical terms, ecosystems tend to increase in biodiversity, complexity, and overall ecological output until they eventually reach a climactic state where they are able to maintain themselves unless their integrity and balance are compromised.

Sustainability's origins in Western culture can be traced back to the writings of philosophers and pioneering environmentalists like John Locke, Aldo Leopold, and Rachel Carson. Sustainability as an aspirational idea was first discussed during 1) the Limits to Growth debates in the 1960s and 70s, when a number of people suggested that economic and population growth were the direct cause of environmental degradation and were therefore unsustainable and should be limited; and 2) the 1972 United Nations (UN) Stockholm Conference, the UN's first major conference on international environmental issues. Since then, it has been used by many to describe a vision, to inspire aspirations, to outline a set of values, and even as a marketing buzzword. Despite conflicting opinions over what the terms 'sustainability' and its variant 'sustainable development' actually mean, they have gained a lot of traction in the last two decades. They have been explored and applied across different environmental, social, economic, and geographical contexts. Perhaps the most commonly quoted definition of sustainable development is that of the *World Commission on Environment and Development* (WCED), who in 1987 stated that "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

In part because the concept of sustainability was developed in response to growing environmental degradation, sustainability as a Western concept has focused on reactions to or cures to our immediate crises instead of offering alternative paradigms that can actually generate lasting, ecologically sound transformations. Perhaps due to the Western assumption that the future is one of endless economic growth and steadily evolving technology, sustainability has relied primarily on technological and economic fixes that treat the symptoms rather than the underlying causes of the pressures we face: the values, beliefs, and mental models that we hold about each other and the planet we inhabit. And as Albert Einstein once put it, "No problem can be solved from the same consciousness that created it." Only by delving into the origins of our current 'ethos of unsustainability' can we really come up with new paradigms that are

DEFINITIONS

Capitalism: An economic system in which investment in and ownership of the means of production, distribution, and exchange of wealth is made and maintained chiefly by private individuals or corporations,especially as contrasted to cooperatively or state-owned means of wealth.

Commodification: The transformation of goods, services, ideas and people into commodities, or objects of trade.

Consumer culture: A form of capitalism in which the economy and culture are focused on the buying and selling of consumer goods and the spending of consumer money. Most economists agree that the United States is a consumer culture.

Culture: The way of life or social norms of a particular people, especially as shown in their everyday behavior and habits, their attitudes toward each other, their values, and their moral and religious beliefs.

Ecological identity: A person's view of their relationship to, their responsibility to, and how they interact with natural and social ecosystems.

Feedback loop: A structure or function of a system that causes output from one part of the system to "feed back" into the system, eventually influencing input to that same part of the system.

Resilience: The ability to recover from or adjust easily to difficulties or change.

Systems thinking: A way of conceptualizing and understanding the world that focuses on how various elements within a system — which could be an ecosystem, an organization, or something more dispersed such as a supply chain — are related to and influence one another.

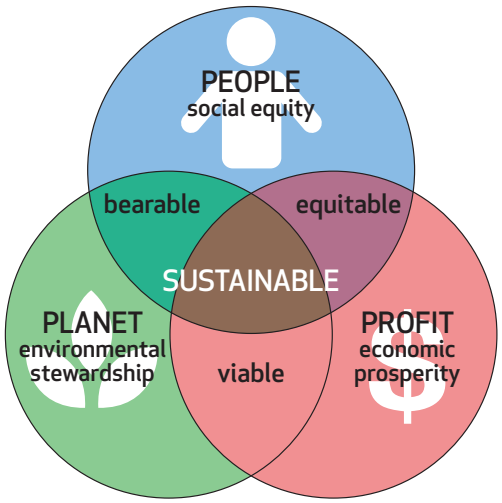


Figure 1. The triple bottom line system.

capable of encouraging the significant shifts in individual and collective consciousness required to advance sustainability. By unearthing the roots of the crises that sustainability attempts to address, it becomes clearer that the dominant culture — the culture that is the most powerful, widespread, or influential within a society — is at the core of the environmental crisis. If we challenge and rethink our mental models and values, we can lay down the groundwork for the social and cultural innovations necessary to heal our alienation from each other and the wider ecological community.

In addition to questioning the cultural norms and worldviews that guide the 'ethos of unsustainability,' if sustainability is to prove useful and beneficial, it needs to be future-oriented and emphasize the power of transformational envisioning and 'futures thinking.'

FUTURES THINKING

In a nutshell, futures thinking is the process of imagining the potential consequences of past and current human activities by critically analyzing them today. Futures thinking involves forecasting probable futures, possible futures, and unexpected futures. Applying futures thinking can help us move away from a way of thinking that relies solely on critique and doomsday scenarios to one that is about personal and collective transformation and hope. We can use futures thinking to build new, more just and sustainable futures. By understanding sustainability as a constant, dynamic envisioning exercise, we can unshackle our imaginations from the limits of what is possible or impossible in our current context and expand the landscape of possibilities for the future. A critical approach to futures thinking can transcend both the crisis of imagination and the crisis of power that often prevent the development of sustainable realities. As lifelong activist Dorothy Day once said, "Just because something is impossible doesn't mean you shouldn't do it." By freeing our minds from the limits of today's current systems, we can develop an empowering sense of agency and responsibility for our choices and actions — and their complex consequences — in ways that spark both personal and collective transformation.

NESTED SYSTEMS AND SUSTAINABILITY

Unlike the more common models informed by the WCED and their focus on the triple bottom line system (Figure 1), which fail to recognize the ecological constraints that human cultures and economies must operate within, we advocate for the framing of a deeper, more critical and visionary sustainability that highlights the nested quality of ecological systems (Figure 2): each individual system is an integrated whole while also being a part of larger systems; changes within one system can impact the health of the systems that are nested within it as well as the larger systems in which it lives. This model recognizes that economies are subsets of human cultures — they only exist within the context of our societies — and similarly, that human societies and economic activities are completely constrained by the ecosystems of the planet. This lens is not only more ecologically literate, but it also challenges the Western notion that humans are separate from nature and that ecological and socio-economic issues are not interconnected. It holds that an actual sustainable society is one where wider matters of social and economic needs

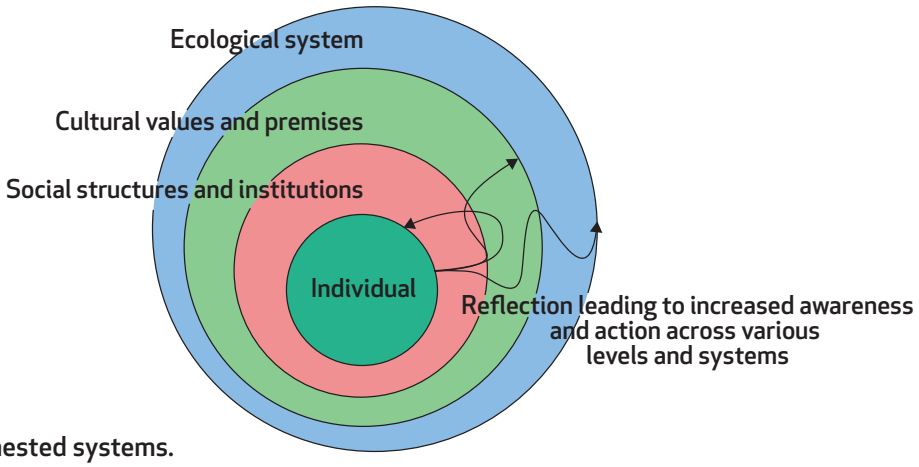


Figure 2. Sustainability and nested systems.

are intrinsically connected to the dynamic limits set by supporting ecosystems.

The concept of nested sustainability is rooted in systems thinking — the capacity to collectively examine complex systems across different domains (society, environment, and economy) and across different scales (local to global). Because of this, nested sustainability argues for localized visions of sustainability that are situated within and, therefore, in conversation with, the larger, global context.

Local contexts often provide the most immediate and effective space for real change. Solutions that are conceived and implemented on the local level offer more flexibility and are generally more tangible than global ones. They are often the most participatory and effective since they can address issues that are specific to a particular community or region and be tailored to local ecosystems. However, in an economically globalized world, these local solutions ought to be envisioned through a "glocal" prism, one that is characterized by both local and global considerations. This understanding of the interconnections between the various dimensions and scales of sustainability is key to the development of context-oriented solutions to the complex issues we face currently and into the future.

SUSTAINABILITY, POSITIONALITY, AND EQUITY

Sustainability has the potential to provide a holistic framework that can bridge the gap that is often found between socio-economic justice and environmental considerations. After all, recent studies indicate that the issue of environmental quality is inevitably linked to that of human equity, and thus they need to be thought about together. When we talk about equity, it is necessary to consider how our different socio-cultural and ecological identities shape our perspectives, assumptions, and values. Here we refer to the need to envision sustainability by looking at the issues at stake through a position-based lens, or "positionality" — how we perceive the world from different lived experiences, identities and perspectives. By examining how our cultural and ecological locations mold our mental models and patterns of thinking, we can frame sustainability as an ongoing dialogue between various viewpoints that complement each other in an effort to generate diverse and localized solutions to complex global problems.

Just because a perspective is the dominant one, it does not mean it is the most accurate one. With that in mind, the authors of this course book have exercised intention in selecting articles that represent distinct views of sustainability, but we have not represented them all. We have elevated less dominant perspectives to encourage conversation about what is both equitable and achievable. We have prioritized content that helps you to connect with your peers, create a community of support, contrast differing views, reflect on your own values and assumptions, and move to action.

A CALL FOR INDIVIDUAL AND SYSTEMIC CHANGE

Starting to work toward sustainability almost always starts with individual actions. Changing your own lifestyle — reducing your waste, using active transportation, or eating less meat, for example — is the easiest, most accessible way to start to understand and interact with larger systems.

This session is a call to sustainability for you as an individual. We need you to act. We need everyone to do what they can to create the shift to a more sustainable world. But, while behavior change toward sustainability starts at the individual level, for broad and more lasting change to occur, it cannot stop there. Individual actions collectively have a big impact, but we also need to change policies, structures, laws, and, ultimately, our cultural premises and values in order to create a sustainable world. As we mentioned above, focusing on the local level while keeping a global perspective can often be the most effective lever for creating lasting change. At the same time, people studying and practicing sustainability need to be able to both deconstruct current systems through analysis and critique, as well as envision and enact alternatives to our current destructive systems.

The continuum of systemic change (Figure 3) helps us think about the different ways to be involved in systemic change. It is very natural to move from one place to another over time depending on our positions and the work we want to or can do. Different parts of involvement are placed on particular parts of the continuum to reflect the places where they typically arise. Yet, it is important to recognize that they can shift and might be placed on different parts of the continuum depending on how we engage in them.

We hope that this course book will empower and inspire you to help improve the communities in which you live. We believe that we, both individually and collectively, should be able to make those decisions that affect our lives, and that engaged participation in systemic change is essential to that. It starts with individual people and arises from many sources, from changes in technology to shifts in economic systems and to larger, paradigmatic transformations.

We conclude this introduction with a few words of wisdom by cultural anthropologist Margaret Mead: "Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

QUESTIONS FOR REFLECTION

- How would you define sustainability using your own words? Has your definition changed after reading this article? If so, describe how it has changed.
- How does this framing of sustainability contrast/compare to the more common definition of sustainability?

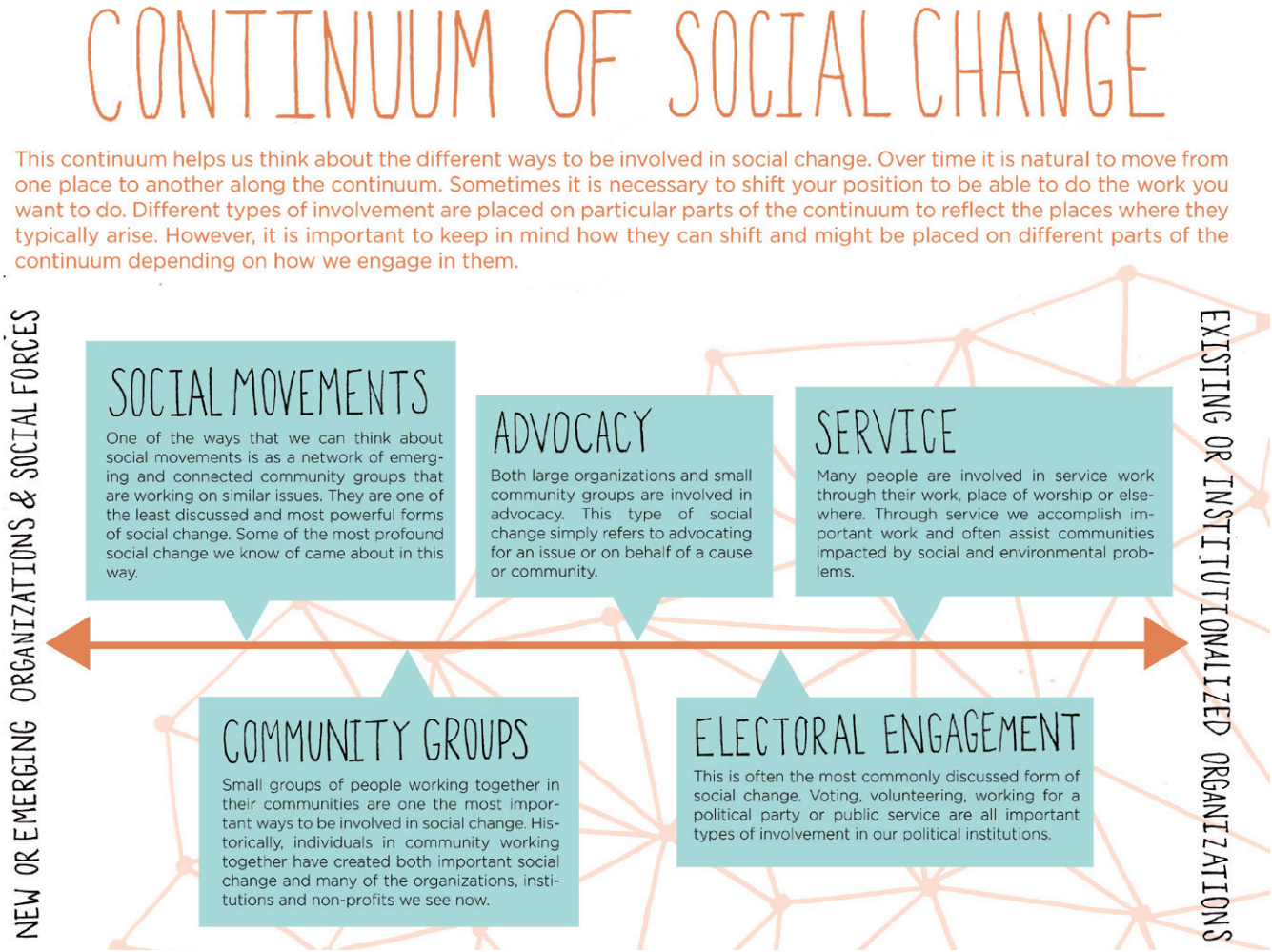


Figure 3. Continuum of systemic change. Appeared in *Resource Guide for Continuing Engagement*. Created by David Osborn, Portland State University, 2014. Used with permission.

- Identify one value, belief, or assumption from your culture that you believe contributes to the development of a more sustainable world. What is it about this particular value, belief, or assumption that makes it more in line with sustainability? Now try to do this same exercise but with an aspect of your culture that you think hinders sustainable practices.
- What do you believe the term 'ethos of sustainability' mean? Why is it important (if at all)?
- Sustainability is typically perceived, at least in the Western world, as relating primarily, if not exclusively, to environmental concerns. How does this article challenge that premise?
- What does your vision of a sustainable community look like? What would need to be changed in order for such vision to become reality?

Felipe Ferreira is a dreamer and budding sustainability educator hailing from Brasilia, Brazil. As a critical sustainability scholar, his research interests include productions of nature, popular culture and sustainability, and critical consciousness development.

CULTURE TREE

By Zaretta Hammond

It can be helpful to think of sustainability as a cultural framework for viewing and interacting in the world, otherwise known as a "worldview." But what is culture?

Culture, it turns out, is the way that every brain makes sense of the world. That is why everyone, regardless of race or ethnicity, has a culture. Think of culture as software for the brain's hardware. The brain uses cultural information to turn everyday happenings into meaningful events.

LEVELS OF CULTURE

Culture operates on a surface level, an intermediate or shallow level, and a deep level.

Surface culture

This level is made up of observable and concrete elements of culture such as food, dress, music, and holidays. This level of culture has a low emotional charge so that changes don't create great anxiety in a person or group.

Shallow culture

This level is made up of unspoken rules around everyday social interactions and norms, such as courtesy, attitudes toward elders, nature of friendship, concepts of time, personal space between people, nonverbal communication, rules about eye contact, or appropriate touching. It's at this level of culture that we put into action our deep cultural values.

This level has a strong emotional charge. At the same time, at this level we interpret certain behaviors as disrespectful, offensive, or hostile. Social violation of norms at this level can cause mistrust, distress, or social friction.

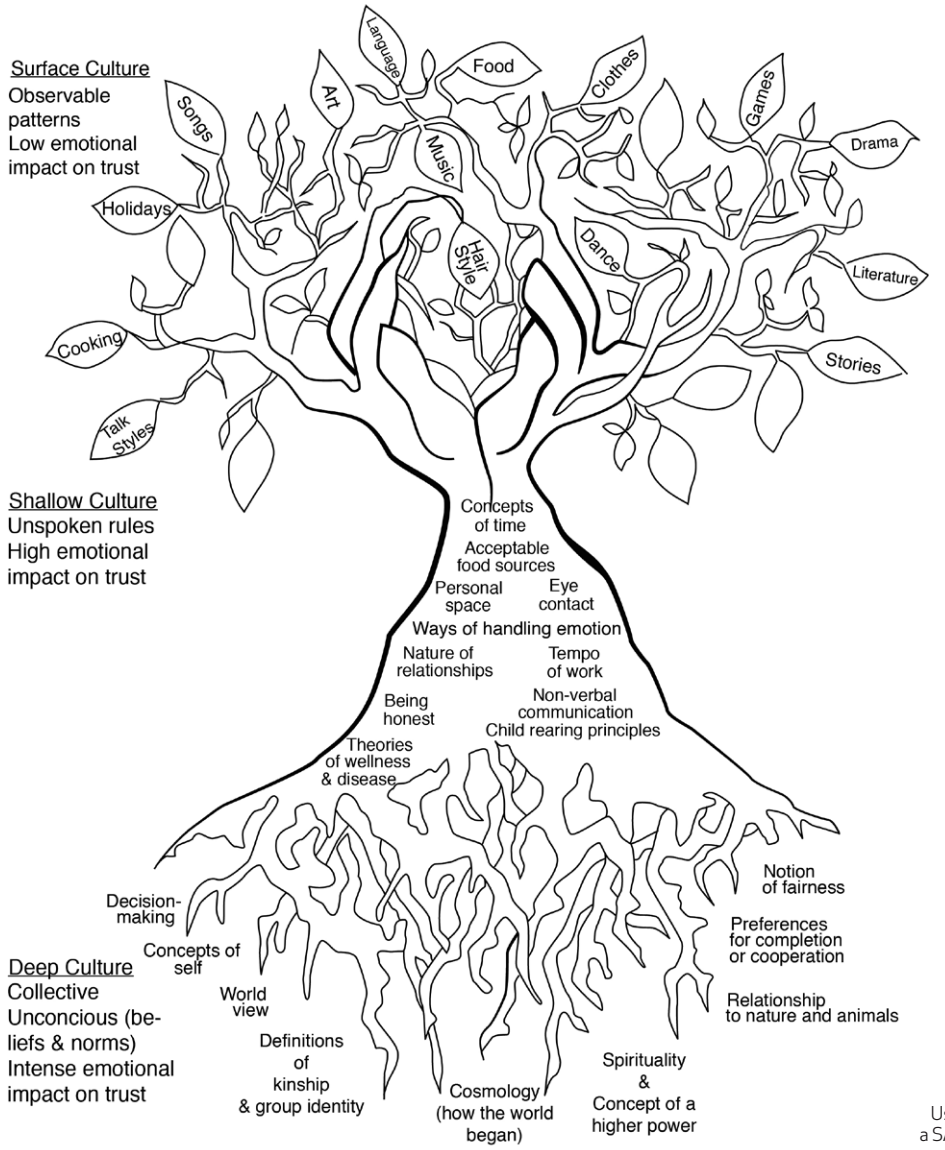
Deep culture

This level is made up of tacit knowledge and unconscious assumptions that govern our worldview. It also contains the cosmology (view of good or bad) that guides ethics, spirituality, health, and theories of group harmony (i.e., competition or cooperation). Deep culture also governs how we learn new information. Elements at this level have an intense emotional charge. Mental models at this level help the brain interpret threats or rewards in the environment.

The culture tree

Compare culture to a tree. A tree is part of a bigger ecosystem that shapes and impacts its growth and development. Shallow culture is represented in the trunk and branches of the tree while we can think of surface culture as the observable fruit that the tree bears. Surface and shallow culture are not static; they change and shift over time as social groups move around and ethnic groups intermarry, resulting in a cultural mosaic just as branches and fruit on a tree change in response to the seasons and its environment. Deep culture is like the root system of a tree. It is what grounds the individual and nourishes his mental health. It is the bedrock of self-concept, group identity, approaches to problem solving, and decision making.

Zaretta Hammond is a teacher educator and the author of *Culturally Responsive Teaching and The Brain: Promoting Authentic Engagement and Rigor Among Culturally and Linguistically Diverse Students*, from which this article is excerpted.



UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS

On September 25th, 2015, world leaders in the United Nations adopted a set of seventeen goals to end poverty, protect the planet, and ensure prosperity for all as part of a new sustainable development agenda. The goals cover global challenges that are crucial for the survival of humanity. Over the next fifteen years, with these new Goals that universally apply to all, countries will mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind. For the goals to be reached, everyone needs to do their part: governments, the private sector, civil society and people like you. Find a list of suggestions for taking action at un.org/sustainabledevelopment/takeaction/

YOU ARE BRILLIANT, AND THE EARTH IS HIRING

By Paul Hawken

When I was invited to give this speech, I was asked if I could give a simple short talk that was "direct, naked, taut, honest, passionate, lean, shivering, startling, and graceful." No pressure there.

Let's begin with the startling part. You are going to have to figure out what it means to be a human being on earth at a time when every living system is declining, and the rate of decline is accelerating. Kind of a mind-boggling situation… but not one peer-reviewed paper published in the last thirty years can refute that statement. Basically, civilization needs a new operating system, you are the programmers, and we need it within a few decades.

This planet came with a set of instructions, but we seem to have misplaced them. Important rules like don't poison the water, soil, or air, don't let the earth get overcrowded, and don't touch the thermostat have been broken. Buckminster Fuller said that spaceship earth was so ingeniously designed that no one has a clue that we are on one, flying through the universe at a million miles per hour, with no need for seat belts, lots of room in coach, and really good food — but all that is changing.

There is invisible writing on the back of the diploma you will receive, and in case you didn't bring lemon juice to decode it, I can tell you what it says: You are Brilliant, and the Earth is Hiring. The earth couldn't afford to send recruiters or limos to your school. It sent you rain, sunsets, ripe cherries, night blooming jasmine, and that unbelievably cute person you are dating. Take the hint. And here's the deal: Forget that this task of planet-saving is not possible in the time required. Don't be put off by people who know what is not possible. Do what needs to be done, and check to see if it was impossible only after you are done.

When asked if I am pessimistic or optimistic about the future, my answer is always the same: If you look at the science about what is happening on earth and aren't pessimistic, you don't understand the data. But if you meet the people who are working to restore this earth and the lives of the poor, and you aren't optimistic, you haven't got a pulse. What I see everywhere in the world are ordinary people willing to confront despair, power, and incalculable odds in order to restore some semblance of grace, justice, and beauty to this world. The poet Adrienne Rich wrote, "So much has been destroyed I have cast my lot with those who, age after age, perversely, with no extraordinary power, reconstitute the world." There could be no better description. Humanity is coalescing. It is reconstituting the world, and the action is taking place in schoolrooms, farms, jungles, villages, campuses, companies, refugee camps, deserts, fisheries, and slums.

You join a multitude of caring people. No one knows how many groups and organizations are working on the most salient issues of our day: climate change, poverty, deforestation, peace, water, hunger, conservation, human rights, and more. This is the largest movement the world has ever seen. Rather than control, it seeks connection. Rather than dominance, it strives to disperse concentrations of power. Like Mercy Corps, it works behind the scenes and gets the job done. Large as it is, no one knows the true size of this movement. It provides hope, support, and meaning to billions of people in the world. Its clout resides in idea, not in force. It is made up of teachers, children, peasants, businesspeople, rappers, organic farmers, nuns, artists, government workers, fisherfolk, engineers, students, incorrigible writers, weeping Muslims, concerned mothers, poets, doctors without borders, grieving Christians, street musicians, the President of the United States of America, and as the writer David James Duncan would say, the Creator, the One who loves us all in such a huge way.

There is a rabbinical teaching that says if the world is ending and the Messiah arrives, first plant a tree, and then see if the story is true. Inspiration is not garnered from the litanies of what may befall us; it resides in humanity's willingness to restore, redress, reform, rebuild, recover, reimagine, and reconsider. "One day you finally knew what you had to do, and began, though the voices around you kept shouting their bad advice," is Mary Oliver's description of moving away from the profane toward a deep sense of connectedness to the living world.

Millions of people are working on behalf of strangers, even if the evening news is usually about the death of strangers. This kindness of strangers has religious, even mythic origins, and very specific eighteenth-century roots.

Abolitionists were the first people to create a national and global movement to defend the rights of those they did not know. Until that time, no group had filed a grievance except on behalf of itself. The founders of this movement were largely unknown — Granville Clark, Thomas Clarkson, Josiah Wedgwood — and their goal was ridiculous on the face of it: at that time three out of four people in the world were enslaved. Enslaving each other was what human beings had done for ages. And the abolitionist movement was greeted with incredulity. Conservative spokesmen ridiculed the abolitionists as liberals, progressives, do-gooders, meddlers, and activists. They were told they would ruin the economy and drive England into poverty. But for the first time in history a group of people organized themselves to help people they would never know, from whom they would never receive direct or indirect benefit. And today tens of millions of people do this every day. It is called the world of non-profits, civil society, schools, social entrepreneurship, non-governmental organizations, and companies who place social and environmental justice at the top of their strategic goals. The scope and scale of this effort is unparalleled in history.

The living world is not "out there" somewhere, but in your heart. What do we know about life? In the words of biologist Janine Benyus, life creates the conditions that are conducive to life. I can think of no better motto for a future economy. We have tens of thousands of abandoned homes without people and tens of thousands of abandoned people without homes. We have failed bankers advising failed regulators on how to save failed assets. We are the only species on the planet without full employment. Brilliant. We have an economy that tells us that it is cheaper to destroy earth in real time rather than renew, restore, and sustain it. You can print money to bail out a bank but you can't print life to bail out a planet. At present we are stealing the future, selling it in the present, and calling it gross domestic product. We can just as easily have an economy that is based on healing the future instead of stealing it. We can either create assets for the future or take the assets of the future. One is called restoration and the other exploitation. And whenever we exploit the earth we exploit people and cause untold suffering. Working for the earth is not a way to get rich, it is a way to be rich.

The first living cell came into being nearly 40 million centuries ago, and its direct descendants are in all of our bloodstreams. Literally you are breathing molecules this very second that were inhaled by Moses, Mother Teresa, and Bono. We are vastly interconnected. Our fates are inseparable. We are here because the dream of every cell is to become two cells. And dreams come true. In each of you are one quadrillion cells, 90 percent of which are not human cells. Your body is a community, and without those other microorganisms you would perish in hours. Each human cell has 400 billion molecules conducting millions of processes between trillions of atoms. The total cellular activity in one human body is staggering: one septillion actions at any one moment, a one with twenty-four zeros after it. In a millisecond, our body has undergone ten times more processes than there are stars in the universe, which is exactly what Charles Darwin foretold when he said science would discover that each living creature was a "little universe, formed of a host of self-propagating organisms, inconceivably minute and as numerous as the stars of heaven."

So I have two questions for you all: First, can you feel your body? Stop for a moment. Feel your body. One septillion activities going on simultaneously, and your body does this so well you are free to ignore it, and wonder instead when this speech will end. You can feel it. It is called life. This is who you are. Second question: who is in charge of your body? Who is managing those molecules? Hopefully not a political party. Life is creating the conditions that are conducive to life inside you, just as in all of nature. Our innate nature is to create the conditions that are conducive to life. What I want you to imagine is that collectively humanity is evincing a deep innate wisdom in coming together to heal the wounds and insults of the past.

Ralph Waldo Emerson once asked what we would do if the stars only came out once every thousand years. No one would sleep that night, of course. The world would create new religions overnight. We would be ecstatic, delirious, made rapturous by the glory of God. Instead, the stars come out every night and we watch television.

This extraordinary time when we are globally aware of each other and the multiple dangers that threaten civilization has never happened, not in a thousand years, not in ten thousand years. Each of us is as complex and beautiful as all the stars in the universe. We have done great things and we have gone way off course in terms of honoring creation. You are graduating to the most amazing, stupefying challenge ever bequested to any generation. The generations before you failed. They didn't stay up all night. They got distracted and lost sight of the fact that life is a miracle every moment of your existence. Nature beckons you to be on her side. You couldn't ask for a better boss. The most unrealistic person in the world is the cynic, not the dreamer. Hope only makes sense when it doesn't make sense to be hopeful. This is your century. Take it and run as if your life depends on it.

Paul Hawken is a renowned entrepreneur, visionary environmental activist, and author of many books, including *Blessed Unrest: How the Largest Movement in the World Came into Being and Why No One Saw It Coming* (2007). He was presented with an honorary doctorate of humane letters by University president Father Bill Beauchamp, C.S.C., in May 2009, when he delivered this speech at the University of Portland. www.paulhawken.com

OUR HOME ON EARTH

By Winona LaDuke

Giiwedinong means "going home" in the Anishinaabeg language — it also means North, which is the place from which we come. This is a key problem that modern industrial society faces today. We cannot restore our relationship with the Earth until we find our place in the world. This is our challenge today: where is home?

I returned to the White Earth Reservation in Minnesota about twenty-five years ago after being raised off-reservation, which is a common circumstance for our people. White Earth is my place in the Universe. It's where the headwaters of the Mississippi and Red Rivers are.

PEOPLE OF THE LAND

Anishinaabeg is our name for ourselves in our own language, it means "people." We are called Ojibwe, referring to "ojibige" (meaning "to write") on our birch bark scrolls. Our aboriginal territory, and where we live today, is in the northern part of five U.S. states and the southern part of four Canadian Provinces. We are people of lakes, rivers, deep woods and lush prairies.

Now, if you look at the United States, about 4 percent of the land is held by Indian people. But if you go to Canada, about 85% of the population north of the fiftieth parallel is native. If you look at the whole of North America, you'll find that the majority of the population is native in about a third of the continent. Within this larger area indigenous people maintain their own ways of living and their cultural practices.

There are a number of countries in the Western Hemisphere in which native peoples are the majority of the population: in Guatemala, Ecuador, Peru, and Bolivia. In some South American countries we control as much as 22 to 40 percent of the land. Overall, the Western Hemisphere is not predominantly white. Indigenous people continue their ways of living based on generations and generations of knowledge and practice on the land.

On a worldwide scale there are about five thousand indigenous nations. Nations are groups of indigenous peoples who share common language, culture, history, territory and government institutions. It is said that there are currently about five hundred million of us in the world today, depending on how you define the term indigenous. I define it as peoples who have continued their way of living for thousands of years.

Indigenous peoples believe fundamentally in a state of balance. We believe that all societies and cultural practices must exist in accordance with the laws of nature in order to be sustainable. We also believe that cultural diversity is as essential as biological diversity in maintaining sustainable societies. Indigenous people have lived on Earth sustainably for thousands of years, and I suggest to you that indigenous ways of living are the only sustainable ways of living. Most indigenous ceremonies, if you look to their essence, are about the restoration of balance — they are a reaffirmation of our relationship to creation. That is our intent: to restore, and then to retain balance and honor our part in creation.

Therefore, when I harvest wild rice on our reservation, I always offer asemaa (tobacco) because when you take something, you must always give thanks to its spirit for giving itself to you. We are very careful when we harvest. Anthropologists call this reciprocity. This means that when you take, you always give. We also say that you must take only what you need and leave the rest. Because if you take more than you need, you have brought about imbalance, you have been selfish. To do this in our community is a very big disgrace. It is a violation of natural law, and it leaves you with no guarantee that you will be able to continue harvesting.

We have a word in our language which describes the practice of living in harmony with natural law: minocimaatisiiwin. This word describes how you behave as an individual in a relationship with other individuals and in relationship with the land and all things. We have tried to retain this way of living and this way of thinking in spite of all that has happened to us over the centuries. I believe we do retain most of these practices in our community, even if they are overshadowed at times by individualism.

THE CLASH OF INDIGENOUS AND INDUSTRIAL WORLDVIEWS

I would like to contrast indigenous thinking with what I call "industrial thinking," which is characterized by five key ideas that run counter to what we as native people believe.

1. Instead of believing that natural law is preeminent, industrial society believes that humans are entitled to full dominion over nature. It believes that man — and it is usually man of course — has some God-given right to all that is around him. Industrial society puts its faith in man's laws: that pollution regulations, allowable catches, etc. are sustainable.
2. In indigenous societies, we notice that much in nature is cyclical: the movement of moons, the tides, the seasons, and our bodies. Time itself is cyclical. Instead of modeling itself on the cyclical structure of nature, industrial society is patterned on linear thinking. Industrial society strives to continually move in one direction defined by things like technology and economic growth.
3. Industrial society holds a different attitude toward what is wild as opposed to what is cultivated or "tame." In our language we have the word indinawayuuganitoog (all our relations). That is what we believe — that our relatives may have wings, fins, roots or hooves. Industrial society

believes wilderness must be tamed. This is also the idea behind colonialism: that some people have the right to civilize other people.

4. Industrial society speaks in a language of inanimate nouns. Things of all kinds are not spoken of as being alive and having spirit; they are described as mere objects, commodities. When things are inanimate, "man" can take them, buy and sell them, or destroy them. Some scholars refer to this as the "commodification of the sacred."
5. The last aspect of industrial thinking is the idea of capitalism itself (which is always unpopular to question in America). The capitalist goal is to use the least labor, capital, and resources to make the most profit. The intent of capitalism is accumulation. So the capitalist's method is always to take more than is needed. With accumulation as its core, industrial society practices conspicuous consumption. Indigenous societies, on the other hand, practice what I would call "conspicuous distribution." We focus on the potlatch — the act of giving away. In fact, the more you give away, the greater your honor.

Modern industrial societies must begin to see the interlocking interests between their own ability to survive and the survival of indigenous peoples' culture. Indigenous peoples have lived sustainably on the land for thousands of years. I am absolutely sure that our societies could live without yours, but I'm not so sure that your society can continue to live without ours.

SUSTAINABILITY IN ACTION

All across the continent there are small groups of native peoples who are trying to regain control of and restore their communities.

I'll use my own people as an example. The White Earth Reservation is thirty-six by thirty-six miles square, which is about 837,000 acres. A treaty reserved it for our people in 1867 in return for relinquishing a much larger area of northern Minnesota. Out of all our territory we chose this land for its richness and diversity. There are forty-seven lakes on the reservation. There's maple sugar, there are hardwoods, and there are all the different medicine plants my people use. We have wild rice, we have deer, we have beaver, we have fish — we have every food we need. On the eastern part of the reservation there are stands of white pine; to the west is prairieland where the buffalo once roamed. Our word for prairie is mashkode (place of burned medicine) referring to native practices of burning as a form of nurturing the soil and plants.

Our traditional forms of land use and ownership are similar to those found in community land trusts being established today. The land is owned collectively, and each family has traditional areas where it fishes and hunts. We call our concept of land ownership Anishinaabeg akiing: "the land of the people," which doesn't imply that we own our land, but that we belong on it. Unfortunately, our definition doesn't stand up well in court because this country's legal system upholds the concept of private property.

We have maintained our land by means of careful management. For example, we traditionally have "hunting bosses" and "rice chiefs," who make sure that resources are used sustainably in each region. Hunting bosses oversee rotation of trap lines, a system by which people trap in an area for two years and then move to a different area to let the land rest. Rice chiefs coordinate wild rice harvesting. The rice on each lake has its own unique taste and ripens at its own time. Traditionally, we have a "tallyman," who makes sure there are enough animals for each family in a given area. If a family can't sustain itself, the tallyman moves them to a new place where animals are more plentiful. These practices are essential to sustainability, and to maintaining what some now call the commons.

THE LOSS OF WHITE EARTH, AND HOW WE PLAN TO GET IT BACK

Our reservation was reserved by treaty in 1867. In 1887 the Nelson Act and subsequently the General Allotment Act was passed to teach Indians the concept of private property, but also to facilitate the removal of more land from Indian Nations. The federal government divided our reservation into eighty-acre parcels of land and allotted each parcel to an individual Indian, hoping that this would somehow force us to become farmers and adopt the notion of progress — in short, to be civilized.

The allotment system was alien to our traditional concepts of land. In our society a person harvested rice in one place, trapped in another place, gathered medicines in a third place, and picked berries in a fourth. These locations depended on the ecosystem; they were not necessarily contiguous. But the government said to each Indian, "Here are your eighty acres; this is where you'll live." Then, after each Indian had received an allotment, the rest of the land was declared "surplus" and given to white people to homestead or "develop". What happened to my reservation happened to reservations all across the country.

The state of Minnesota took our pine forests away and sold them to timber companies, and then taxed us for the land that was left. When the Indians couldn't pay the taxes, the state confiscated the land. But how could these people pay taxes? In 1910, they could not even read or write English.

I'll tell you a story about how my great-grandma was cheated by a loan shark. She lived on Many-Point Lake, where she was allotted land. She had run up a bill at the local store because she was waiting until fall when she could get some money from wild rice harvesting and a payment coming from a treaty annuity. So she went to a land speculator named Lucky Waller, and she said, "I need

to pay this bill." She asked to borrow fifty bucks from him until the fall, and he said: "Okay, you can do that. Just sign here and I'll loan you that fifty bucks." So she signed with the thumbprint and went back to her house on Many-Point Lake. About three months later she was ready to repay him the fifty bucks, and the loan shark said: "No, you keep that money. I bought your land from you." He had purchased her eighty acres on Many-Point Lake for fifty bucks. Today that location is a Boy Scout camp.

The White Earth Reservation lost two hundred and fifty thousand acres to the state of Minnesota because of unpaid taxes. By 1920, 99 percent of the original White Earth Reservation land was in non-Indian hands. This was done to native peoples across the country.

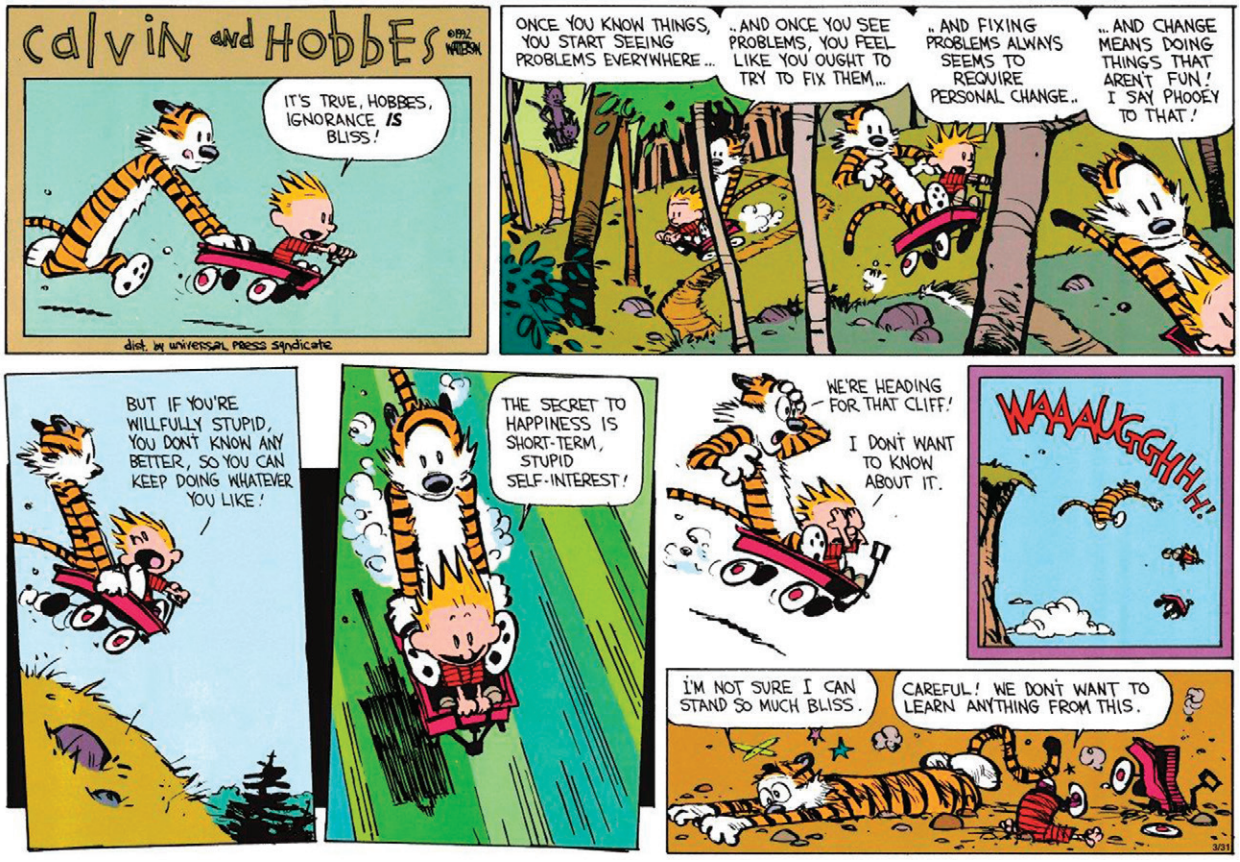
We have exhausted all legal recourse for getting back our land. The Federal Circuit Court ruled that to regain their land Indian people had to have filed a lawsuit within seven years of the original time of taking. Still, we believe that we must get our land back. We really do not have any other place to go. That's why we started the White Earth Land Recovery Project. Our project is like several other projects in Indian communities. We are not trying to displace people who have settled there. A third of our land is held by federal, state and country governments. That land should just be returned to us. It certainly would not displace anyone. Some of the privately held land on our reservation is held by absentee landholders — many of whom have never seen that land; they do not even know where it is. It is a commodity to them, not home. We hope to persuade them to return it to us.

Our project also works to reacquire our land. We bought some land as a site for a roundhouse, a building that holds one of our ceremonial drums. We bought back our burial grounds, which were on private land, because we believe that we should hold the land where our ancestors rest. We purchased a former elementary school, which is now the home of our new radio station and a wind turbine. In 2009, which is the 20th anniversary of our project, we had acquired 1400 acres. We use some of this land to grow and gather sustainable products that we sell: wild rice, maple syrup and candy, berry jams, and Birch bark crafts.

SUSTAINABLE COMMUNITIES, NOT SUSTAINABLE DEVELOPMENT

In conclusion, I want to say there is no such thing as sustainable development. Community is the only thing in my experience that is sustainable. We all need to be involved in building communities- not solely focused on developing things. We can each do that in our own way, whether it is European-American communities or indigenous communities, by restoring a way of life that is based on the land.

The only way you can manage a commons is if you share enough cultural experiences and values so that what you take out of nature doesn't upset the natural balance — minobimaatisiiwin, as we call it. The reason native cultures have remained sustainable for all these centuries is that



we are cohesive communities. A common set of values is needed to live together on the land.

Finally, I believe industrial societies continue to consume too much of the world's resources. When you need that many resources, it means constant intervention in other peoples' land and other peoples' countries. It is meaningless to talk about human rights unless you talk about consumption. In order for native communities to live and teach the world about sustainability, the dominant society must change. If modern society continues in the direction it is going, indigenous people's way of life will continue to bear the consequences.

Winona LaDuke lives on the White Earth Reservation in Minnesota, where she founded the White Earth Land Recovery Project to regain the Anishinaabeg people's original lands. Recipient of the International Reebok Human Rights Award, LaDuke serves as co-chair of the "Indigenous Women's Network":http://nativeharvest.com/winona_laduke

THOUGHTS ON SUSTAINABILITY

As we mentioned earlier this session, humans have a variety of ways of thinking about and framing sustainability. Sustainability means different things to different people. Consider these strong, widely-accepted, and substantiated thoughts as a starting point for developing your own sustainability framework.

> ***Sustainable development is meeting the needs of the present without compromising the ability of future generations to meet their own needs.***

— Our Common Future, *UN World Commission on Environment and Development*

> ***We stand at a critical moment in Earth's history, a time when humanity must choose its future. As the world becomes increasingly interdependent and fragile, the future at once holds great peril and great promise. To move forward we must recognize that in the midst of a magnificent diversity of cultures and life forms we are one human family and one Earth community with a common destiny. We must join together to bring forth a sustainable global society founded on respect for nature, universal human rights, economic justice, and a culture of peace. Towards this end, it is imperative that we, the peoples of Earth, declare our responsibility to one another, to the greater community of life, and to future generations.***

— The Preamble to *The Earth Charter*

> ***[I define sustainability] with great difficulty, because I'm a fluent speaker of my language, and if I try to translate that, or even interpret that into my language, it's not a very good word. It's a very inadequate word. . . Sustainability on one level means to be able to maintain and sustain the fullness of health that needs to be there for us to thrive, and for everything else to thrive. . . But the way in my language that it translates is sustaining the human abuse to a certain level, and keeping it at a level that it doesn't quite destroy everything. So that's not an adequate definition. . . What does it mean to 'sustain'? . . . If we look at the truth of what that might mean, that means that there should be no animal, or bird, or fish, or no plant that is on the endangered list, or that is on the species at-risk list. There should be no peoples who are in danger, or at risk or disappearing, or at the bottom of the economic curve, or the social curve. . . You're remaining ignorant and you're remaining uncivilized, if you cannot achieve one hundred percent sustainability of everything that you're using."***

— Jeannette Armstrong, Okanagan author and indigenous rights activist, "Native Perspectives on Sustainability: Jeannette Armstrong (Syilx)" [Interview transcript].

> ***Sustainability is equity over time. As a value, it refers to giving equal weight in your decisions to the future as well as the present. You might think of it as extending the Golden Rule through time, so that you do unto future generations (as well as to your present fellow beings) as you would have them do unto you.***

— Robert Gilman, Director, Context Institute

> ***The time has come for a global effort to build a new economic system no longer based on the dangerous illusions that irresponsible growth is possible on our finite planet and that endless material gain promotes well-being. Instead it will be a system that promotes harmony and respect for nature and for each other, that respects our ancient wisdom traditions and protects our most vulnerable people as our own family, and that gives us time to live and enjoy our lives and to appreciate rather than destroy our world. Sustainability is the essential basis and precondition of such a sane economic system."***

— Lyonchhen Jigmi Y. Thinley, former Prime Minister of Bhutan, in "Sustainability and Happiness: A development philosophy for Bhutan and the world"

> ***Sustainability means living within Earth's limits. . . Now is the time for fundamental change so that future generations can enjoy resources we take for granted — like clean air and water — and do not pay the price because we squandered this wealth.***

— David Suzuki, Co-Founder of the David Suzuki Foundation

SYSTEMS THINKING: A NECESSARY PERSPECTIVE IN OUR CHANGING WORLD

By the Worldwatch Institute

The word "system" is the most radical word spoken in any language. It is radical in the true sense because it points to our inescapable rootedness in the fabric of life, from microbes that inhabit our bodies to the air we breathe. The word symbolizes our implicatedness in the world and our dependence on things beyond ourselves. The modern celebration of individualism stands at the other extreme as an assertion of autonomy and independence from the friends, families, communities, societies, and ecologies on which we depend. Systems thinkers, in contrast, see the world as networks of interdependence, not merely as a stage for individual performance.[1]

One result of a systems perspective ought to be gratitude for the things that have been given to us that owe nothing to our individual efforts. In large measure, we are the result of our genes, upbringing, local conditions, teachers, cultures, and the particular places that nurture every moment of our lives, inside and out. We live, in other words, within a web of obligations and relationships that transcend the conventional boundaries by which we organize academic disciplines and bureaucracies.

Thinking of the world as a network of systems begins in natural history, ecology, and the study of biophysical conditions, both within and without. It likely begins early in life, in a child's curiosity about what is connected to what. It is grounded in the physical sciences, but it extends through every discipline in the curriculum. The tools of systems thinking range from complicated computer modeling to intuition and the vague hunch that something is missing.

Systems thinking leads to the recognition of the counterintuitive results of human action, to an awareness of the unpredictability of events, and, in turn, to the necessary precaution that leaves wide margins for error, malfeasance, and acts of God. But the scope, scale, and technological velocity of change now threaten the future of civilization. This gives us every reason to avoid making irrevocable and irreversible system changes without due diligence and a great deal of careful thought. Applied to policy and law, systems thinking would cause us to act with greater precaution and foresight.

The idea of systems is fundamentally political, because it underscores our interrelatedness and mutual dependence. The political community and the ecological community are one and indivisible, but they are not equal. The human community, in all of its manifestations, is a subset of the larger web of life. But the essential questions of politics — who gets what, when, and how — pertain throughout the entire system. The millions of human decisions that have appropriated the majority of the planet's net primary productivity for human use are political choices that cross species lines. The preservation of half of the Earth as a sanctuary for biodiversity, as proposed by biologist Edward O. Wilson, would be a political choice as well.[2]

This is familiar ground to most of the readers of Worldwatch's annual State of the World reports. But it is not well known or comprehended by the great majority of people in the United States, Europe, or elsewhere — a failure of education that has large consequences. The elections of 2016 in Western democracies, for example, showed the fault lines emerging in our civic culture. They are not, first and foremost, the standard disagreements between liberals and conservatives about the size and role of governments and markets. Rather, they are a dispute between advocates of competing paradigms about the possible and desirable scale of human domination of the ecosphere and who benefits and who loses.

The upshot is that recent political events in the United States and Europe reveal large disparities in scientific knowledge and in the command of factual evidence about Earth systems, ecology, oceans, and so forth. We might expect that, under growing ecological stress, there also would be a rise in demonization of "others," hatred, fear, demagoguery, and violence. In such circumstances, public ecological literacy will become increasingly important to inform and moderate political discourse and to improve governance under conditions of what political theorist William Ophuls once described broadly as "ecological scarcity."[3]

This essay is an excerpt from *EarthEd: Rethinking Education on a Changing Planet* by the Worldwatch Institute. For 40 years, Worldwatch Institute has been a leader in big-picture sustainability insight and multidisciplinary research..

WATCH THIS VIDEO!
For an example of how systems thinking acknowledges the interrelationships in networks, watch this video to see what happened when wolves were reintroduced back into Yellowstone National Park in 1995: tinyurl.com/systemswolves

A SYSTEMS THINKING MODEL: THE ICEBERG

Systems thinking is a way of conceptualizing and understanding the world that focuses on how various elements within a system — which could be an ecosystem, an organization, or something more dispersed such as a supply chain — are related to and influence one another.

Systems thinking helps us approach problem more effectively. Rather than reacting to individual problems that arise, a systems thinker will ask about relationships to other activities within the system, look for patterns over time, and seek root causes.

"...we are not seeing a new world, but rather our old world through new eyes."

One systems thinking model that is helpful for understanding global issues is the Iceberg Model. We know that an iceberg has only 10 percent of its total mass above the water while 90 percent is underwater. But that 90 percent is what the ocean currents act on, and what creates the iceberg's behavior at its tip. Global issues can be viewed in this same way.

LEVELS OF THINKING

1. **THE EVENT LEVEL**

   The Event Level is the level at which we typically perceive the world: for instance, waking up one morning

THE ICEBERG

A Tool for Guiding Systemic Thinking

EVENTS — **React**
What just happened?
Catching a cold.

PATTERNS/TRENDS — **Anticipate**
What trends have there been over time?
I've been catching more colds when sleeping less.

UNDERLYING STRUCTURES — **Design**
What has influenced the patterns?
What are the relationships between the parts?
More stress at work, not eating well, difficulty accessing healthy food near home or work.

MENTAL MODELS — **Transform**
What assumptions, beliefs and values do people hold about the system? What beliefs keep the system in place?
Career is the most important piece of our identity, healthy food is too expensive, rest is for the unmotivated.

to find we have caught a cold. While problems observed at the Event Level can often be addressed with a simple readjustment, the Iceberg Model pushes us not to assume that every issue can be solved by simply treating the symptom or adjusting at the Event Level.

2. **THE PATTERN LEVEL**

   If we look just below the Event Level, we often notice patterns. Similar events have been taking place over time — we may have been catching more colds when we haven't been resting enough. Observing patterns allows us to forecast and forestall events.

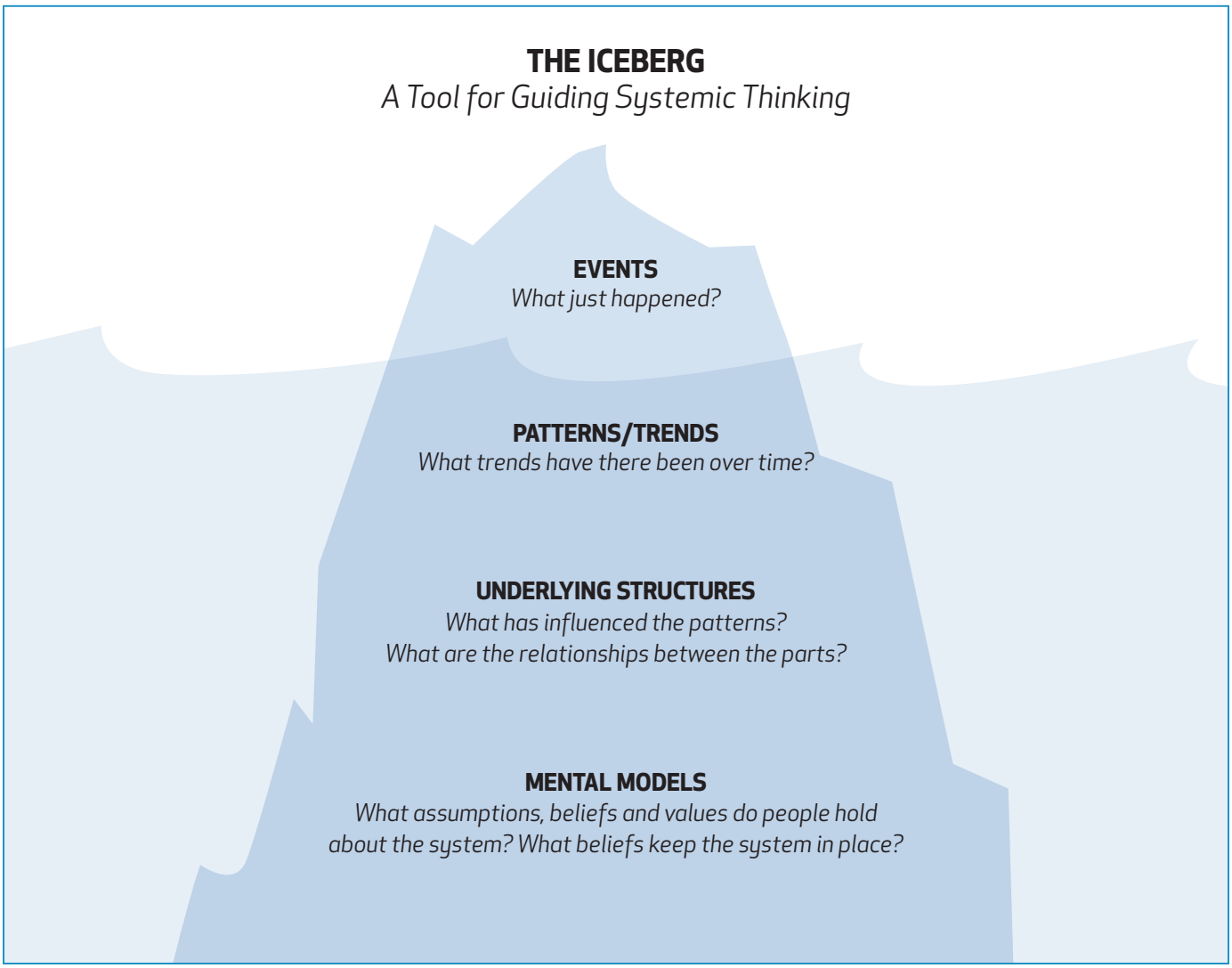
3. **THE STRUCTURE LEVEL**

   Below the Pattern Level lies the Structure Level. When we ask, "What is causing the pattern we are observing?" the answer is usually some kind of structure. Increased stress at work due to the new promotion policy, the habit of eating poorly when under stress, or the inconvenient location of healthy food sources could all be structures at play in our catching a cold. According to Professor John Gerber, structures can include the following:

   1. Physical things — like vending machines, roads, traffic lights or terrain.
   2. Organizations — like corporations, governments, and schools.
   3. Policies — like laws, regulations, and tax structures.
   4. Ritual — habitual behaviors so ingrained, they are not conscious.

4. **THE MENTAL MODEL LEVEL**

   Mental models are the attitudes, beliefs, morals, expectations, and values that allow structures to continue functioning as they are. These are the beliefs that we often learn subconsciously from our society or family and are likely unaware of. Mental models that could be involved in us catching a cold could include: a belief that career is deeply important to our identity, that healthy food is too expensive, or that rest is for the unmotivated.



PUTTING THE LEVELS TOGETHER

Take a look at the diagram on the previous page to see the Iceberg Model applied to an instance of catching a cold.

GIVE IT A TRY!

As you go through the course, select a sustainability-related event that strikes you as urgent, important, or interesting. Write the event (what is observable about the event) at the top of the blank Iceberg below and work your way down through the patterns, underlying systems and mental models, adding as many as you can think of. It can also be useful to move up and down between levels as you think more about the event. Events to start with could include: the inclusion of a favorite animal on the Endangered Species list, the lack of access to healthy food in your neighborhood, a problem you encountered while taking public transit recently, the pollution of your local water source, or any other events you find significant.

QUESTIONS TO CONSIDER AFTER TRYING OUT THE ICEBERG MODEL

1. Does the Iceberg Model help broaden your perspective? If so, how might this new perspective be helpful?
2. Consider the concept of entry, or "leverage" points. These are points where one can intervene in a system in order to completely transform the system. Does the exercise show you any new entry points at which you are inspired to intervene?
3. What issues that have frustrated you might be interesting to analyze with the Iceberg Model?

Find this exercise online at
ecochallenge.org/iceberg-model

ECOCHALLENGE: PUTTING IT INTO PRACTICE

Here are some ideas for putting what you learned this week into action. Find more ideas and commit to one Ecochallenge this week at choices.ecochallenge.org

- Think Local. Find out what local sustainability issues are most urgent in your region, including both social and environmental justice concerns.
- Practice political engagement. Sign a petition in support of an environmental or social initiative in your state.
- Get to know your local ecosystems. Explore at least one new hiking trail or nature walk in your area.
- Spread the word. Tell others why sustainability is important to you and what your vision for a sustainable world is.

"The sustainability revolution will be organic. It will arise from the visions, insights, experiments and actions of billions of people. The burden of making it happen is not on the shoulders of any one person or group. No one will get the credit, but everyone can contribute."

— Donella L. Meadows