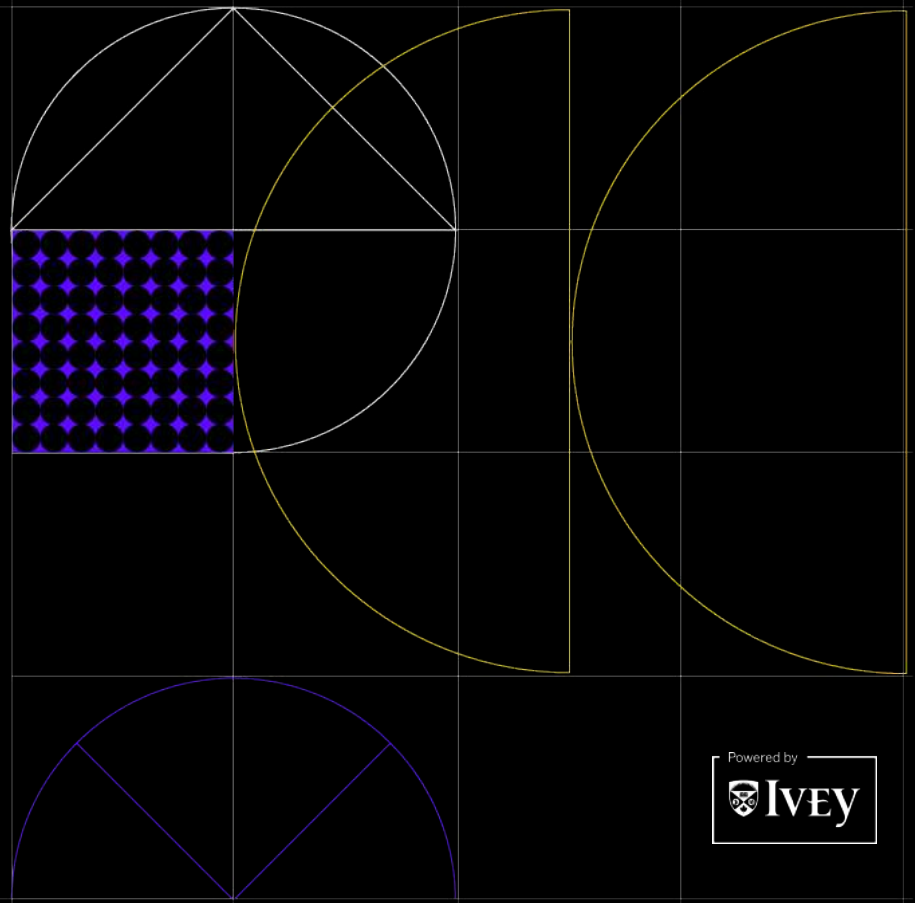


**INNOVATION
NORTH**

SESSION 7 SLIDES

WORLDVIEWS ON INNOVATION



Relational Systems Thinking

Melanie Goodchild

Founder, Turtle Island Institute



Broadband Connectivity: Case Study of Decolonizing Systems Mapping, Data Analysis & Metrics

Melanie Goodchild,
Founder & Co-



**TURTLE
ISLAND
INSTITUTE**
Indigenous Social Innovation

Decolonizing Systems Mapping

Rapid Prototyping: Initial Process Learnings



**TURTLE
ISLAND
INSTITUTE**

Indigenous Social Innovation

Global Indigenous Think and Do Tank

We partner with groups looking to advance the wellbeing, self-determination, and sovereignty of Indigenous Peoples, communities, and nations.

Three Core Principles

1. Relational Systems Thinking
2. Rematriation
3. Healing-Centred Design

Cultural and Spiritual Integrity

TII reorients systems tools to include critical dimensions reflective of ancestral ways of seeing, relating, knowing, and doing..



Key Learning

Indigenous-Led

Cultural and psychological safety are key to ensuring a trust-based relationship for gathering wisdom/stories, shared lived experience

Relational Systems Thinking

Equal but differentiated knowledge systems inspired by the two-row wampum, mutual benefit for all my relations, relationship-centred

Community Engagement Ethics

Rooted in repatriation ethics of care, upholds sovereignty, respect, hospitality, reciprocity, financial overview and funding needs

Healing-Centred Approach

Trauma Informed, protected niche space, relevant qualifications or background



Indigenous Methodologies

Respectful Relationships

Building relationships outside the confines of conventional timelines. Connecting with trusted community liaisons.

Ways of Knowing

Data sets that are spiritual, mental, physical, and emotional. Data representation beyond the written word.

Intergenerational Reciprocity

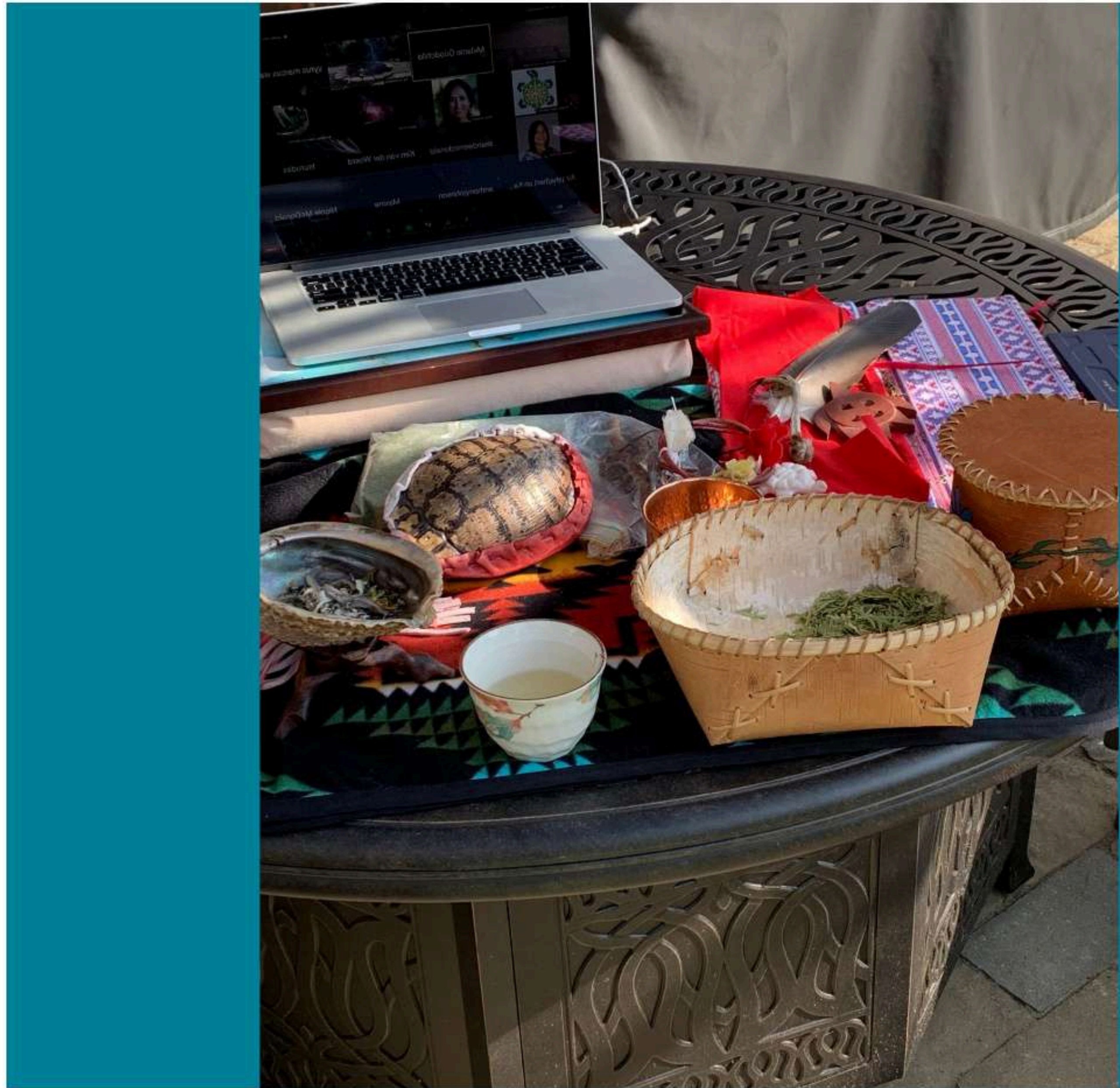
Respectful inclusion of all age groups, especially Elders and youth.

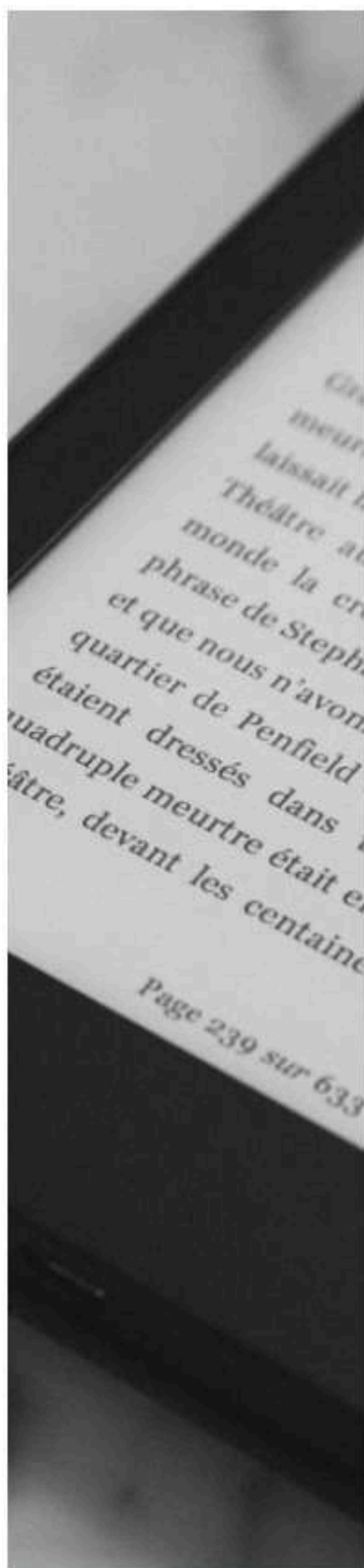
Responsibility and Accountability

Seven generations mindset, multiple layers.

Wisdom Gatherings

How do technology and our culture/worldview influence each other?

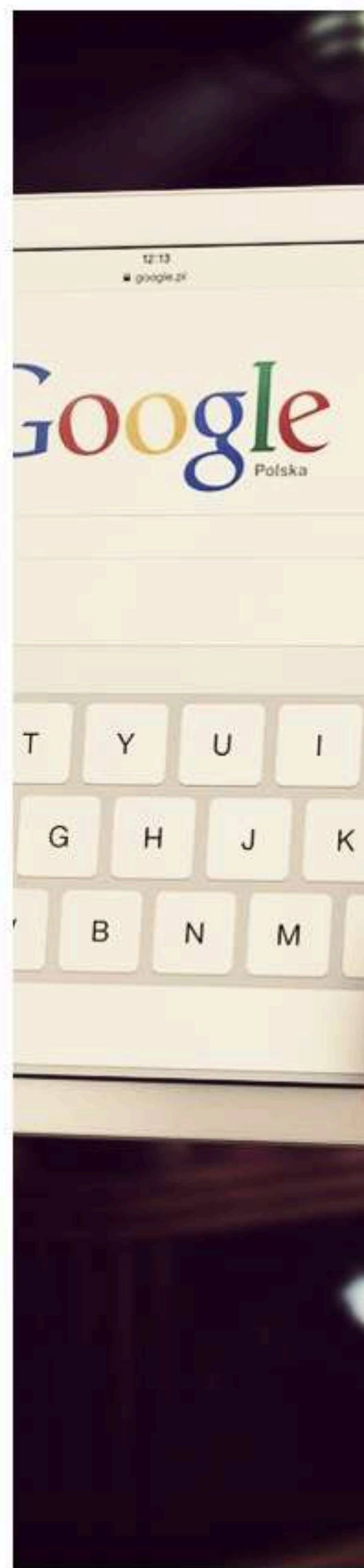




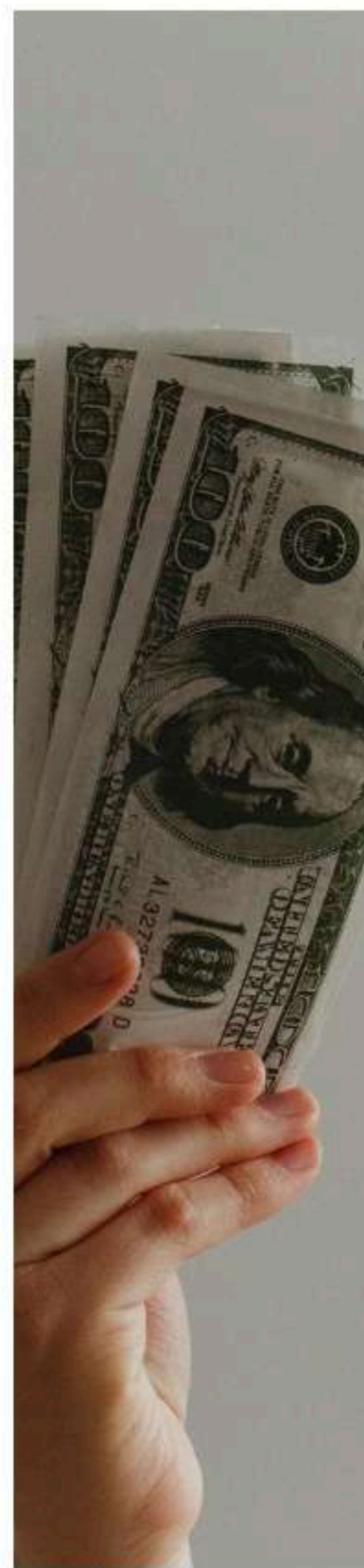
Language



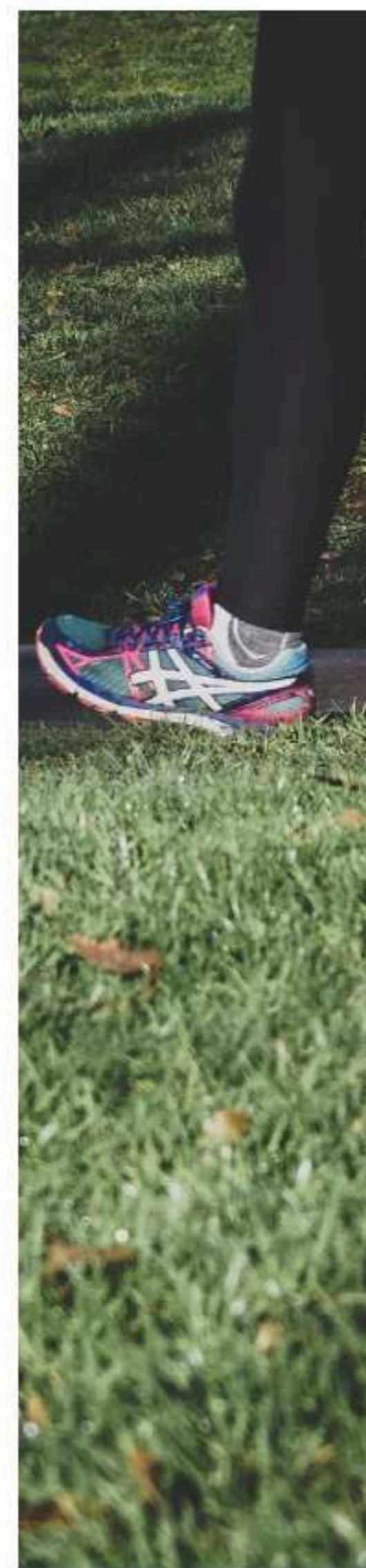
Knowledge
Transmission



Overuse of
Technology



Cost of
Technology



Health and
Well-being



Maintaining
Connections



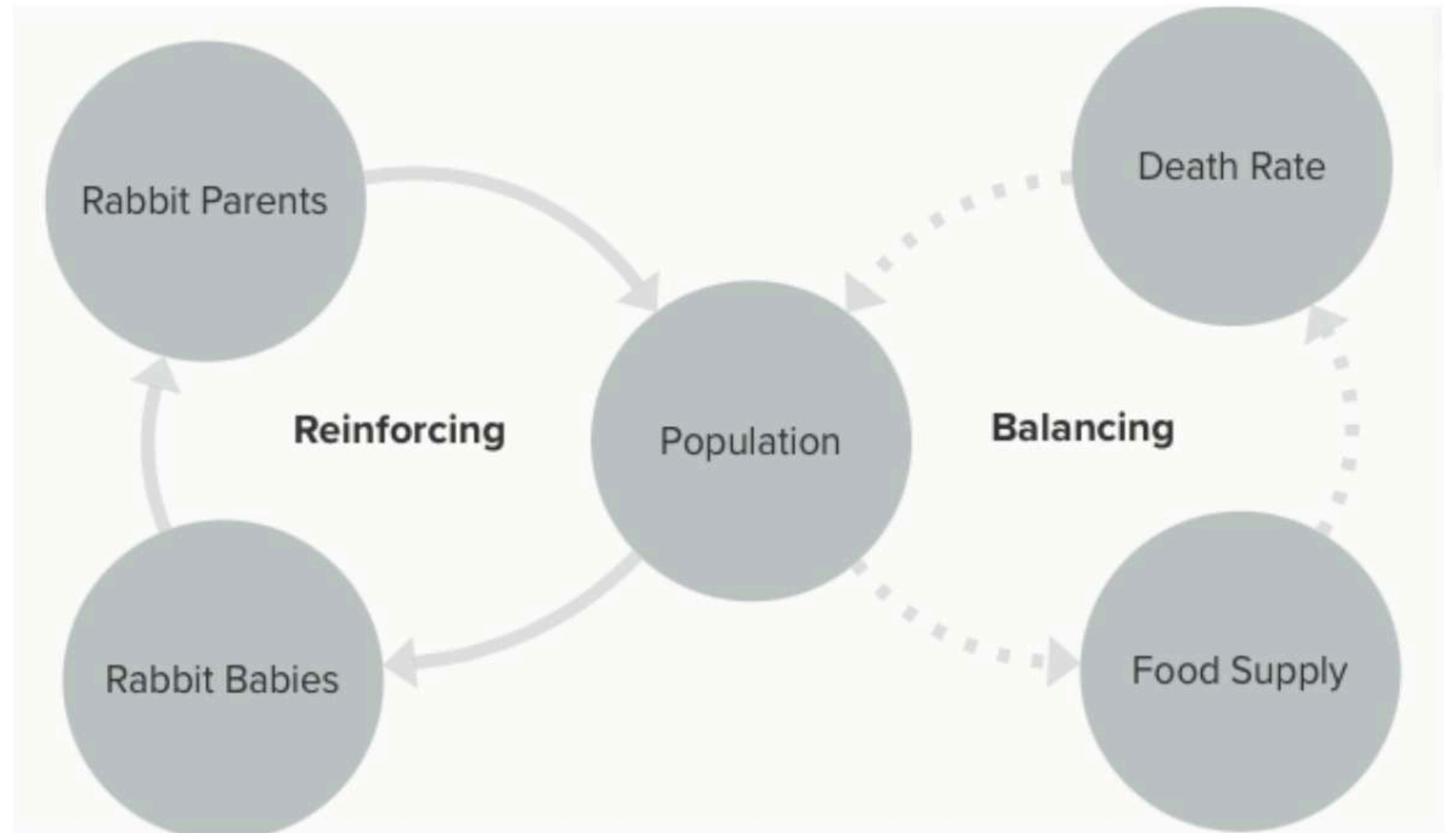
Protecting
the Territory



Governance

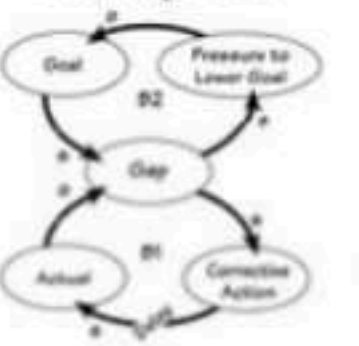
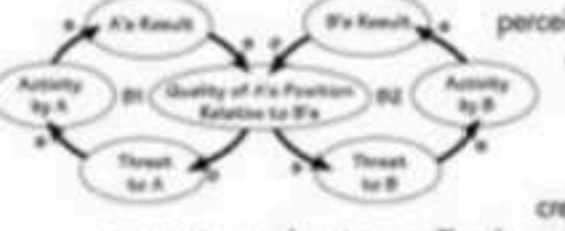
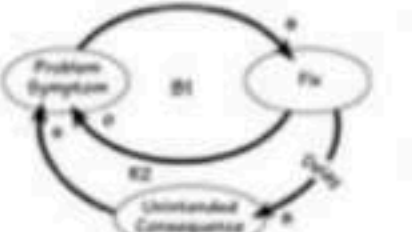
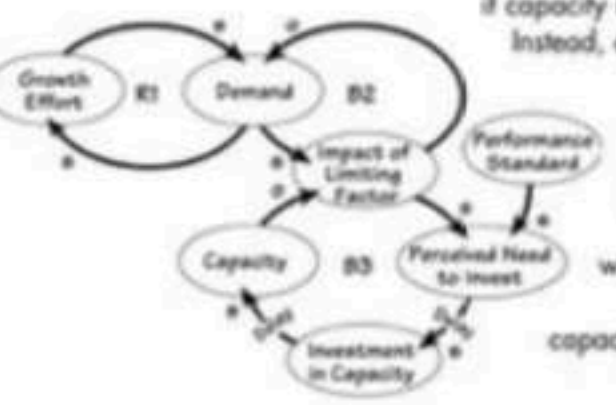
Reading Systems Maps

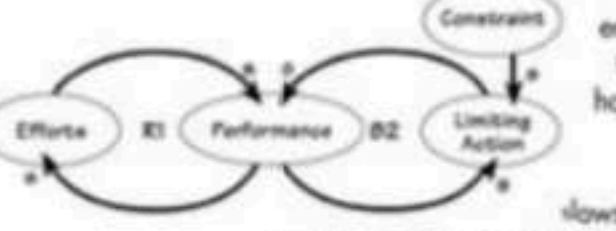
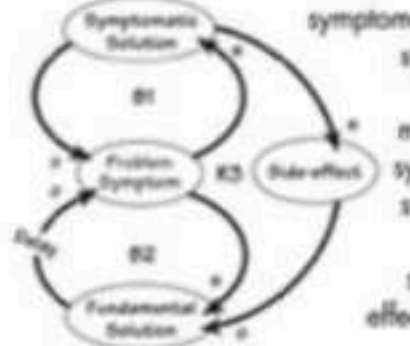
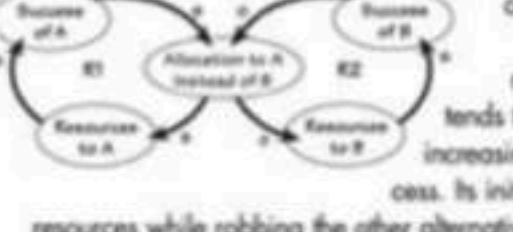
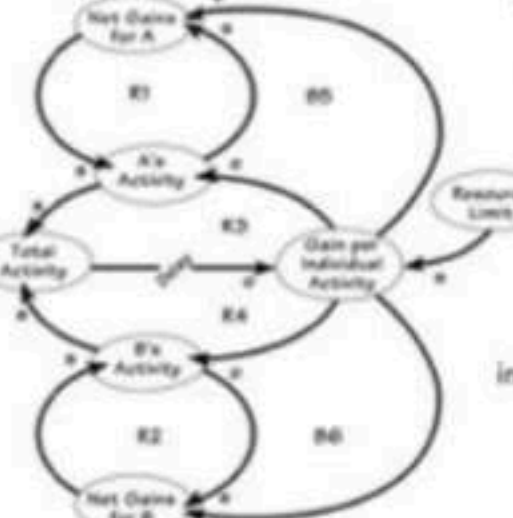
Feedback Loops



Systems Archetypes at a Glance

by Daniel H. Kim

Archetype Template and Description	Guidelines
Drifting Goals  In a "Drifting Goals" situation, a gap between desired performance and current reality can be resolved either by taking corrective action to achieve the goal or by lowering the goal. The gap is often resolved by a gradual lowering of the goal. Over time, the performance level also drifts downward. This drift may happen so gradually, even without deliberate action, that the organization is not even aware of its impact.	- Drifting performance figures are usually indicators that the "Drifting Goals" archetype is at work and that real corrective actions are not being taken. - A critical aspect of avoiding a potential "Drifting Goals" scenario is to determine what drives the setting of the goals.
Escalation  In an "Escalation" situation, one party (A) takes actions to counter a perceived threat. These actions are then perceived by the other party (B) as creating an imbalance in the system that then makes them feel threatened. So, B responds to close the gap, creating an imbalance from A's perspective, and on it goes. The dynamic of two parties, each trying to achieve a sense of "safety," becomes an overall reinforcing process that escalates tension on both sides, tracing a figure-8 pattern with the two balancing loops in this archetype.	To break an escalation structure, ask the following questions: - What is the relative measure that pits one party against the other, and can you change it? - What are the significant delays in the system that may distort the true nature of the threat? - What are the deep-rooted assumptions that lie beneath the actions taken in response to the threat?
Fixes That Fail  In a "Fixes That Fail" situation, a problem symptom cries out for resolution. A solution is quickly implemented, which alleviates the symptom. However, the solution produces unintended consequences that, after a delay, cause the original problem symptom to return to its previous level or even get worse. This development leads us to apply the same (or similar) fix again. This reinforcing cycle of fixes is the essence of "Fixes That Fail."	- Breaking a "Fixes That Fail" cycle usually requires acknowledging that the fix is merely alleviating a symptom, and making a commitment to solve the real problem now. - A two-pronged attack of applying the fix and planning out the fundamental solution will help ensure that you don't get caught in a perpetual cycle of solving yesterday's "solutions."
Growth and Underinvestment  In a "Growth and Underinvestment" situation, growth approaches a limit that could be eliminated or postponed if capacity investments were made. Instead, as a result of policies or delays in the system, demand (or performance) degrades, limiting further growth. This leads to further withholding of investment or even reductions in capacity, causing even worse performance.	- Dig into the assumptions that drive capacity investment decisions. If past performance dominates as a consideration, try to balance that perspective with a fresh look at demand and the factors that drive its growth. - If there is a potential for growth, build capacity in anticipation of future demand.

Archetype Template and Description	Guidelines
Limits to Success  In a "Limits to Success" scenario, growing actions initially lead to success, which encourages even more of those efforts. Over time, however, the success itself causes the system to encounter limits, which slows down improvements in results. As the success triggers the limiting action and performance declines, the tendency is to focus even more on the initial growing actions.	- The archetype is most helpful when it is used well in advance of any problems, to see how the cumulative effects of continued success might lead to future problems. - Use the archetype to explore questions such as, "What kinds of pressures are building up in the organization as a result of the growth?" - Look for ways to relieve pressures or remove limits before an organizational gasket blows.
Shifting the Burden/Addiction  In a "Shifting the Burden" situation, a problem symptom can be addressed by applying a symptomatic solution or a more fundamental solution. When a symptomatic solution is implemented, the problem symptom is reduced or disappears, which lessens the pressure for implementing a more fundamental solution. Over time, the symptom resurfaces, and another round of symptomatic solutions is implemented in a vicious, figure-8 reinforcing cycle. The symptomatic solutions often produce side-effects that further divert attention away from more fundamental solutions.	- Problem symptoms are usually easier to recognize than the other elements of the structure. - If the side-effect has become the problem, you may be dealing with an "Addiction" structure. - Whether a solution is "symptomatic" or "fundamental" often depends on one's perspective. Explore the problem from differing perspectives in order to come to a more comprehensive understanding of what the fundamental solution may be.
Success to the Successful  In a "Success to the Successful" situation, two or more individuals, groups, projects, initiatives, etc. are vying for a limited pool of resources to achieve success. If one of them starts to become more successful (or is historically already more successful) than the others, it tends to garner more resources, thereby increasing the likelihood of continued success. Its initial success justifies devoting more resources while robbing the other alternatives of resources and opportunities to build their own success, even if the others are superior alternatives.	- Look for reasons why the system was set up to create just one "winner." - Chop off one half of the archetype by focusing efforts and resources on one group, rather than creating a "winner-take-all" competition. - Find ways to make teams collaborators rather than competitors. - Identify goals or objectives that define success at a level higher than the individual players A and B.
Tragedy of the Commons  In a "Tragedy of the Commons" situation, individuals make use of a common resource by pursuing actions for their own enjoyment or benefit, without concern for the collective impact of everyone's actions. At some point, the sum of all individual activity overloads the "commons," and all parties involved experience diminishing benefits. The commons may even collapse.	- Effective solutions for a "Tragedy of the Commons" scenario never lie at the individual level. - Ask questions such as: "What are the incentives for individuals to persist in their actions?" "Can the long-term collective loss be made more real and immediate to the individual actors?" - Find ways to reconcile short-term individual rewards with long-term cumulative consequences. A governing body that is chartered with the sustainability of the resource can help.

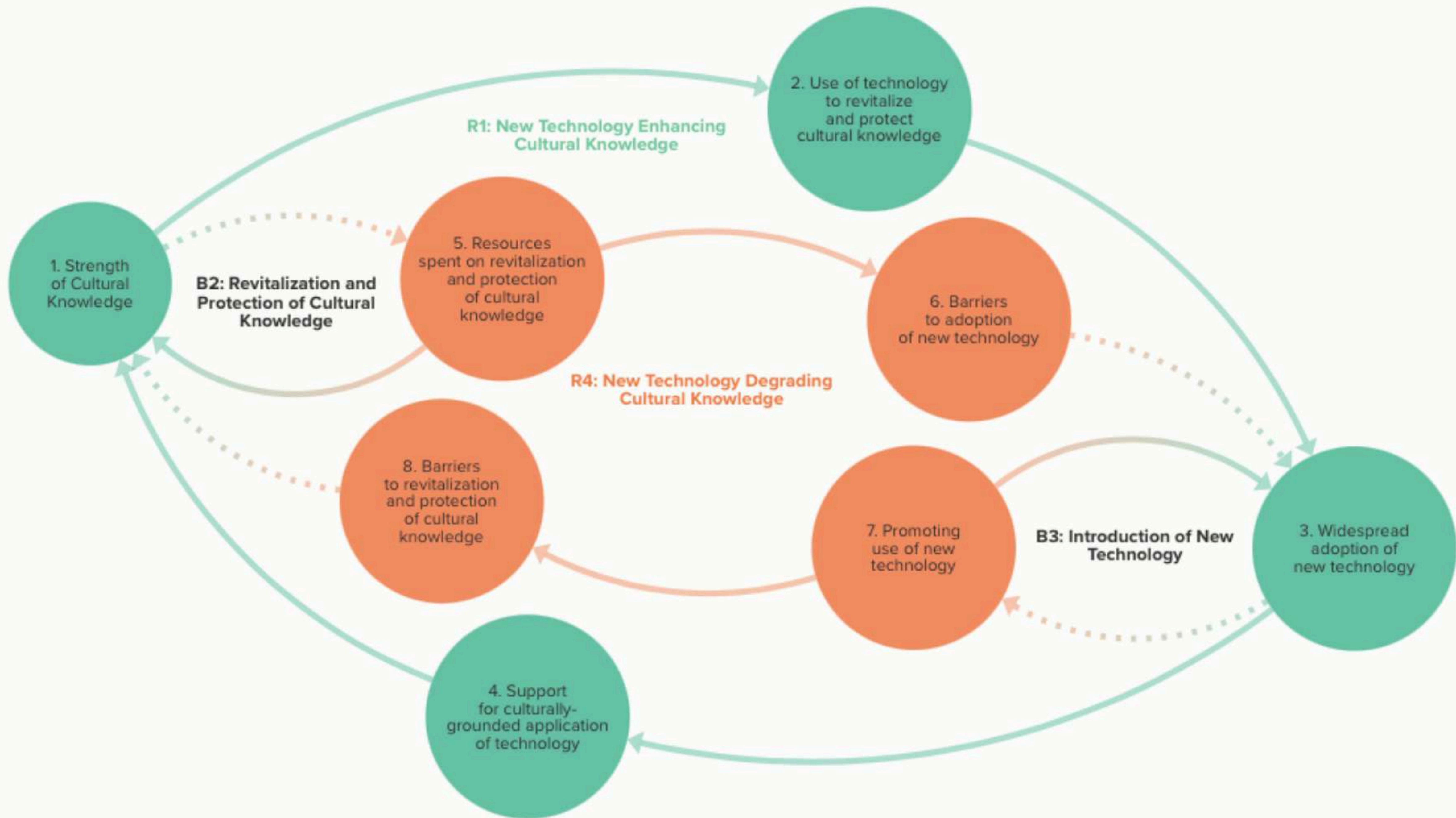
The archetypes are drawn from *The Fifth Discipline*, by Peter M. Senge. Reprinted from *The Systems Thinker* with permission. Phone (781) 398-9700 • Fax (781) 894-7175 • www.pegasus.com

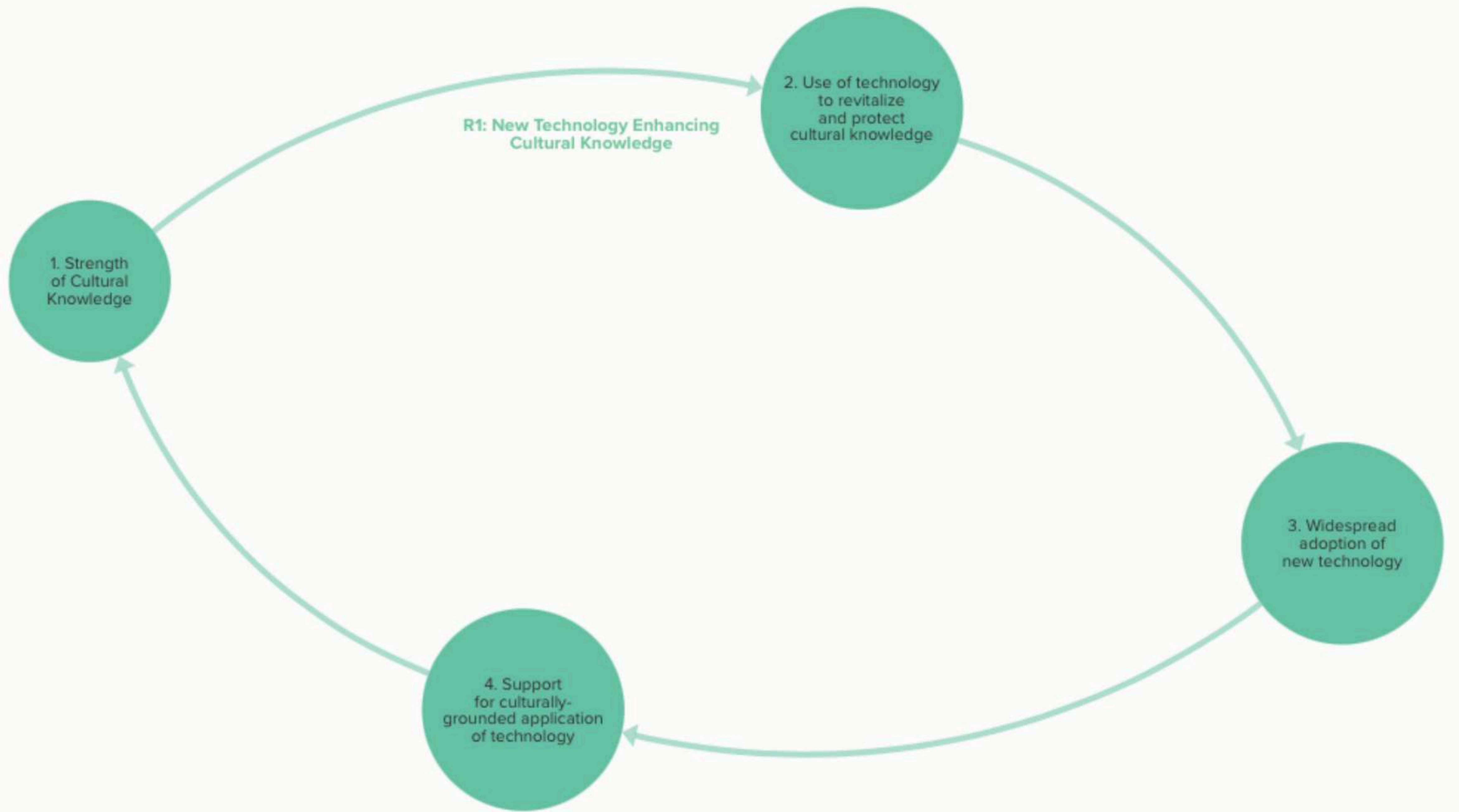
System
Archetypes
Why, despite our
best efforts, are
we not making
any meaningful
progress towards
solving a chronic,
complex
problem?



Systems Mapping

Accidental Adversaries







1. Strength
of Cultural
Knowledge

**R1: New Technology Enhancing
Cultural Knowledge**

2. Use of technology
to revitalize
and protect
cultural knowledge



R1: New Technology Enhancing Cultural Knowledge



“Having technology and having the avenues to be able to have..that connection...is a blessing”



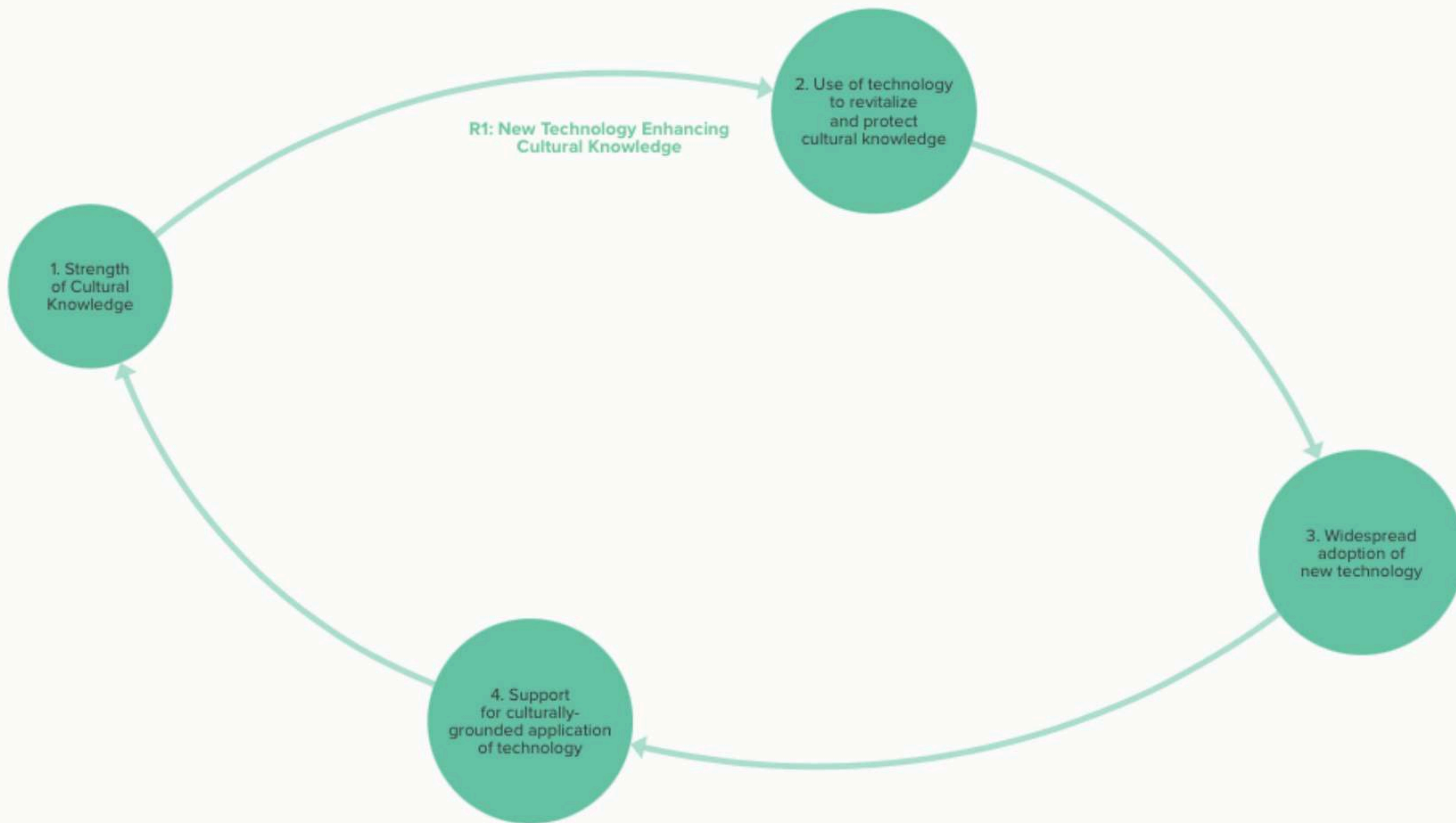
“it made a statement and it actually made them realize we were serious...it stopped right then...and so that's where technology came in handy to make a difference”.

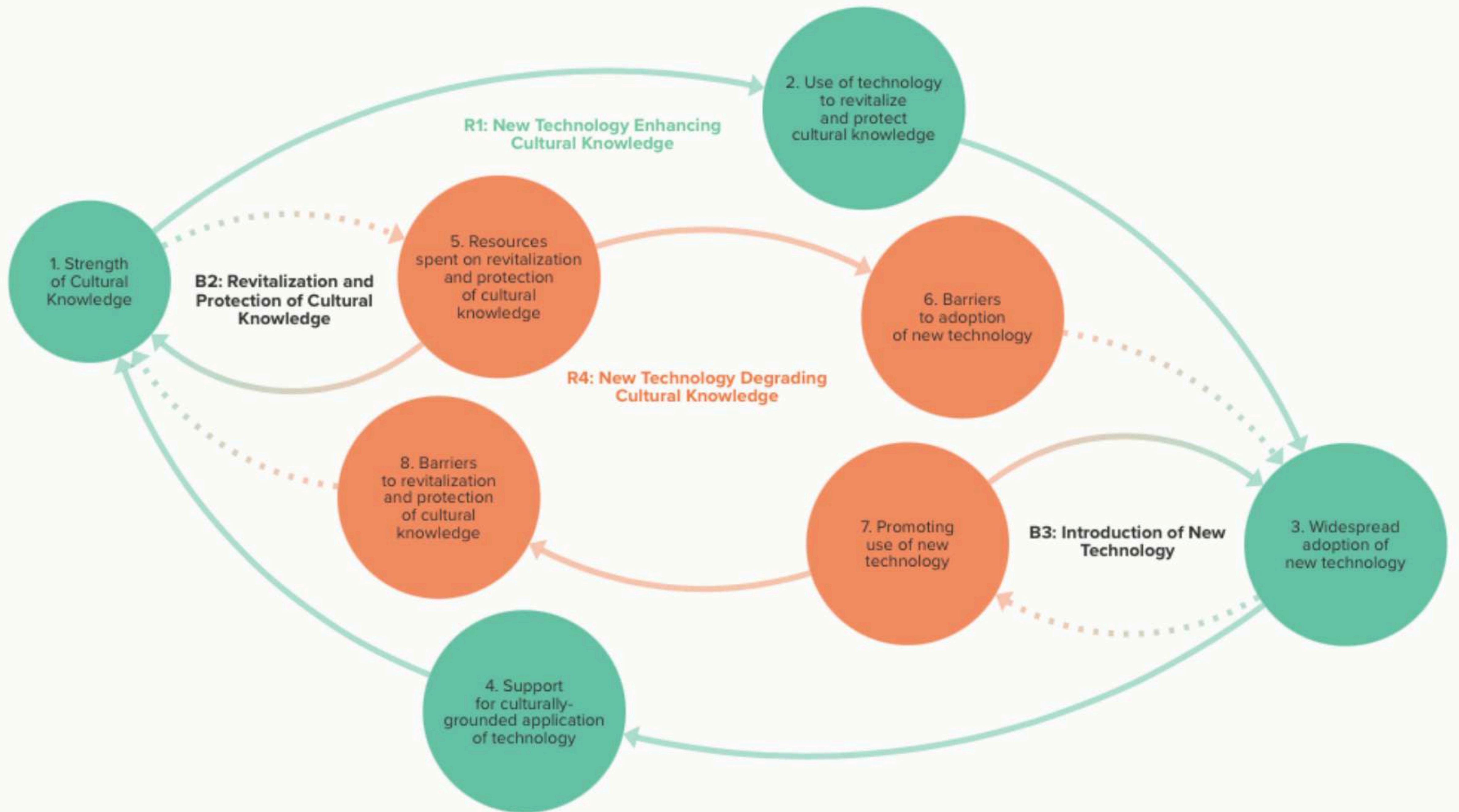


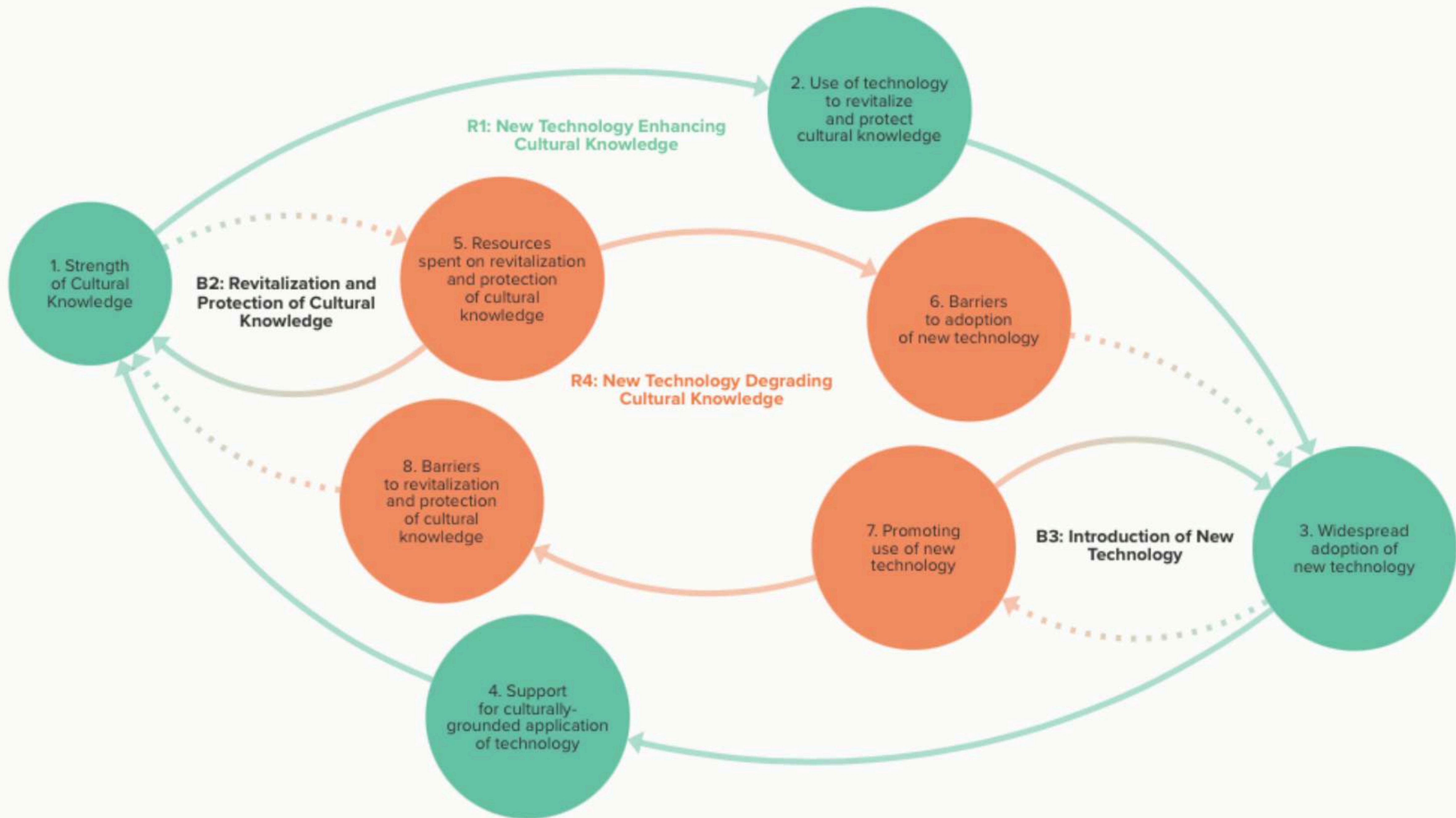
3. Widespread
adoption of
new technology

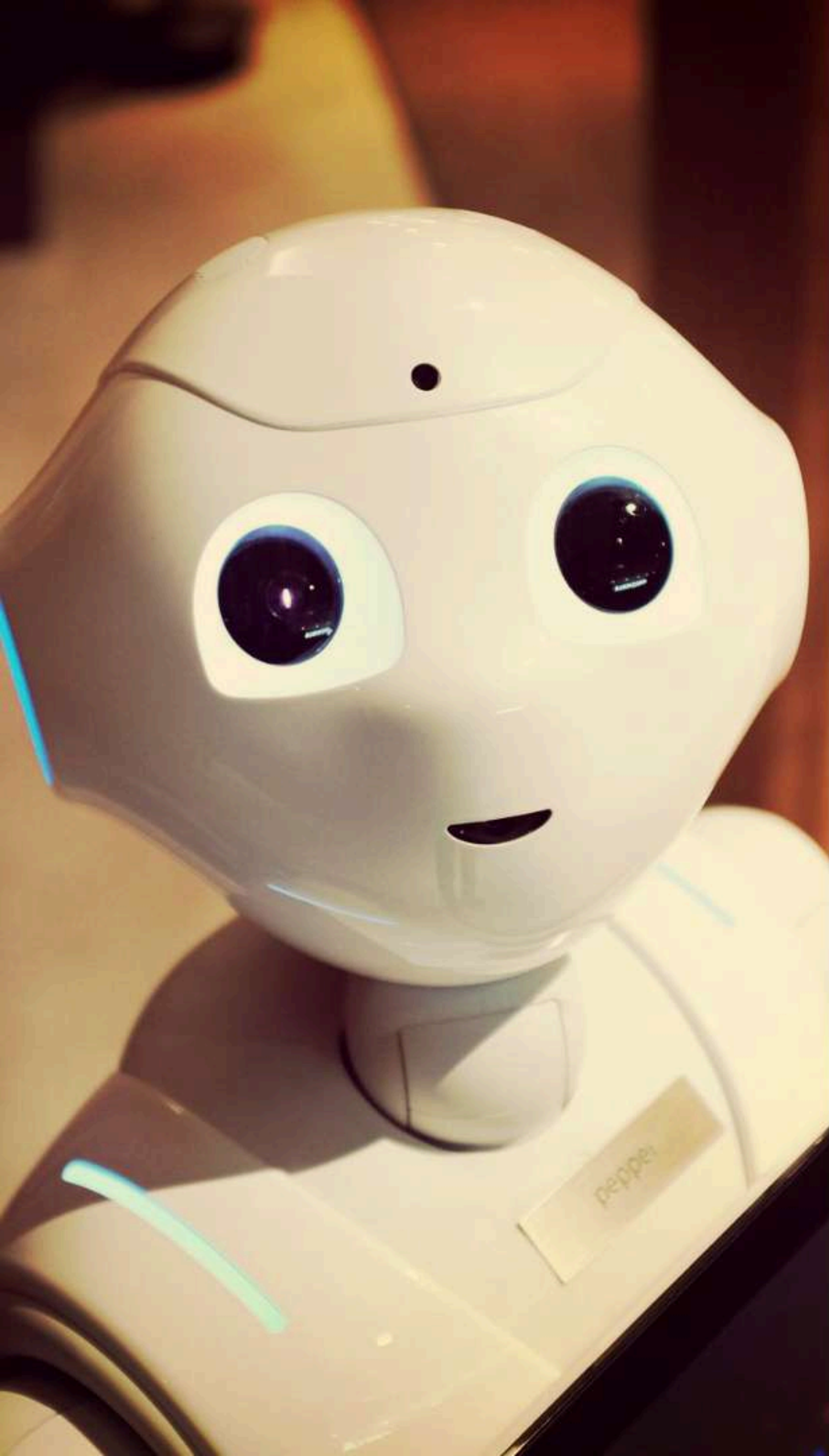


4. Support
for culturally-
grounded application
of technology









R4: New Technology Degrading Cultural Knowledge



“They've [Elders] seen their culture kind of change because of technology. And they say it hasn't been good”.



“We are getting into an area that's affecting our mental health and our physical health and emotional spiritual health. We have become unbalanced”.



“Skills disappear because nobody's using them. Nobody's teaching them. Because now you have a little instrument that does it all for you. That's what scares me”.



R4: New Technology Degrading Cultural Knowledge



“this thing [smartphone] might be able to allow me to...work less, you know, but unfortunately...when our email is ringing...it makes us work more, so we're always answering your emails...we have such...advances in technology, but yet, we still find ourselves working more and more”.



When we were out elk hunting, my grandson was on his phone. He could see everything that's going on, and where the district lines were, and everything where they should be and all that. But, he couldn't read the tracks”.



**TURTLE
ISLAND
INSTITUTE**
Indigenous Social Innovation

Relational Systems Thinking

by M Goodchild (2021)

Spring 2015

Getting to Maybe

A 28 day Social Innovation
Residency at the Banff
Centre, recruited to WISIR at
UW for PhD in Social &
Ecological Sustainability -
introduced to "systems
thinking"

“A system is a set of related
components that work together in a
particular environment to perform
whatever functions are required to achieve the
system's objective.”

~Donella Meadows

@unschools | @leylaacaroglu



WATERLOO INSTITUTE FOR SOCIAL INNOVATION AND RESILIENCE

2015

Learning Modules: Social Innovation for Complex Problems





Systems Thinking – Roles

TURTLE ISLAND INSTITUTE

Founder and Co-Director, Global
Indigenous Social Innovation Think
& Do Tank, a Teaching Lodge

WATERLOO INSTITUTE FOR SOCIAL INNOVATION & RESILIENCE

(WISIR) Research Fellow

ACADEMY FOR SYSTEMS CHANGE & PRESENCING INSTITUTE

Faculty Member & Contributor

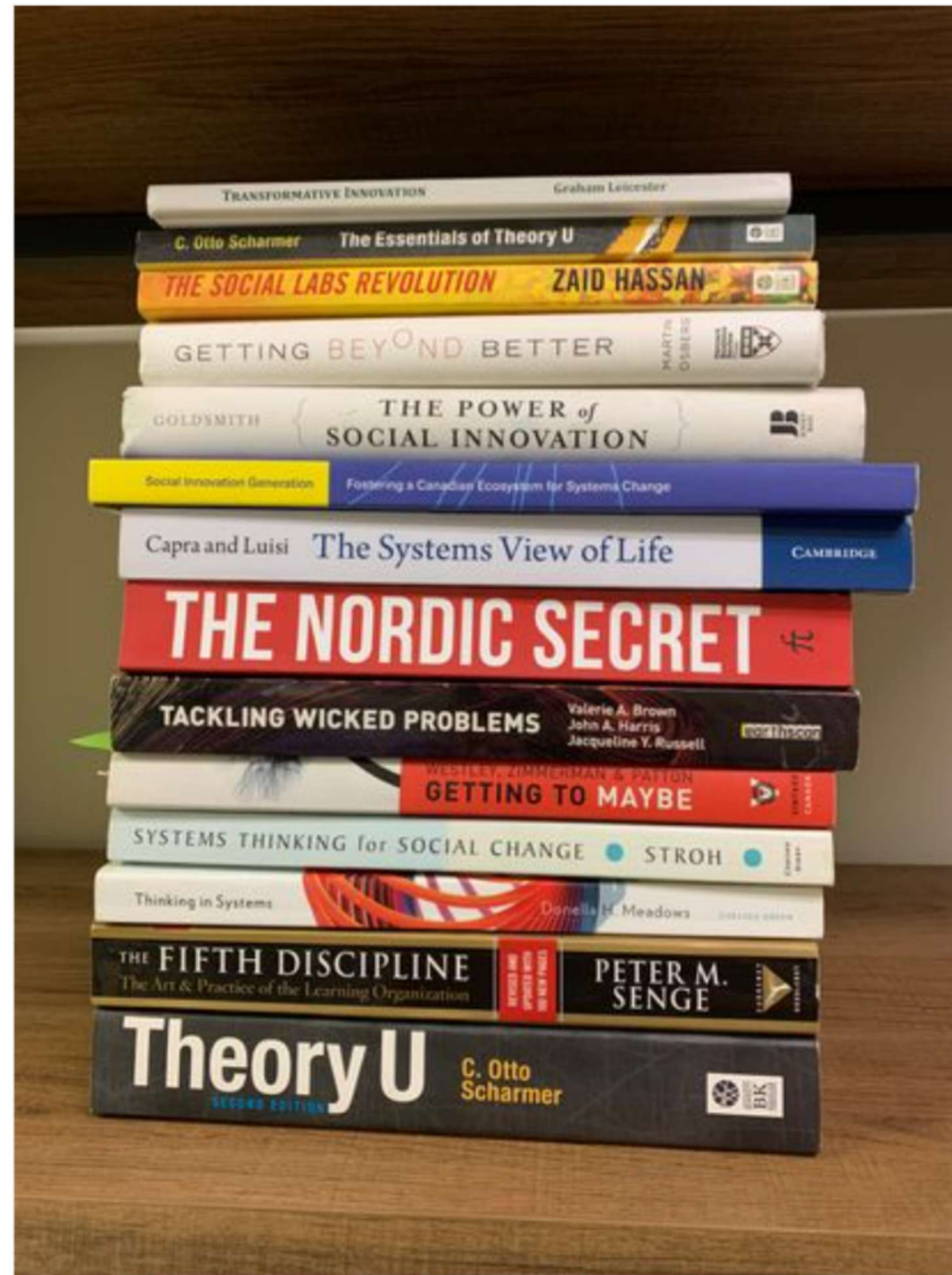
WOLF WILLOW INSTITUTE FOR SYSTEMS LEARNING

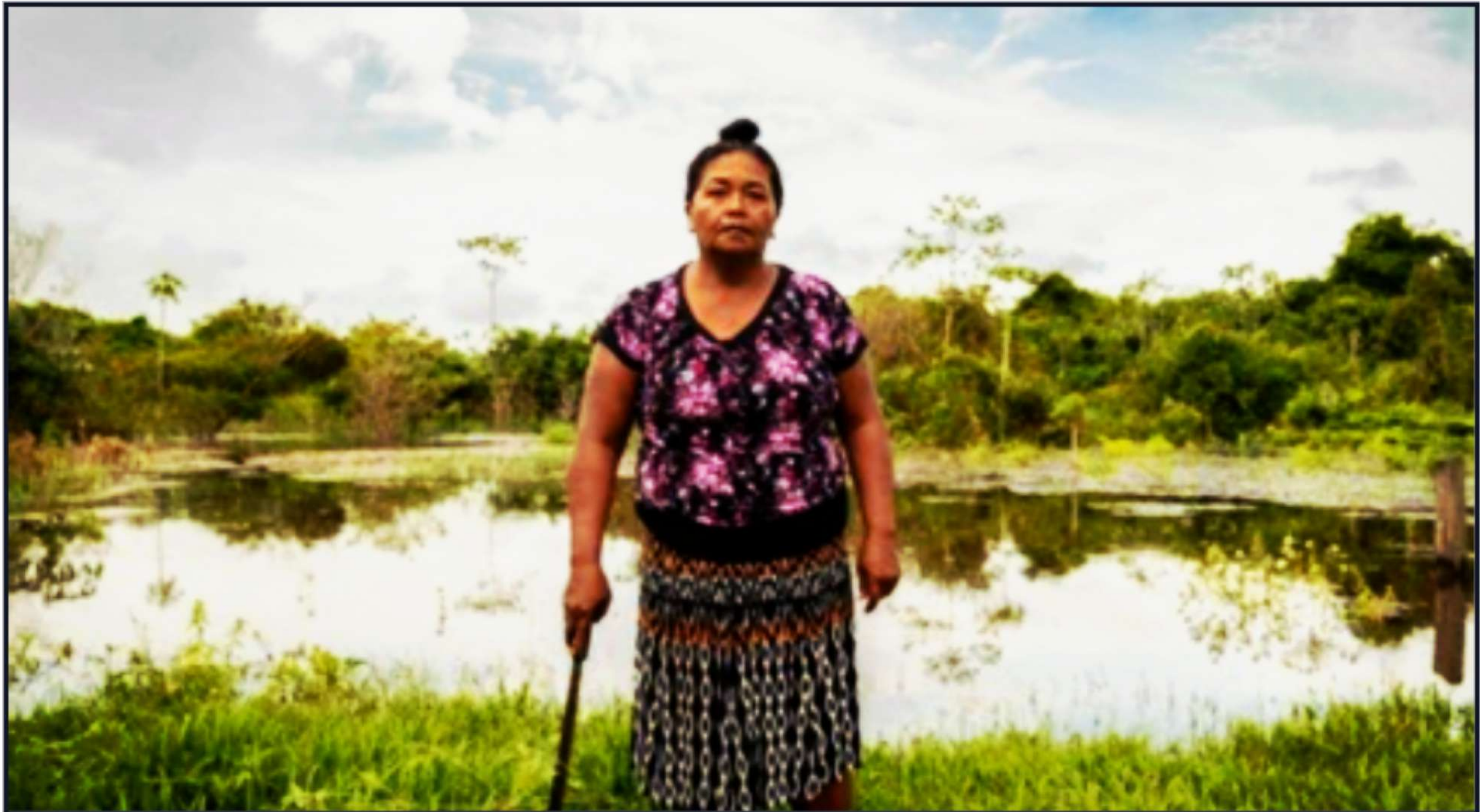
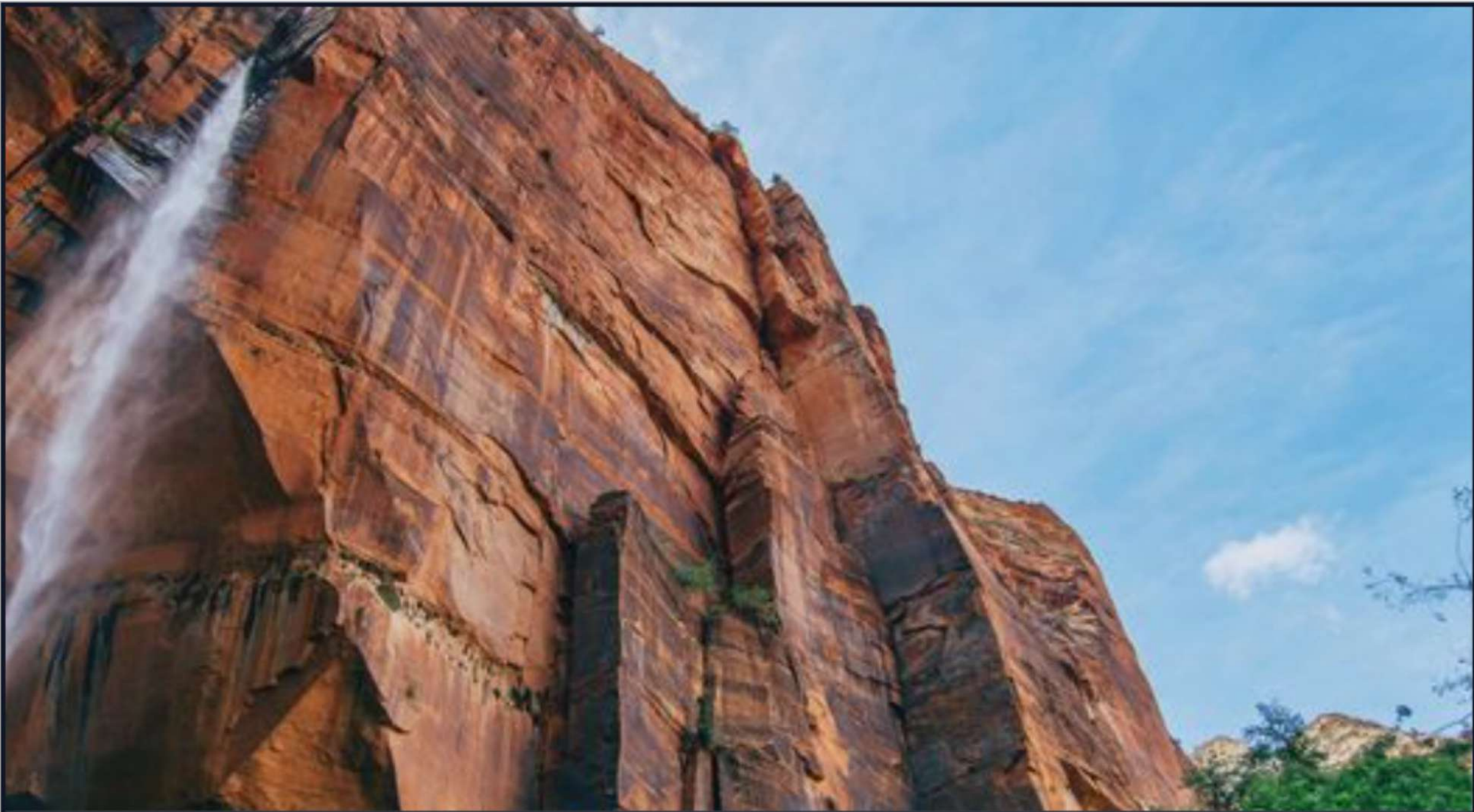
Team Member/Designer/Faculty

Western Systems Thinking

Lineage

Galileo, Descartes, Newton
(mechanistic) - Romantic
movement Goethe birthed
'systems thinking' - German
organismic biologists,
Gestalt - Alexander Bogdanov
(1912-17) - Cybernetics
(feedback loops) -
Bertalanffy general systems
theory 1968 - complexity
theory & non-linear dynamics
in 1960 & 70s - Arne Naess
'deep' ecology - spiritual
awareness - Cartesian fallacy





Conventional

Recognizing
interconnections; identifying
& understanding feedback
(system structure); stocks,
flows & variables, non-linear
relationships (dynamic
behaviour); reducing
complexity by modeling;
scale; predicting behaviour
and identifying leverage
points

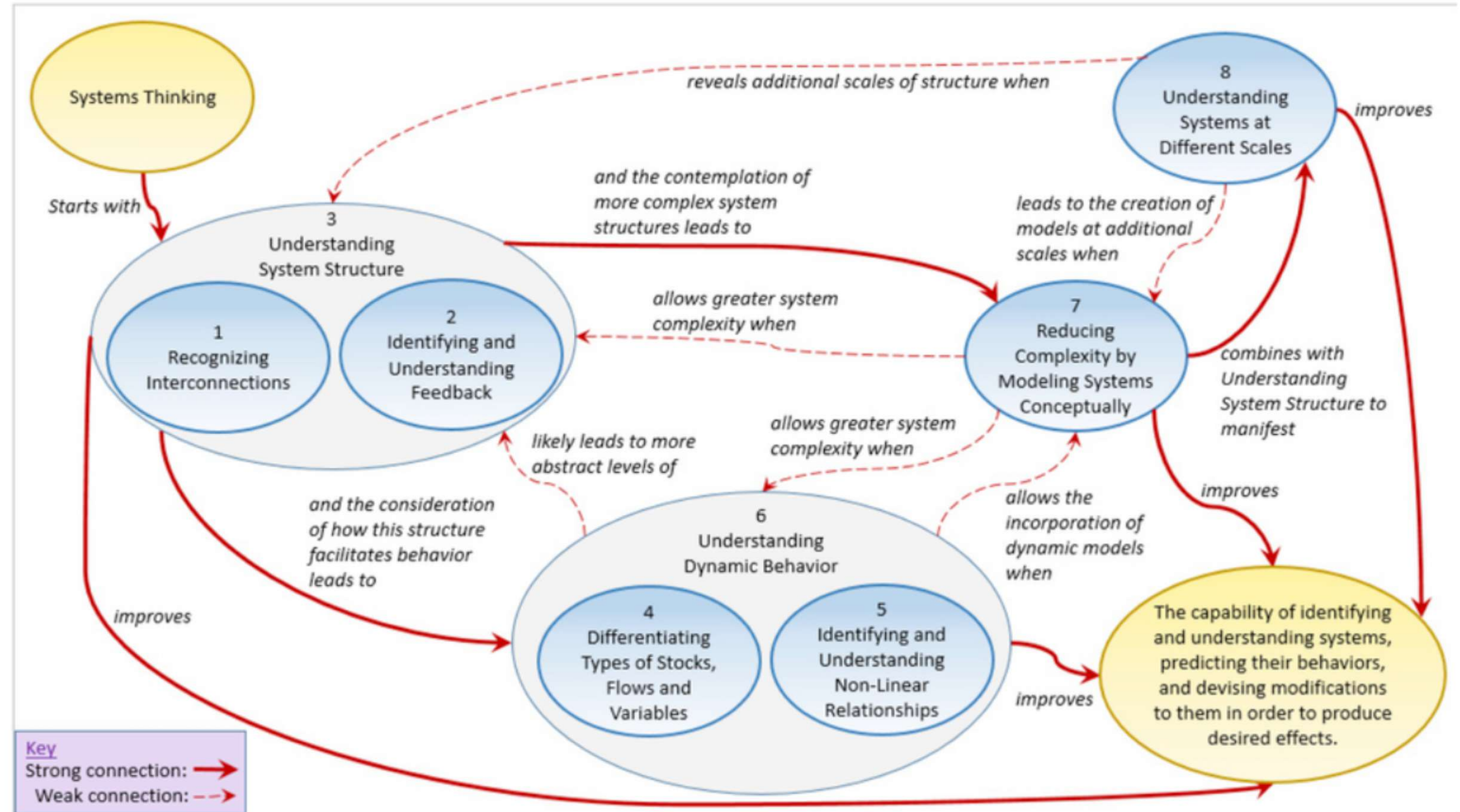


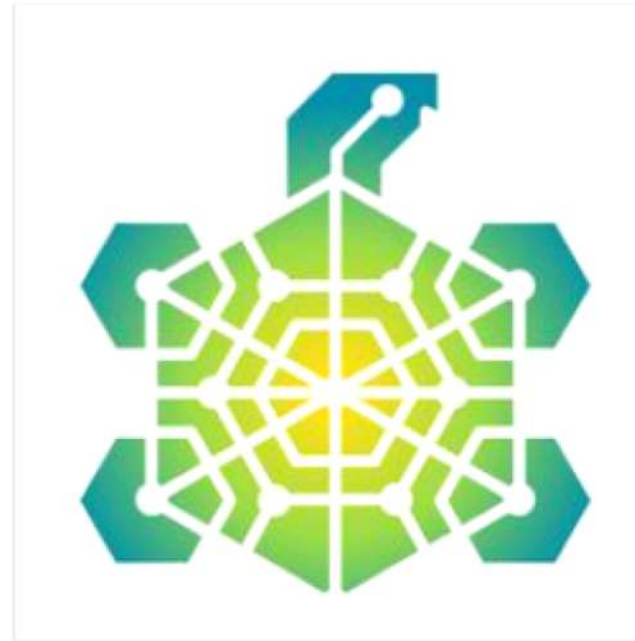
Fig 3: Systems Thinking Systemigram



“

The Turtle Island Institute logo is the most important element of our visual identity.

ANIMIKII



Your Turtle has no tail!
Rick Hill, Tuscarora



revised logo
with a tail, our
rudder, our
north star so we
know where
we are going

Nuu-cha-nulth: “Everything is one” (E. Richard Atleo, 2004)

heshook-ish
tsawalk





WE LOOK IN ALL DIRECTIONS (PEACOCK & WISURI, 2002)

Waasa Inaabidaa

Stowe, Vermont in 2019

Executive Champions Workshop



Theory U & Systems Thinking

A deep resonance with
Indigenous ways of knowing,
being, doing and
coming-to-know ...on the land.



UPGRADING THE OPERATING SYSTEM

From Ego 4.0 To Eco-System Centric

OS	LEARNING	HEALTH	FARM & FOOD	CORP SR	FINANCE	GOVERNANCE
1.0 <u>INPUT</u> + AUTHORITY CENTRIC	TRADIT TEACHER CENTRIC	TRADIT. DOCTOR CENTRIC	TRADIT FARMER CENTRIC	TRADIT PR/ alleviating pr.	TRADITIONAL BANKER CENTRIC	1.0 Visible Hand Hierarchy
2.0 <u>OUTPUT</u> + Efficiency CENTRIC	TEACHING FOR TESTING: BUILDING LEARNING	EVIDENCE BASED MEDICINE	Industrial Ag	Resource Efficiency Recycling	Wall St externality blind	2.0 Invisible Hand Competition
3.0 <u>OUTCOME</u> + USER - CENTRIC	LEARNER CENTRIC	PATIENT CENTRIC	Organic Ag	Biz Innovation	Impact Investing externality aware	3.0 Organized Interest Group Lobbying
4.0 <u>CO-CREATIVE</u> + ECO-SYSTEM CENTRIC	ACTIVATE DEEP LEARNING CYCLE	STRENGTHENING SOURCES OF WELLBEING	Ag as medium for healing planet + people	Purpose/mission Systems Transformation: Biz as a movement	Regenerative Finance → Systems Change	4.0: ABC Anonymous B Collect Ad



October 2019

DotS Webinar

Indigenous
Coming-to-know

Gidaakiiminaan (everything in creation)

“Nature-based” human development helps tackle three central challenges of the Anthropocene together—mitigating and adapting to climate change, protecting biodiversity and ensuring human wellbeing for all (Human Development Report 2020, UNDR).

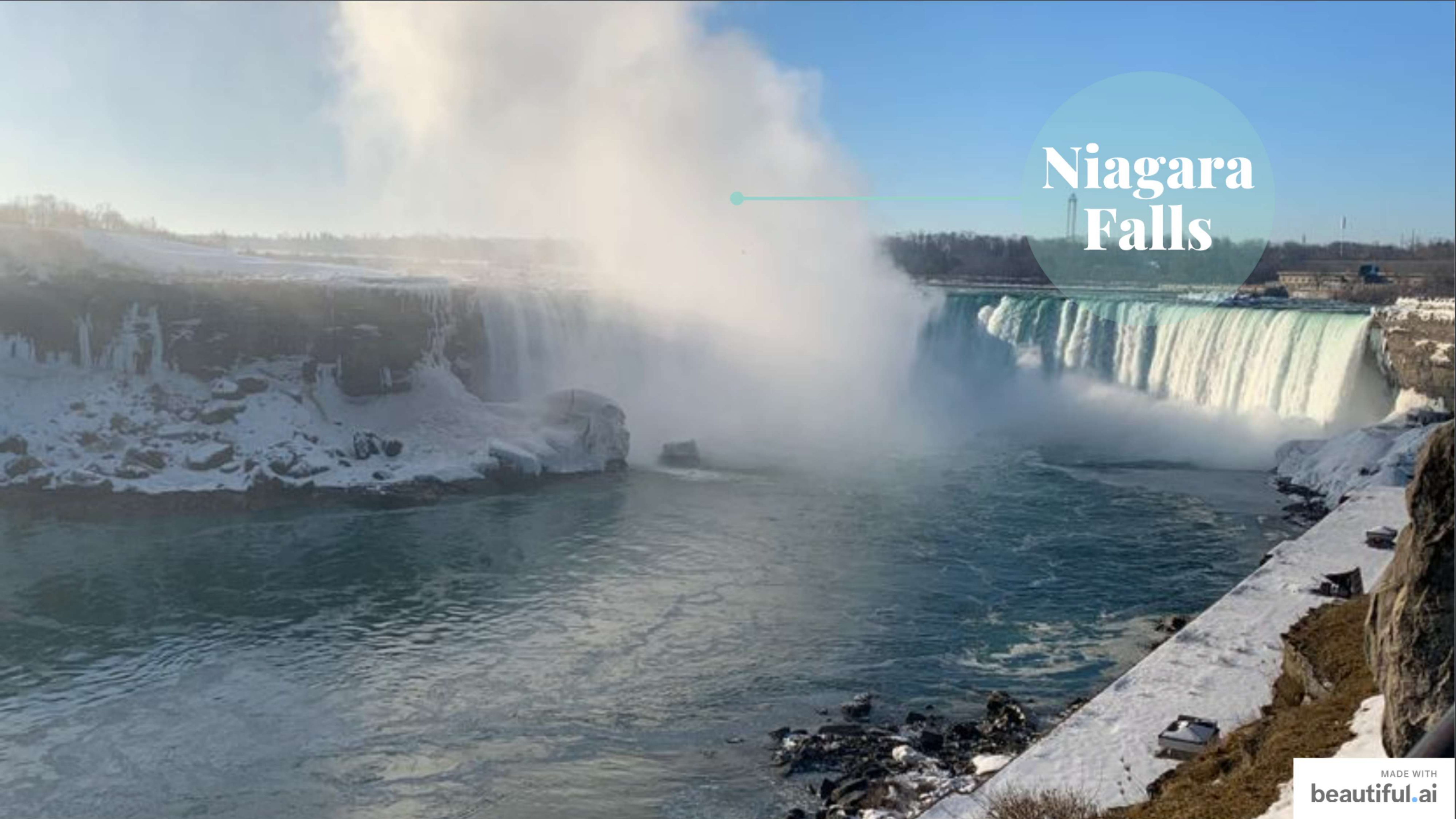


blind spot

Anthropocentric Bias

Nindinawemooganidok
(greetings to you my
relatives) is not just the
humans, it's all beings of
Creation - Gidaakiiminaan



A wide-angle photograph of Niagara Falls in winter. The falls are partially frozen, with large chunks of ice and snow visible on the left side. A massive plume of white mist rises from the base of the falls, partially obscuring the sky. The water is a deep blue-green color. In the background, a line of trees and some buildings are visible under a clear blue sky. A semi-transparent teal circle is overlaid on the right side of the image, containing the text 'Niagara Falls'.

Niagara Falls

Niagara Falls

Haudenosaunee Confederacy

a Treaty between the Dutch
and the Iroquois in the
1600s. EQUAL BUT
DIFFERENTIATED

Two Row Wampum – Gä•sweñta'





The Two Row Wampum Belt

Equal but differentiated ... sharing the River of Life together

BRIGHTENING OUR MINDS >>>



Translating/Bridging.

J A B S C

JOURNAL of AWARENESS BASED SYSTEMS CHANGE

Relational Systems Thinking:

That's How Change Is Going to Come, from Our Earth Mother

Melanie Goodchild

*Turtle Island Institute & Waterloo Institute for Social Innovation and Resilience
m2goodchild@uwaterloo.ca*

*with Peter Senge, C. Otto Scharmer, Roronhiakewen (He Clears the Sky)
Dan Longboat, Kahontakwas Diane Longboat, Rick Hill and*

Bringing back **Ga'nigo:yah (the Good Mind)** is a core teaching in the co-inquiry of deep systems awareness & “cannot be without the spirit being activated”
(Diane Longboat, p. 95)



Centering relationships for mutual benefit

RELATIONAL SYSTEMS THINKING (RST)

A framework/model for peaceful co-existence of ways of 'coming-to-knowing'

Relational Systems Thinking: Bridge/Dialogic Framework



SYSTEMS THINKING

- Aristotle, Goethe, Cuvier on the nature of organic form/morphology
- German organismic biologists/Gestalt
- irreducible wholeness arises from interaction and relationship between the parts of a whole



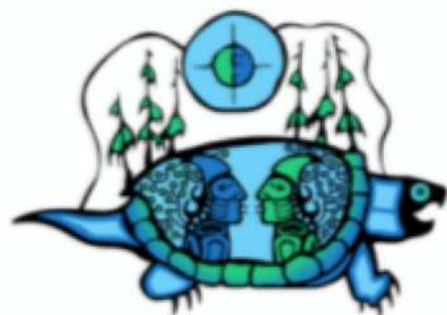
RELATIONAL SYSTEMS THINKING

- Systems Dynamics & Awareness (Meadows, Senge, Scharmer)
- Anishinaabe-Gikendaasowin (ancestral ways of knowing) & 'Native Science'
- Haudenosaunee Two-Row Wampum philosophy



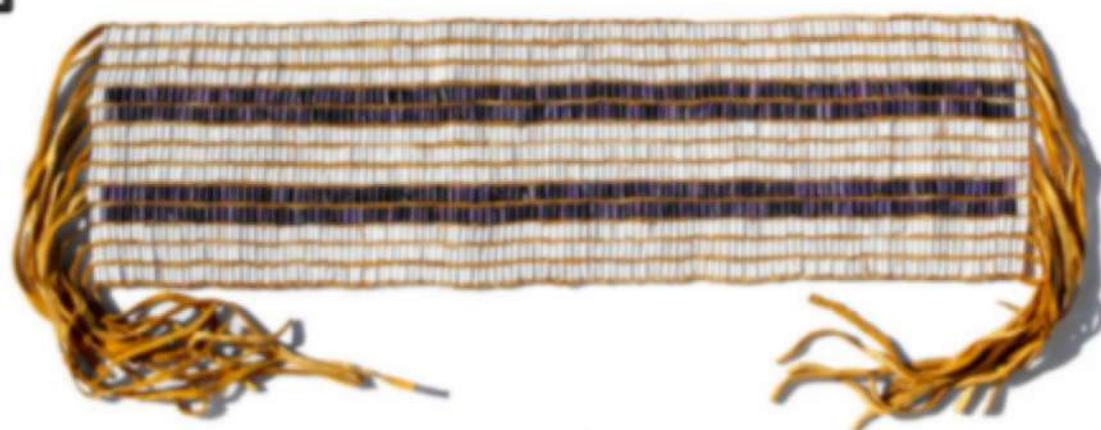
ANISHINAABE GIKENDAASOWIN

- is **gaa-izhi-zhawendaagoziyaang** (given to us in a loving way by the spirits) (Geniusz, 2009)
- The centrality of the manidoog (spirits) in Bundle of TII
- Migizi Miigwaan



Systems
Thinking

Relational
Systems
Thinking



Healing Self &
Systems

Anishinaabe
Gikendaasowin

Indigenous
Science

Goodchild (2021)

Relational Systems Thinking as a bridge



ISTANBUL 2021

INNOVATION DAYS

Melanie
& Otto

AWARENESS-BASED COLLECTIVE ACTION

accelerating progress towards different futures

Join our online discussion with

Laurel Patterson, UNDP Head of SDG Integration

Pedro Conceicao, Director of the Human Development Report Office

Melanie Goodchild, First Nations Canadian and Founder and Co-Director of the Turtle Island Institute

Otto Scharmer, MIT Senior Lecturer and Co-founder of the Presencing Institute

Wednesday, March 24th, 17:45 – 19:15 CET / 12:45 – 2:15 EDT

MADE WITH
beautiful.ai

TRANSFORMING SYSTEMS in the DECADE of ACTION

GLOBAL DIALOGUE SERIES with OTTO SCHARMER

SPECIAL GUESTS: RAHMA LITTLECHILD & MELANIE GOSCHKE



UN
DP

IN CRISIS
WE HAVE
CHOICE

GAP between BELIEFS & ACTIONS

ENDS
MEANS
DISRUPTIONS

ESPoused
VALUES

THEORY
in USE

THEORY U

INNER JOURNEY

LISTENING

1. DOWNLOADING
2. FACTUAL
3. EMPATHIC
4. GENERATIVE

CO-SENSE

NOW IS the TIME

to RECONSIDER OUR HUMANITY

SELF-EMERGE SELF-FOCUS SELF-SEEK

OUTER JOURNEY:

GOING to the EDGES
of the SYSTEM to
SEE through
NEW EYES

FOUNDA-
TIONAL
SHADE

SIGNA-
TURE

SPIRITUAL
DIVIDE

ROLE of INDIGENOUS PEOPLES in the UN

- 1977 INDIGENOUS PEOPLES DECLARATION
- ACKNOWLEDGING DIVERSITY
- 2007 DECLARATION "IN DEC"
- INITIAL HOPE → DISAPPOINTMENT & STATE'S RESPONSES

A MINIMUM STANDARD but CHALLENGED with

BASIC FORMS of

ADVOCACY

IS NO ACCESS - MORE

NEGOTIATIONS to

SUGGEST ADVOCACY

SITTING with
WHAT WE DO NOT
KNOW, to LET BE
WHAT IS...

SACRED CONNECTION
to LAND and LIFE

KNOWING

DOING

NOT FULLY
RECOGNIZED

LACK of INCLUSION

ANTHROPOCENE

IS the 7th PROPHECY

of DESTRUCTION &

DISCONNECTION

the
MANY
GAPS

THROUGH the
TEA CEREMONY
CONNECTING
HEART & MIND

WE ARE LIVING

in a TIME of

PROPHECY

to REKINDLE the

8th FIRE

ANCIENT WAYS
of KNOWING

including HONORING the

4 DIRECTIONS

THE TEA LEAF
FOUND US...

and OFFERS a

CONNECTION with

MOTHER EARTH



bringing the soul to systems work (Diane Longboat, p. 94)

Two row visual code

An invitation into Ethical Space (Ermine) or Sacred Space (Dan Longboat), in between different ways of knowing



FOUR DIMENSIONS OF MEDICINE WHEEL

Spiritual, Mental, Physical & Emotional
Frequencies



CEREMONY

Ceremonies with people across Turtle Island
and around the world, in Mikinaak Wigyaam



Leading from Being

Braiding & Balancing V



00:13:26 | 01:06:12

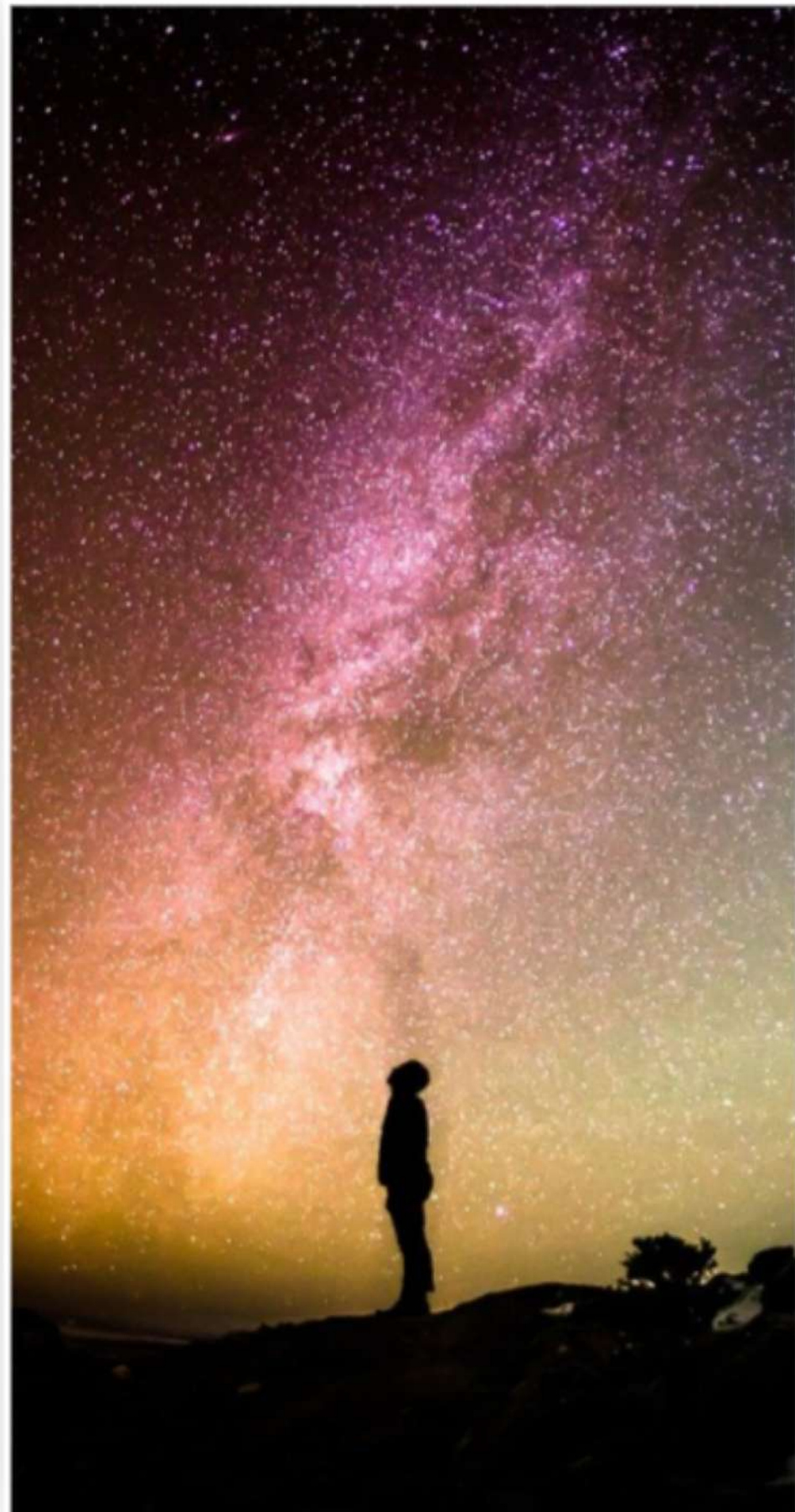


GOODCHILD

PODCASTS & WEBINARS

Hospitality to address epistemic ignorance;
Gichi Gakinoo'imaatiwin

Complex, adaptive systems 6 features



1 **MULTIPLICITY**

Composed of a multiplicity of things

Large number of entities; co-evolution boosts numbers

2 **DENSE WEB OF CAUSAL CONNECTORS**

Causal Feedbacks

The greater number, the systems complexity = causal feedback (pos/neg), positive feedbacks are inherently unstable; tightly coupled, little buffering capacity

3 **INTERDEPENDENCE**

Of their components

I.E. the human body

4 **OPENNESS**

Not closed systems

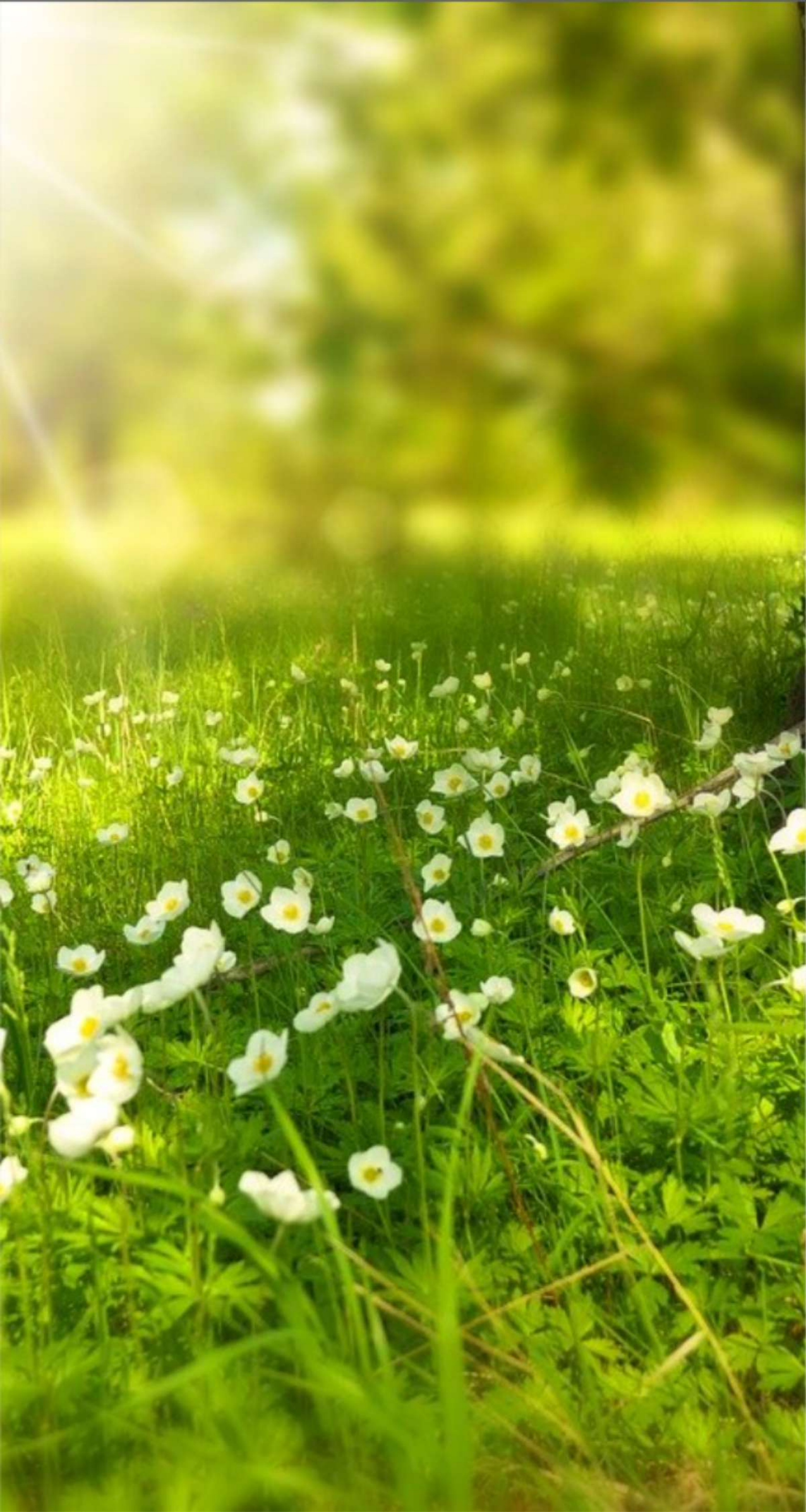
Open to their outside environments, not self-contained, hard to locate boundary

5 **SYNERGY**

Whole is more than sum of parts

6 **EXHIBITS NON-LINEAR BEHAVIOUR**

Not tidy, straight lines



Indigenous Ways of Living in Nature (IWLN): Complexity Competencies

EXPERIENTIAL LEARNING

With the land and in teaching
lodge (Mikinaak Wigyaam)

ORAL TRADITION

Storytelling a critical aspect

LANGUAGE

Gikendaasowin is encoded in
our ancestral, original ways of
speaking, Anishinaabemowin

MODELING

Modeling IWLN, hospitality and
peaceful co-existence in healing
self & systems

UPGRADING THE OPERATING SYSTEM

From Ego 4.0 To Eco-System Centric

The image shows a handwritten table on a flip chart, titled 'UPGRADING THE OPERATING SYSTEM'. The table compares four stages of operating systems (1.0 to 4.0) across seven sectors: OS, LEARNING, HEALTH, FARM & FOOD, CORP SR, FINANCE, and GOVERNANCE. The stages are defined by their focus: 1.0 INPUT + AUTHORITY CENTRIC, 2.0 OUTPUT + EFFICIENCY CENTRIC, 3.0 OUTCOME + USER-CENTRIC, and 4.0 CO-CREATIVE + ECO-SYSTEM CENTRIC. The table is written on a yellow flip chart with a black border, and the background shows a green outdoor setting.

OS	LEARNING	HEALTH	FARM & FOOD	CORP SR	FINANCE	GOVERNANCE
1.0 INPUT + AUTHORITY CENTRIC	TRADIT TEACHER CENTRIC	TRADIT. DOCTOR CENTRIC	TRADIT FARMER CENTRIC	TRADIT PR/alleviating pr.	TRADITIONAL BANKER CENTRIC	1.0 Visible Hand Hierarchy
2.0 OUTPUT + EFFICIENCY CENTRIC	TEACHING FOR TESTING: BULLYING LEARNING	EVIDENCE BASED MEDICINE	Industrial Ag	Resource Efficiency Recycling	Wall St externality blind	2.0 Invisible Hand Competition
3.0 OUTCOME + USER-CENTRIC	LEARNER CENTRIC	PATIENT CENTRIC	Organic Ag	Biz Innovation	Impact Investing externality aware	3.0 Organized Interest Group Lobbying
4.0 CO-CREATIVE + ECO-SYSTEM CENTRIC	ACTIVATE DEEP LEARNING CYCLE	STRENGTHENING SOURCES OF WELLBEING	Ag as medium for healing planet + people	Purpose/mission Systems Transformation: Biz as a movement	Regenerative Finance → Systems Change	4.0: ABC Awareness, Behavior, Collect Action

RST Haiku at Presidio Graduate School

CORRINE

Two boats, one river
Teachings on the way forward
Lie within, the past

WILL

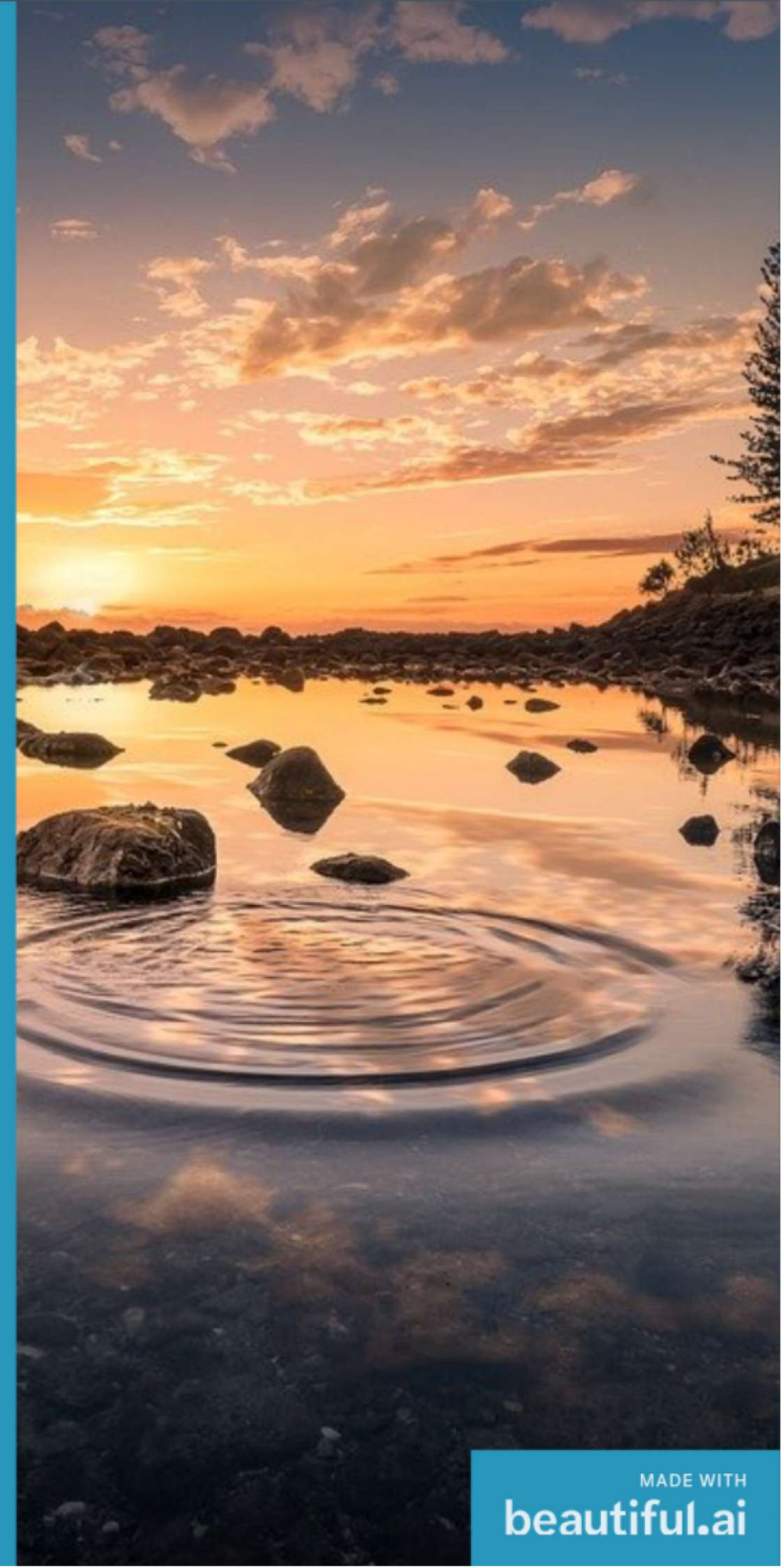
Decolonizing
These systems, maps, and language
To see we are one

JAKE

Knowledge, There is More
Two-Row Code, Ethical Space
Shifting Consciousness

JUSTINE

Wisdom in action
Mother Earth healing spirit
Help us change the world

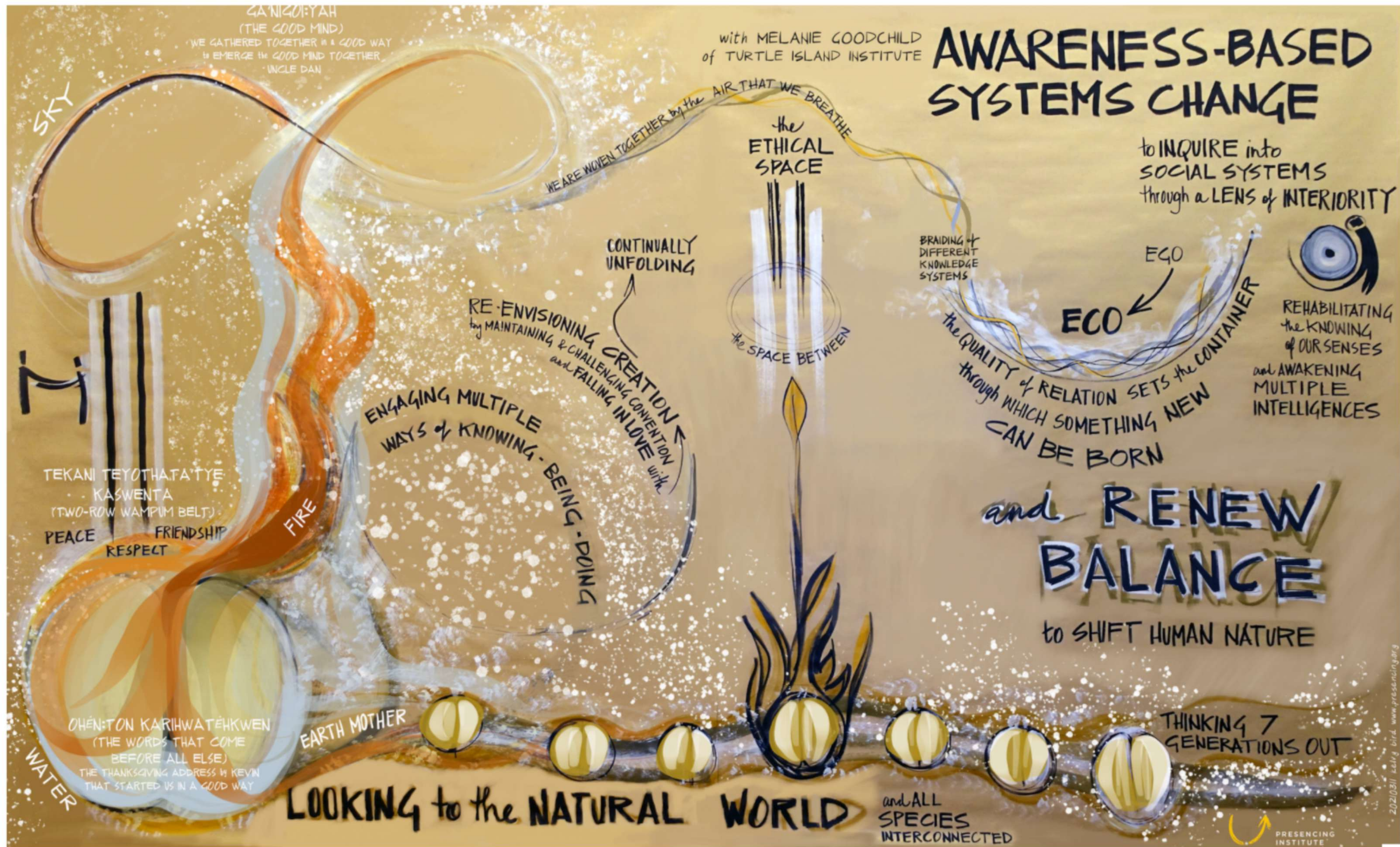


Inaugural Journal Launch

"Awareness-Based
Systems Change"



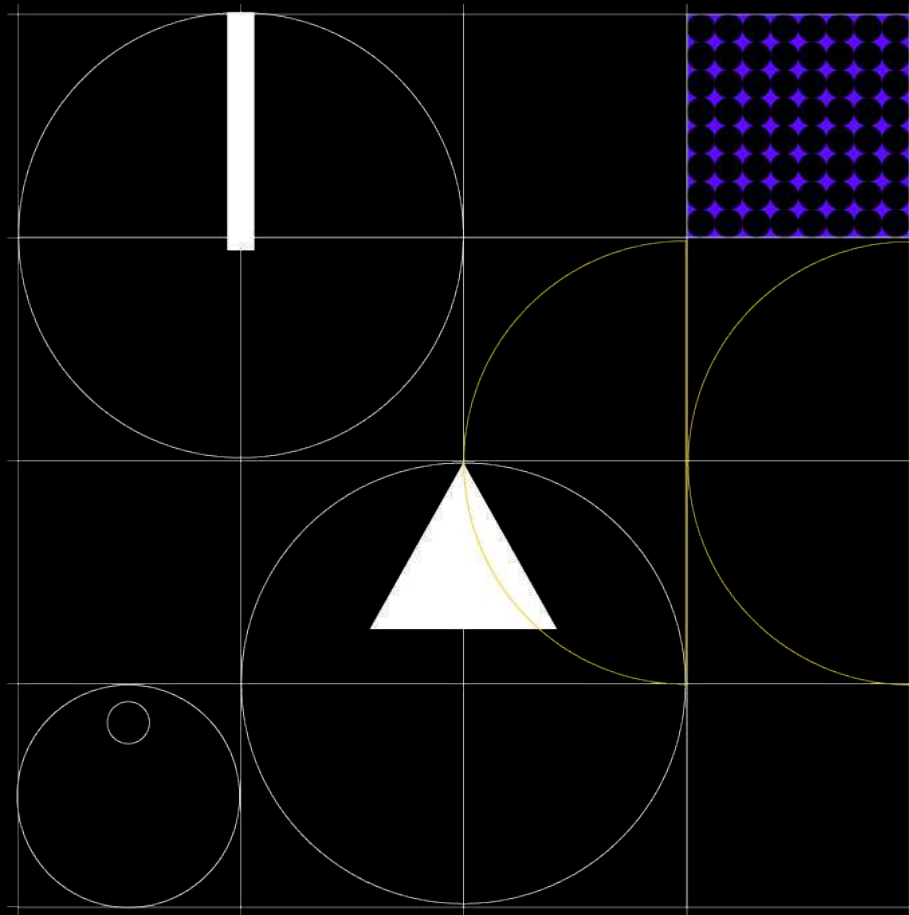
co-hosted by
**Melanie Goodchild, Turtle Island Institute
& Otto Scharmer, Presencing Institute**





Miiigwetch

Thank you for listening



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better future.**

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