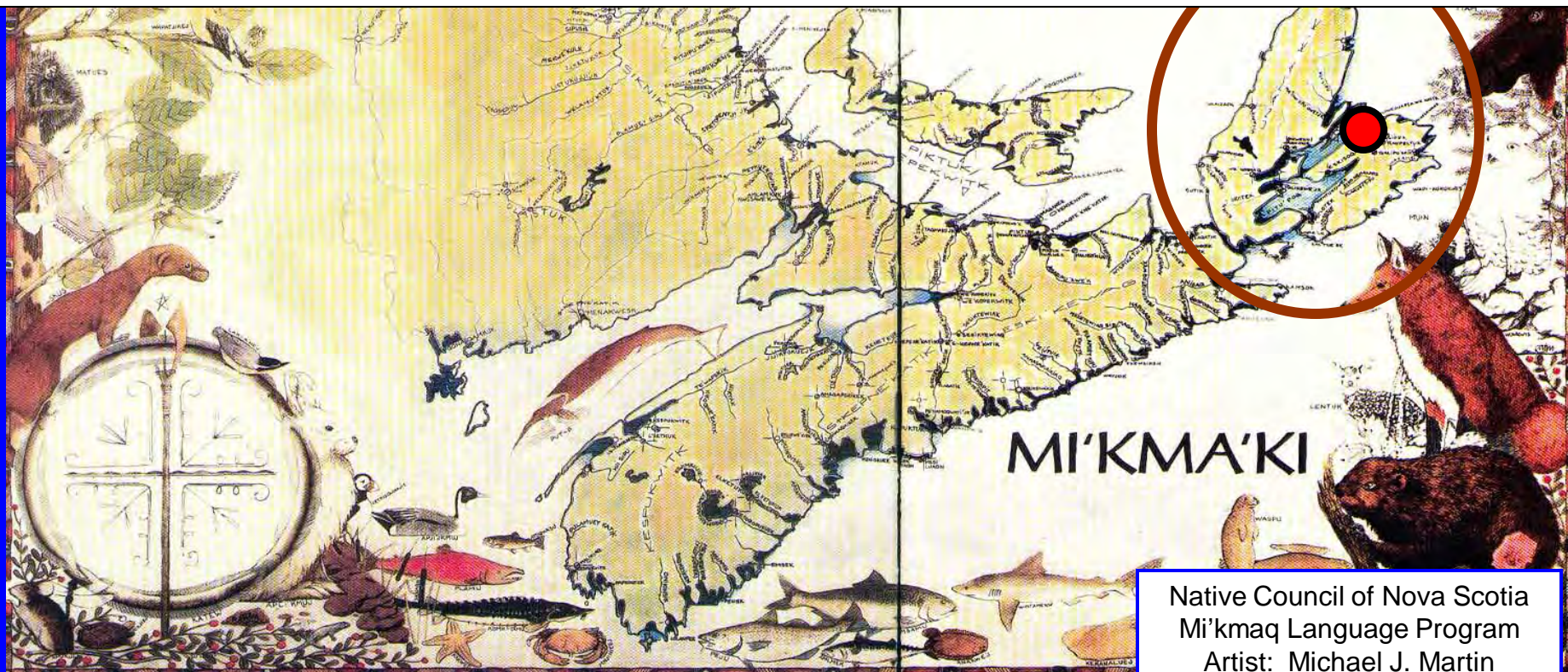


INTEGRATIVE SCIENCE by Cheryl Bartlett

**for “Realizing Indigenous Scholarship in the University”
(roundtable discussion in conjunction with W. Cariou and M. Iwama);
Annual Meeting of the Canadian Indigenous and Native Studies Association
“Looking back in order to look forward”
within Congress of the Humanities and Social Sciences,
Winnipeg, MB, 3-6 June 2004**



Native Council of Nova Scotia
Mi'kmaq Language Program
Artist: Michael J. Martin

Toqwa'tu'ki
Kijitaqnn

Integrative
Science

what
why
how
where

MI'KMA'KI

Native Council of Nova Scotia
Mi'kmaq Language Program
Artist: Michael J. Martin

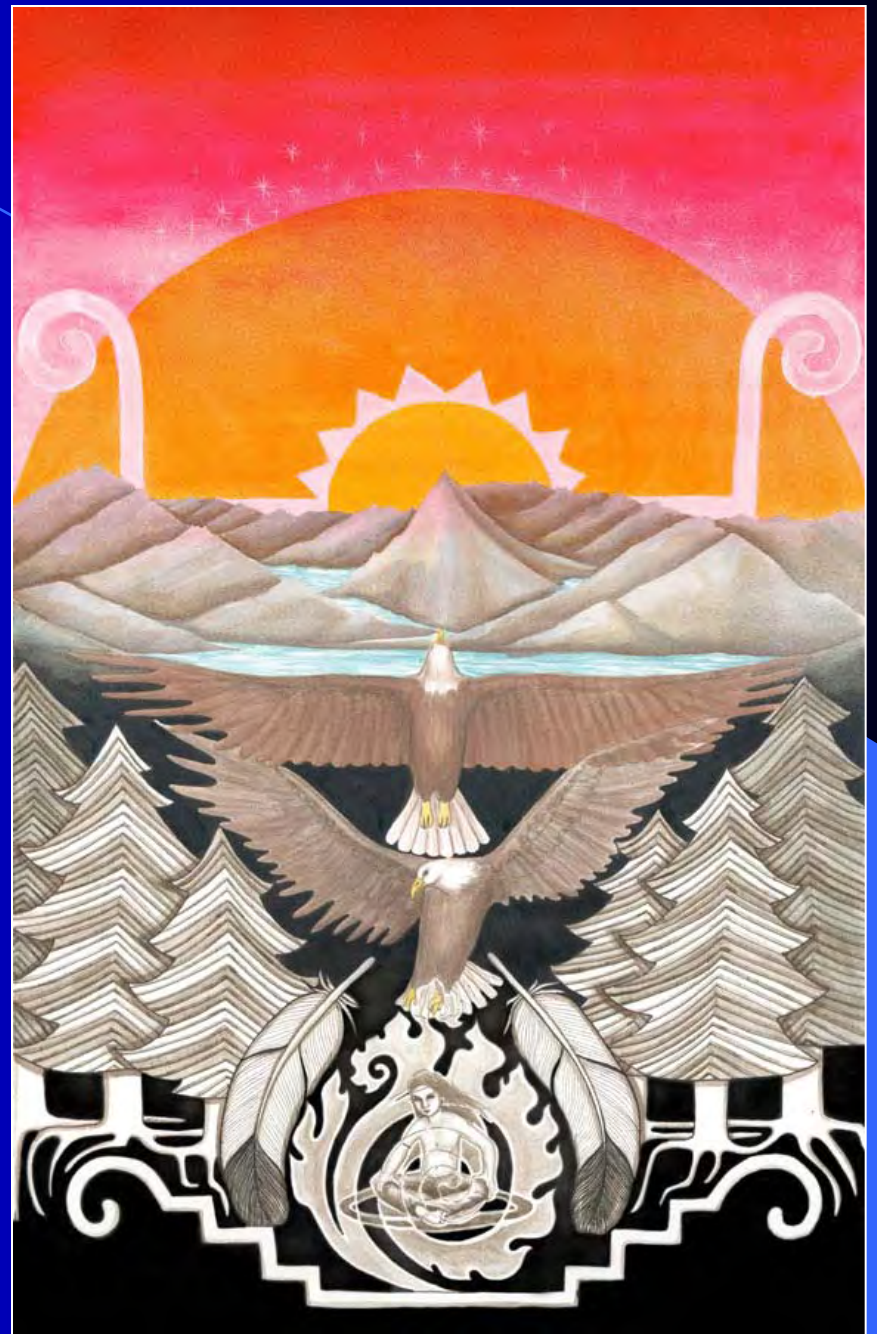
What is ... ?

Integrative Science

university
science



4 year
degree program



Artist Basma Kavanagh

What is “Integrative Science”?



Artist Basma Kavanagh

What is “Integrative Science”?



“bringing knowledges together”
Aboriginal – Western scientific

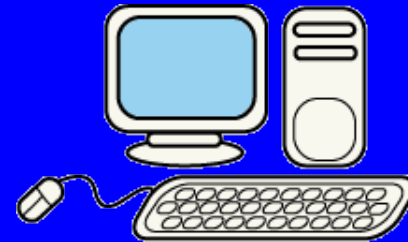
Integrative Science: knowledges together



divergences



**Common
Ground**



divergences

Why?



today's young adults ...

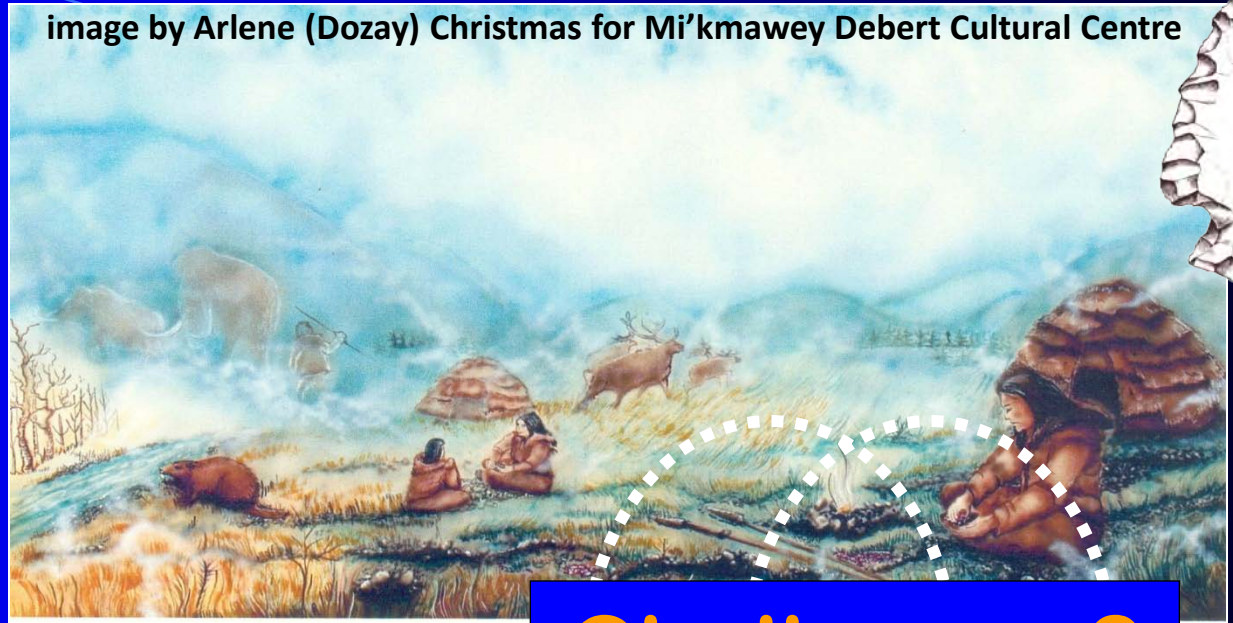
Why?



... and the next generation

How?

image by Arlene (Dozay) Christmas for Mi'kmawey Debert Cultural Centre



Challenges?



image by Arlene (Dozay) Christmas for Mi'kmawey Debert Cultural Centre



living knowledge

“book-based”
education

spirituality



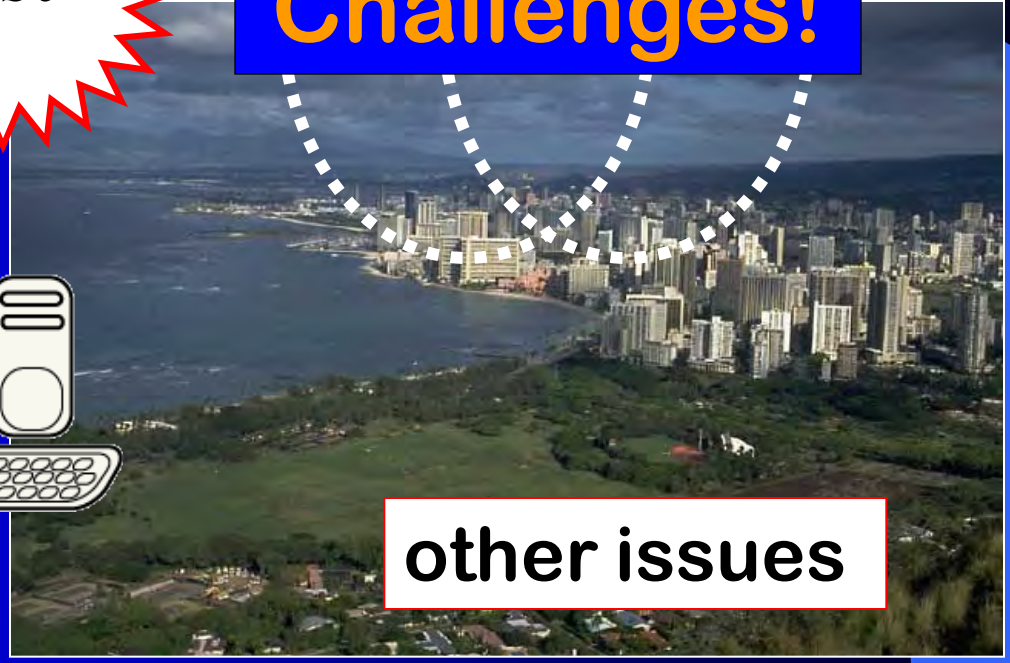
holistic

disciplinary
fragmentation

1st

Challenges!

students ...
more familiar
with computers
than nature



other issues

How?

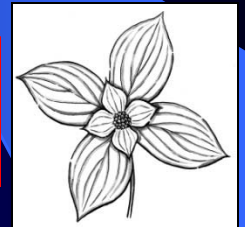


1

2



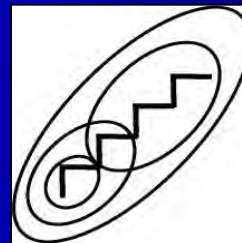
3



4



5



6

focus on

common ground

Mother
Earth

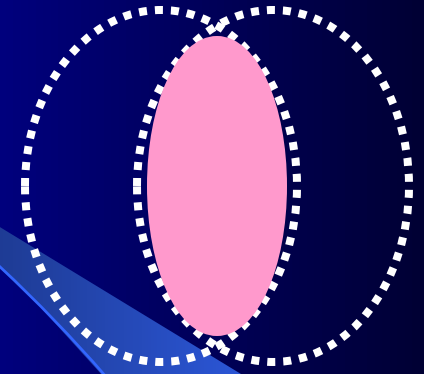
focus on:

common ground



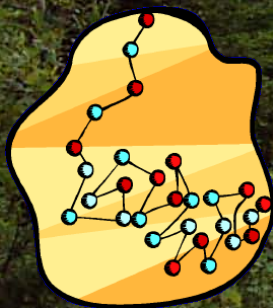
PATTERN

PATTERN RECOGNITION



Both are based on observations of the
environment

Both result from the same intellectual
process of creating order out of disorder.



recognize
patterns





recognize patterns



recognize patterns



express patterns



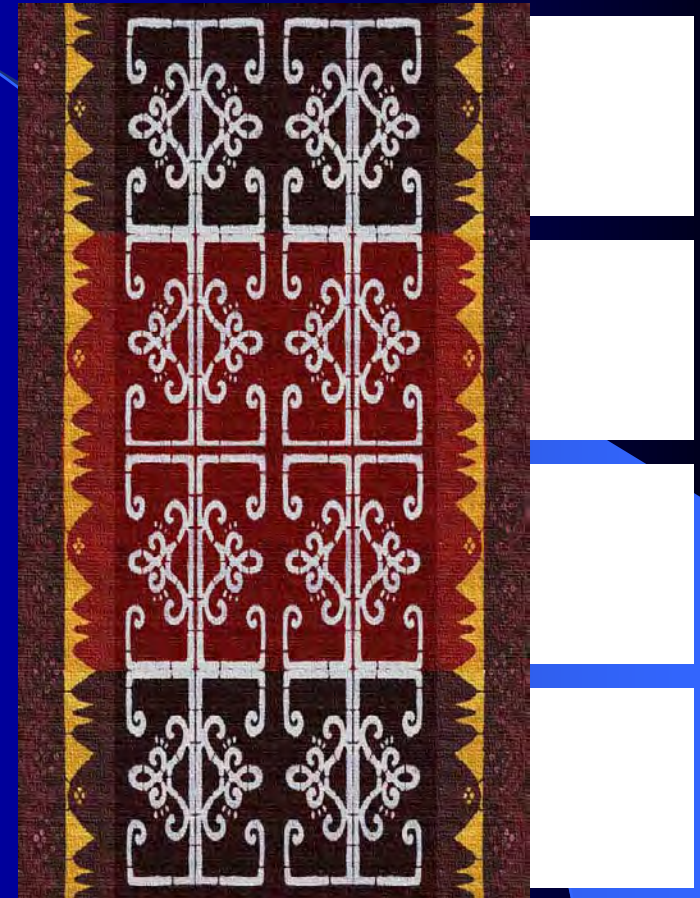
PATTERN

conceptual framework

natural

ideal

abstract



Mother
Earth

recognize pattern

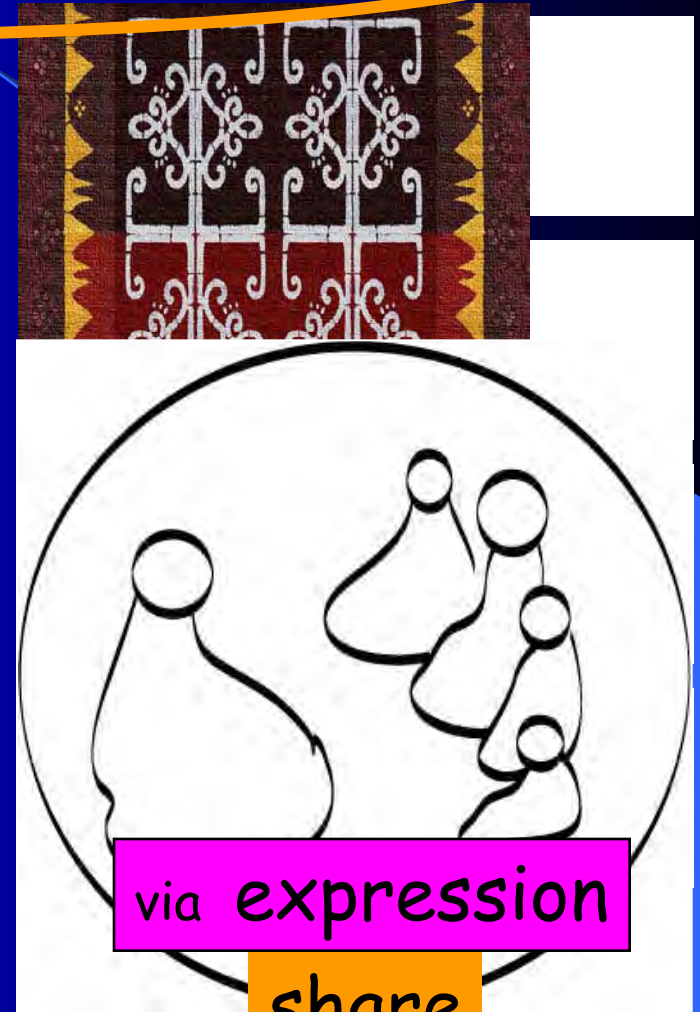
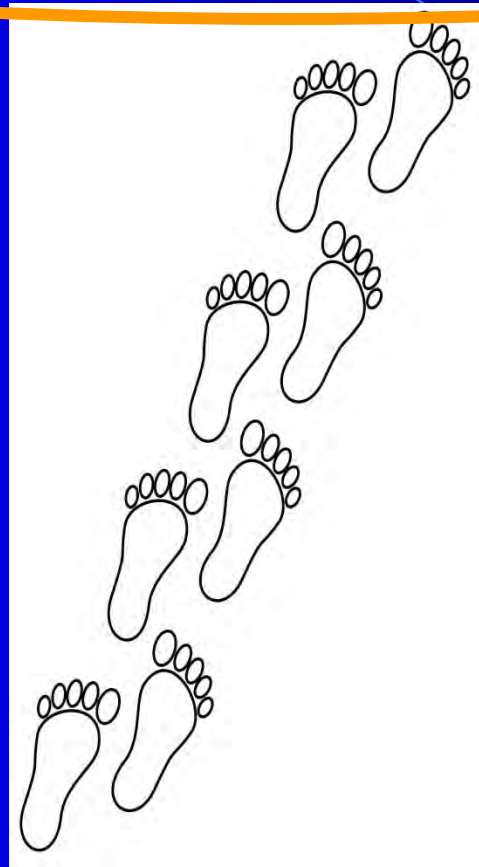
express pattern

PATTERN

natural

ideal

abstract



observe

interpret

share

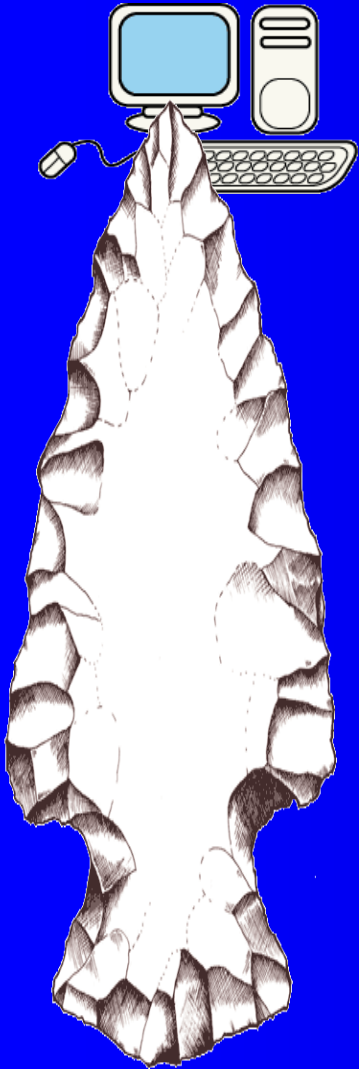
“expression smarts” (Howard Gardner)

multiple intelligences theory

- numbers
- language

-
- music
 - body (e.g. dance)
 - spatial
 - other people
 - self
 - naturalist

-
- spiritual



“how”
... tied to
cultural
value
&
use

via expression

VALUE & USE LIVING EARTH

respectful &
participatory
interconnectiveness

all my relations pattern



abstract
ideal
natural



masterful
prediction & control

mathematical pattern



Aboriginal Knowledges

**respectful & participatory
interconnectiveness
... as relevant today as in times long ago**



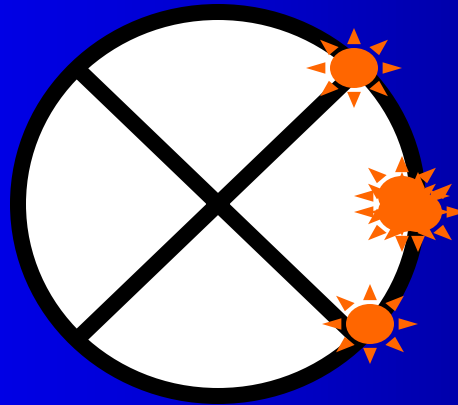


Medicine Wheel

natural

ideal

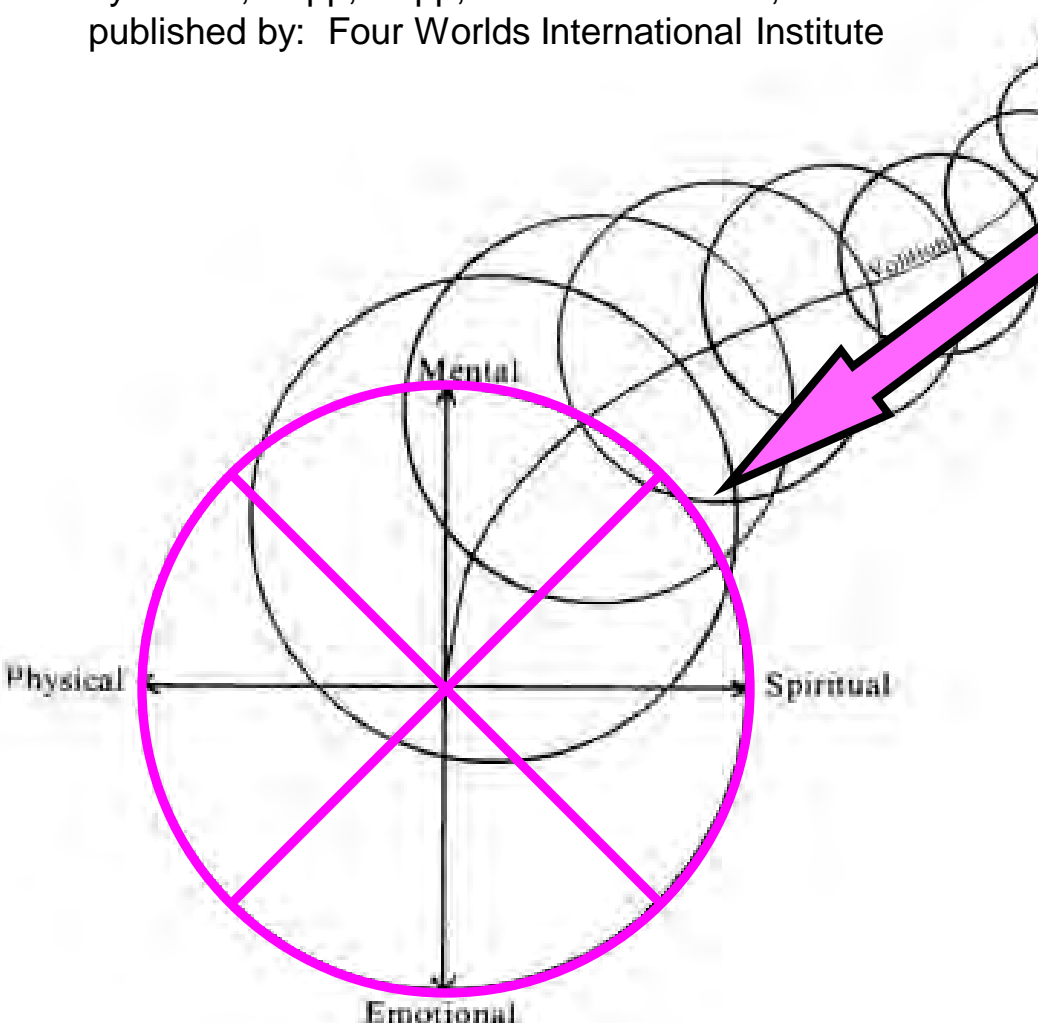
abstract



PATTERN

background image from: "The Sacred Tree"
by: Lane, Bopp, Bopp, Brown and Elders, 1984.
published by: Four Worlds International Institute

~~Vision~~



**expanding sense of wholeness and
connectiveness ... pattern within pattern**



respectful & participatory
interconnectiveness

all my relations pattern

weave **PATTERN**
... to create new **PATTERN**

expanding sense of wholeness and
connectiveness ... pattern within pattern

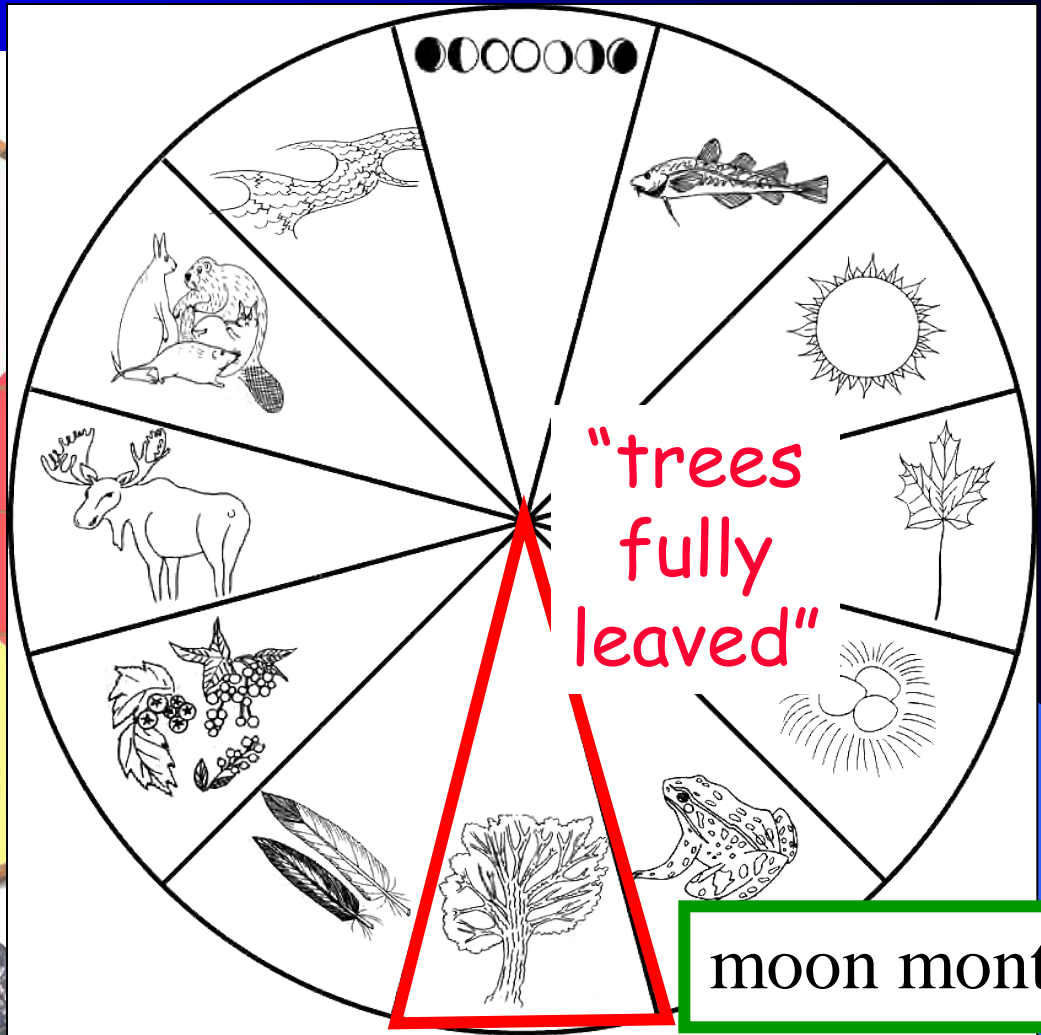
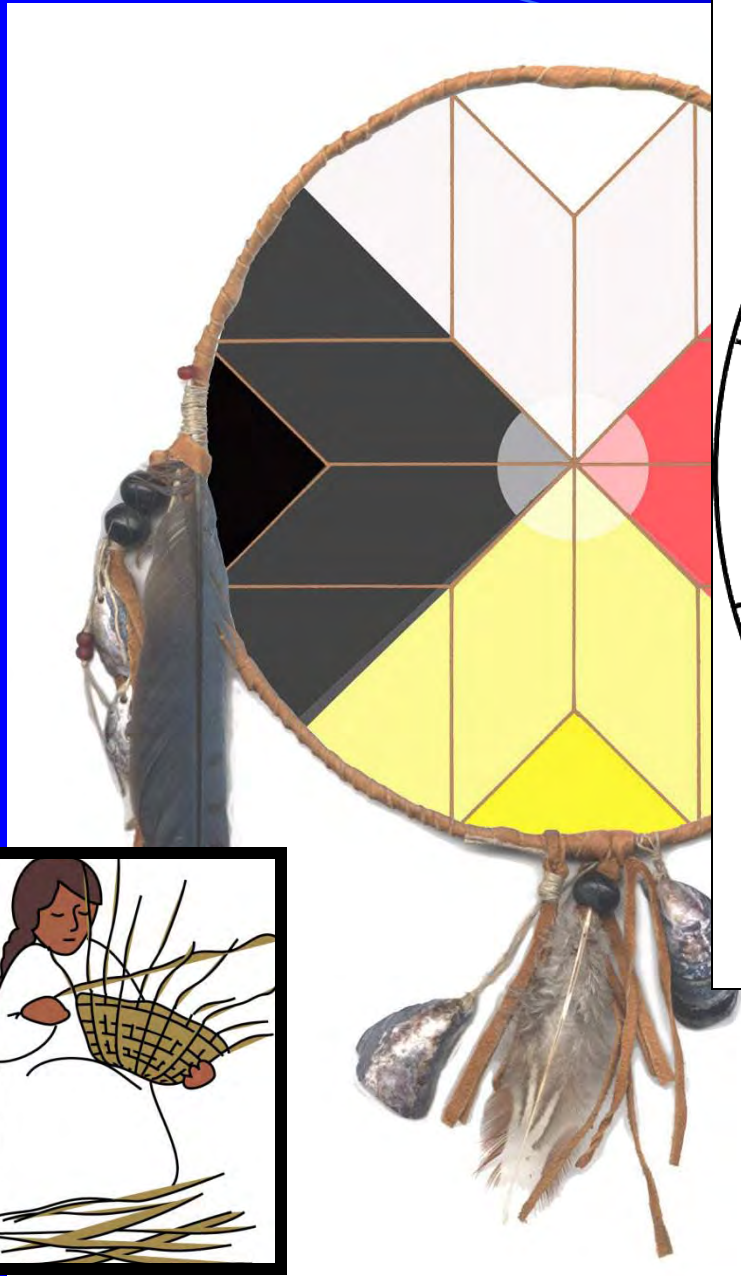
pattern awareness ... into knowledge

... a resourceful capacity of being that creates the context and texture of life, a living process to be absorbed and understood ...

... in a specific ecological context

Battiste 2002





moon months

Mi'kmaq language
= natural pattern

FEAR

unknown



known

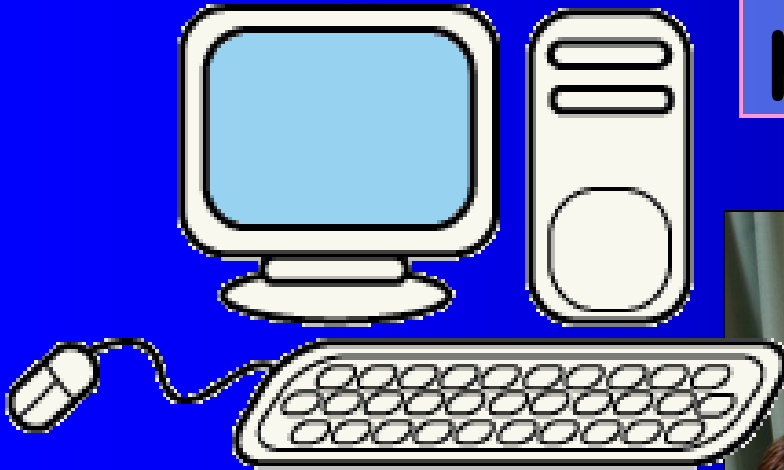
Douglas J. Cardinal

Mother Earth
... especially, patterns
of the animals

“must become PATTERN-able”

Western Science Knowledge

**masterful
prediction & control**



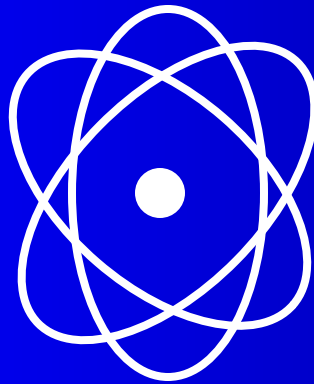


Periodic Table of Elements

natural

ideal

abstract



Setford, Steve. 1996. Science Facts. Firefly Books Ltd., Willowdale, ON. (pp. 36-37)

PATTERN

pattern awareness ... into knowledge

... information and skills acquired through experience or education (Concise Oxford Dictionary)

... information or data embodied in an agent
(A Dictionary of Computing)



... a resourceful capacity of being that creates the context and texture of life, a living process to be absorbed and understood ...

... in a specific ecological context (Battiste 2002)



Artist Basma Kavanagh

**pattern
awareness**

metaphor

**Integrative
Science**

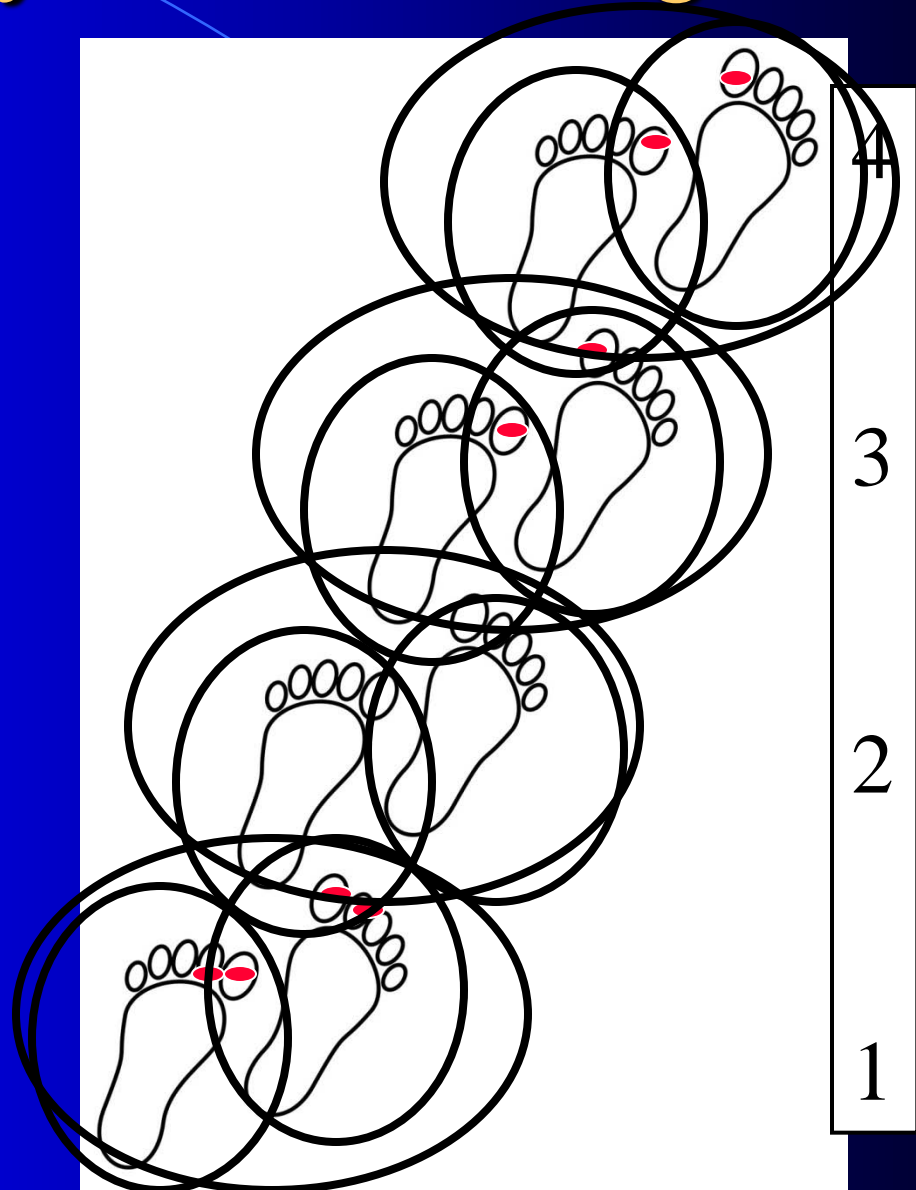
4 yr university science degree

MS&T courses



Integrative Science

PATTERN & METAPHOR





WEAVING

- relationship
- respect
- reverence
- reciprocity
- ritual
- repetition
- responsibility



Integrative Science



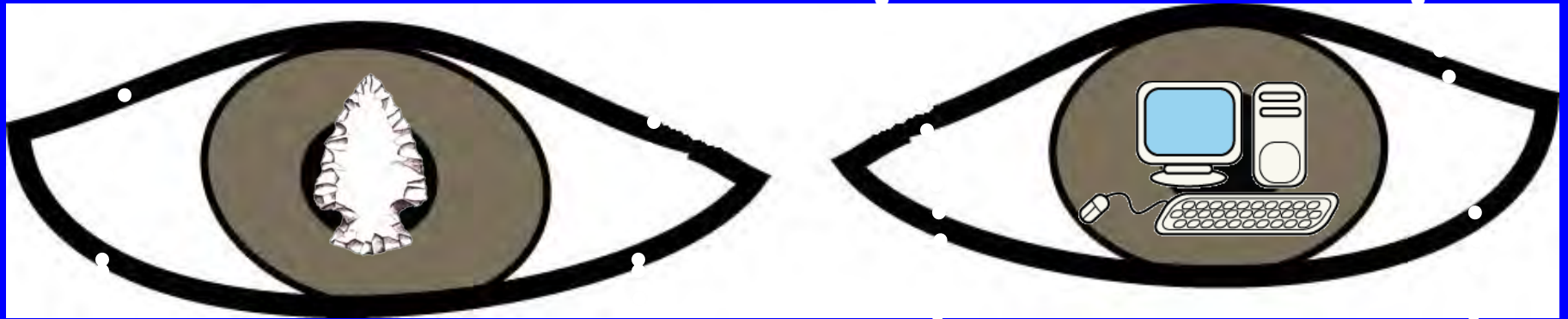
UN-WEAVING

- data collection
- analysis
- interpretation
- prediction
- control

re-weaving



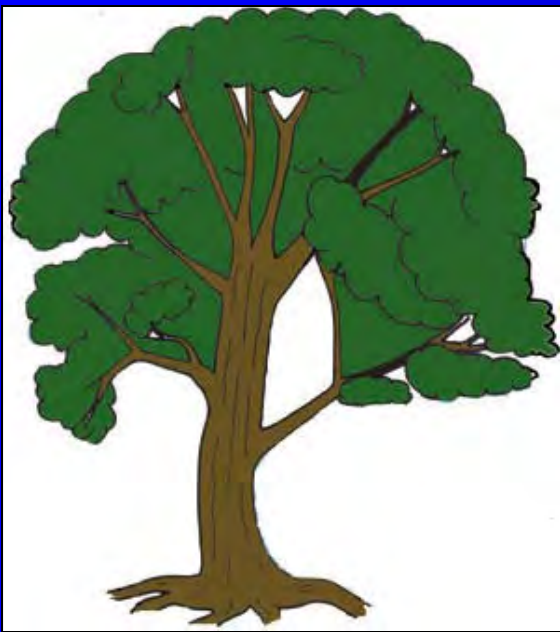
Integrative Science



patterns toward
re-weaving

Where?

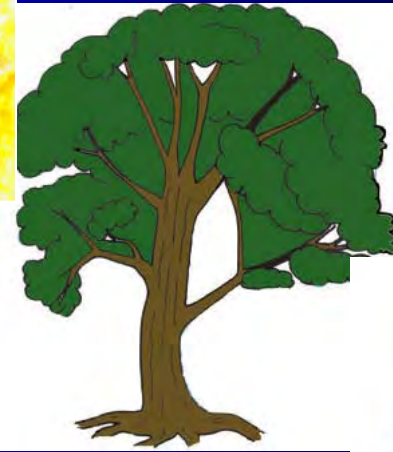
within: CIHR-IAPH funded
community-based
participatory action research project



Integrative Health & Healing:
co-learning our way to expanding
wholeness through restoration of
relationships with the land

relational
"eco-centric"
"bio-spiritual"

sense of identity and self



relational

"eco-centric"

"bio-spiritual"

sense of identity and self

There are two central themes evident in youth suicide. They are, first, the young person's deep sense of inadequacy, and second, a loss of connection to this world.

Morriseau 1999

Go into a forest, you see the birch, maple, pine.
Look underground and all those trees are holding
hands. We as people must do the same.

(late Mi'kmaq Chief, Spiritual Elder, and Healer Charlie Labrador)





learn together



learn from each other



learn the common

Co-Learning

community and university within
CIHR-IAPH funded Integrative Health & Healing project

Elders



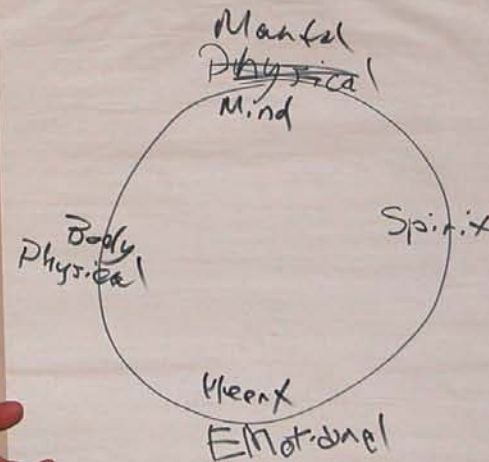
community and university within
CIHR-IAPH funded Integrative Health & Healing project

University Science Students



community and university within
CIHR-IAPH funded Integrative Health & Healing project

Special Guests



community and university within
CIHR-IAPH funded Integrative Health & Healing project

Community Organizations



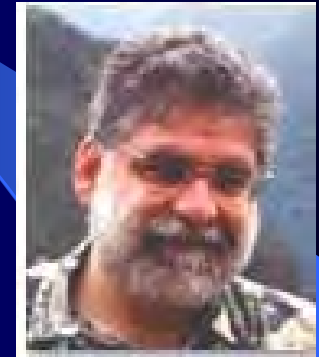
community and university within

CIHR-IAPH funded Integrative Health & Healing project



Cheryl Bartlett, PhD
CRC in Integrative
Science, UCCB

Laurence Kirmayer, MD, Social
& Transcultural Psychiatry,
McGill University



John Jacono, PhD
Prof Nursing,
St.F.X. & UCCB



Nancy Comeau, PhD
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Dalhousie University



Sherry Stewart, PhD
Psychology,
Dalhousie University



Pat McGrath, PhD,
CRC Pediatric Pain,
Dalhousie University

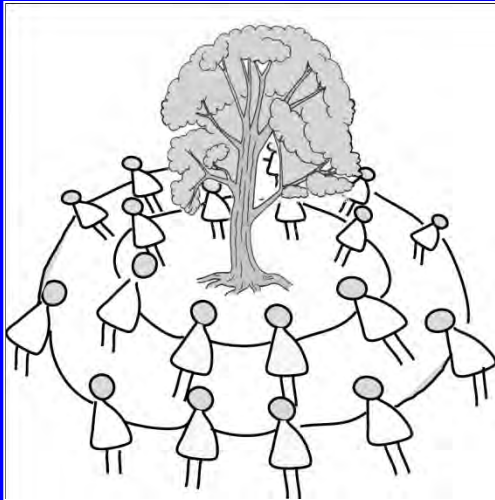
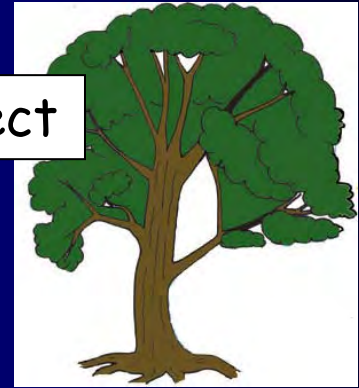
community and university within CIHR-IAPH funded Integrative Health & Healing project



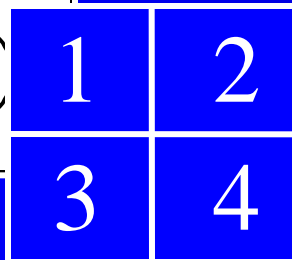
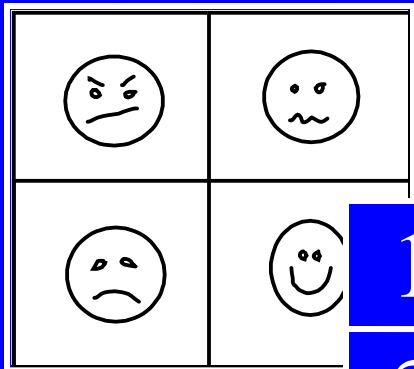
Results ... can we

CIHR-IAPH funded Integrative Health & Healing project

express them in
two ways?



1) "VIGOUR" LANGUAGE



2) "RIGOUR" LANGUAGE



"VIGOUR" LANGUAGE

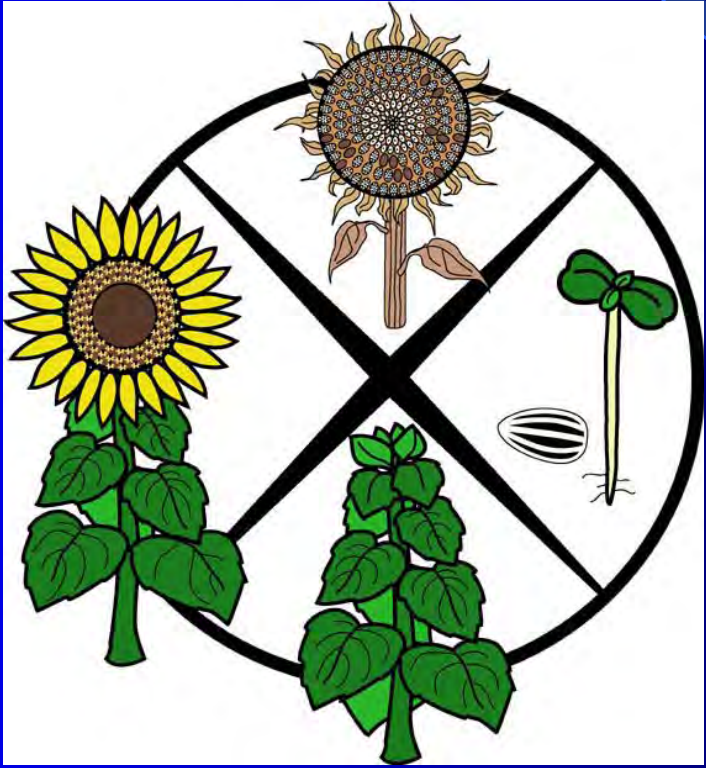
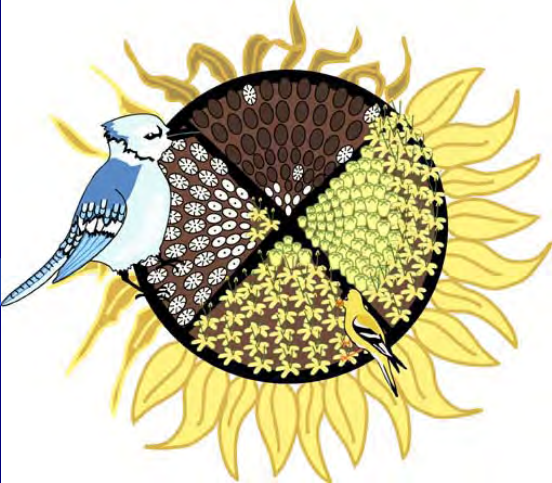


"VIGOUR" LANGUAGE



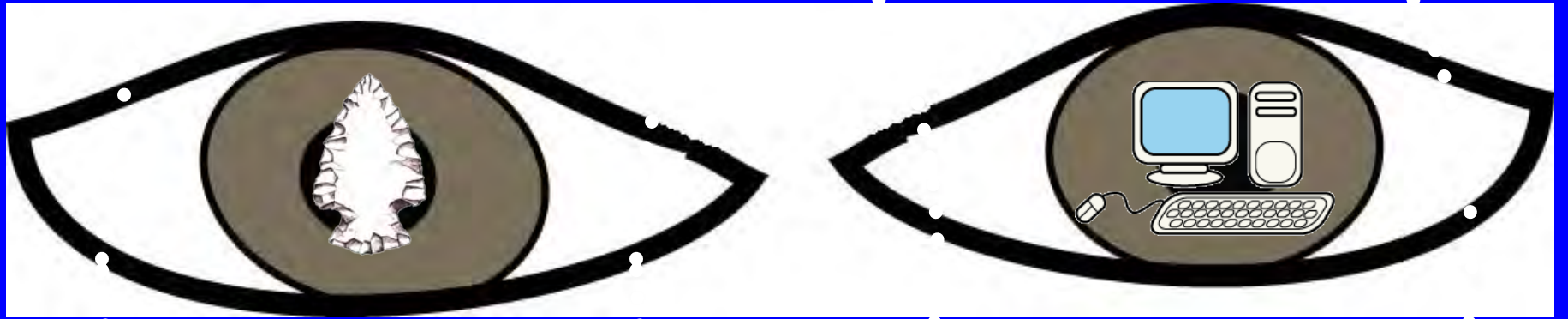
Toqikutimk

"Together we are growing"

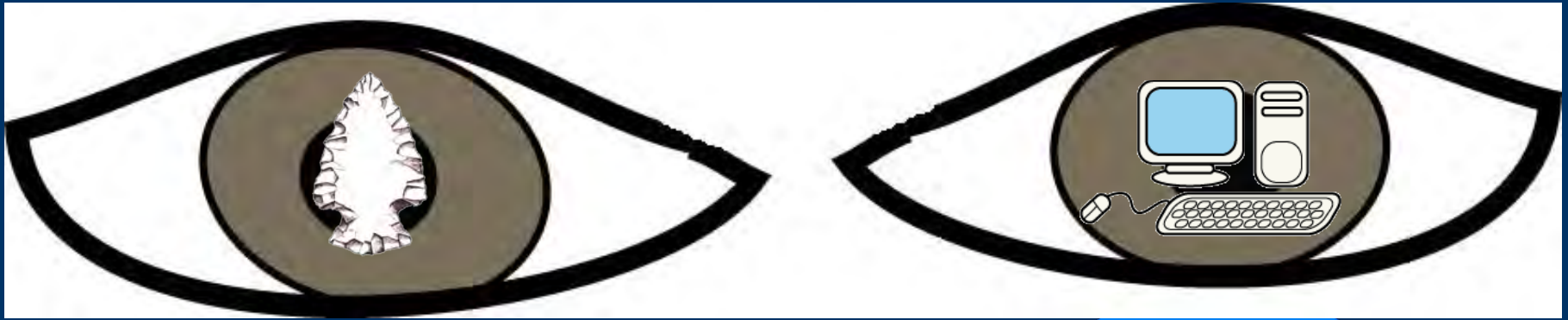


sunflowers





CONSIDER: "boundaries of identities"
with which we try to order and construct
science, society, self, and sacred ...
very important in all cultures



Tricksters

Coyote

Hermes



acknowledgments



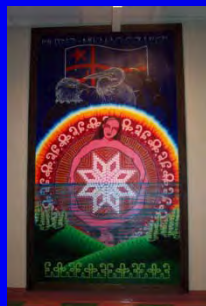
Canada Research
Chairs

Chaires de recherche
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Social Sciences and Humanities
Research Council of Canada

Conseil de recherches en
sciences humaines du Canada



Thank you
Wela'liog

