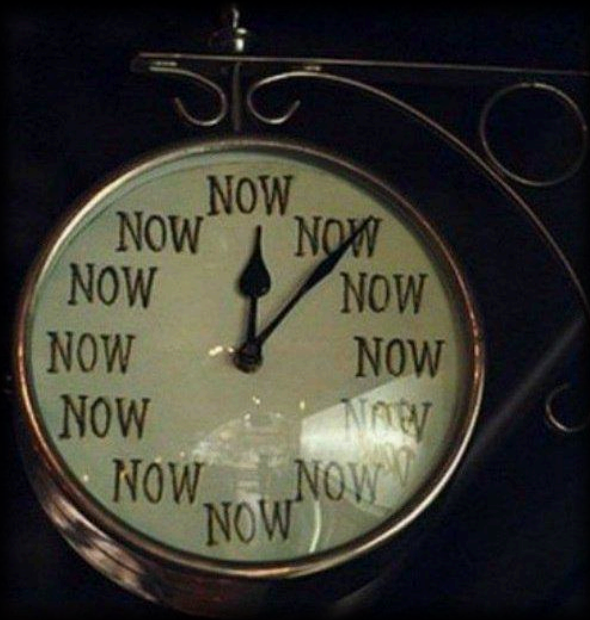


Notes on the Science of Mindfulness

Robert W. Roeser, PhD

DEPARTMENT OF PSYCHOLOGY
PORTLAND STATE UNIVERSITY
PORTLAND, OREGON

email: rroeser@pdx.edu



We are here

Of this our friendship made

Stay together friends
Don't scatter and sleep,
Our friendship is made of being awake!

- Rumi

an applied developmentalist's



...for thought

The Mindful Revolution



Perils & Promise

Mindfulness as [Ancient] Innovation

an·cient

/ˈænCHənt/

Adjective

"Belonging to the very distant past." (Google, 2013)

in·no·va·tion

/ˌinəˈvāSHən/

Noun

"An idea, practice, or object that is perceived as new by an individual or other unit of adoption" (Rogers, 1962)

Qualities of Accepted Innovations

Rogers (1962) proposed five characteristics of innovations that influence an individual's decision to adopt or reject them.

- **Relative Advantage**

How improved is an innovation over the previous generation?

- **Compatibility**

How easily can the innovation be assimilated into an individual's life?

- **Simplicity**

How simple is the innovation to use?

If the innovation is perceived as complicated or difficult to use, an individual is unlikely to adopt it.

- **Trialability**

How easily can an individual experiment with the innovation?

If an individual is able to test an innovation, s/he will be more likely to adopt it.

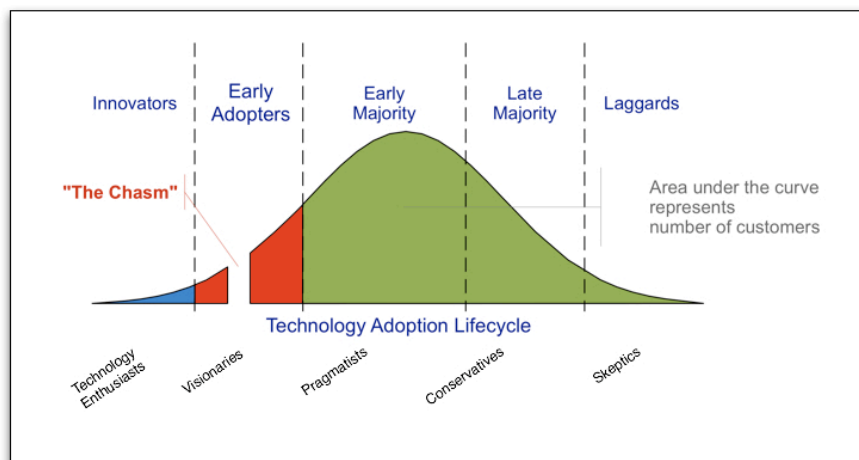
- **Observability**

To what extent is an innovation visible to others?

An innovation that is more visible will drive communication among the individual's social networks and will in turn create more social reactions.

The Diffusion of Innovations

Everett Rogers (1962)



- **Innovators** 2 – 3 % Technology Enthusiasts: Looking for new technologies, want to be first to try innovations.
- **Early Adopters** 10% Visionaries: Looking for a breakthrough, to take risks; able to align technology with strategic opportunities.
- **Early Majority** 36% Pragmatists: Looking for an improvement, cautious with risk and money; loyal.
- **Late Majority** 36% Conservatives: Believe in tradition rather than progress; opposed to discontinuous innovation.
- **Laggards** 15% Skeptics: Not looking; negative attitude towards technology; identify discrepancies between what's promised vs delivered.

In his book '[Crossing The Chasm](#),' G.A. Moore (1991) identified a gap, or '**Chasm**' between the early adopters and the mainstream market.

Have mindfulness-based interventions crossed the chasm?

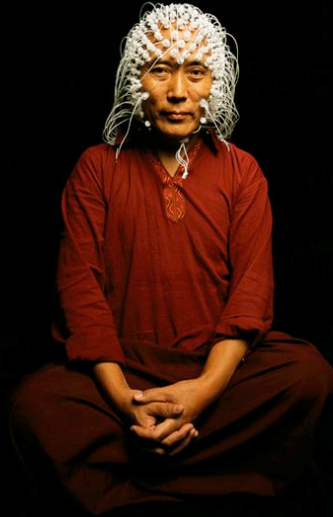
Naming the Shadow in Mindfulness Research

Shadow Areas

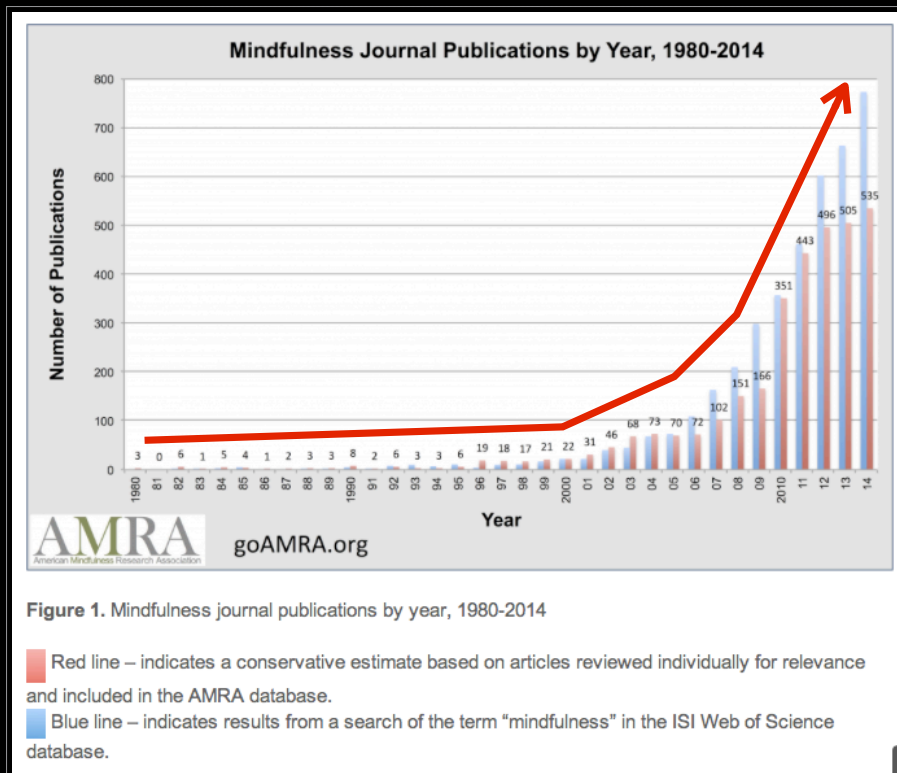
- **Scientific Shadow:**
Confirmation Bias in Published Research
A developmental & Mechanistic Metamodel
- **Religious Shadow:**
#StealthBuddhism
- **Cultural Shadow:**
McMindfulness
Absence of Cultural Diversity in Work
- **Intervention Shadow:**
Who is Qualified to Teach?

Contemplative Science

Description, Explanation and Optimization of
the Potential Effects of Mental Training
on Brain, Mind & Behavior
(e.g., mindfulness practices)

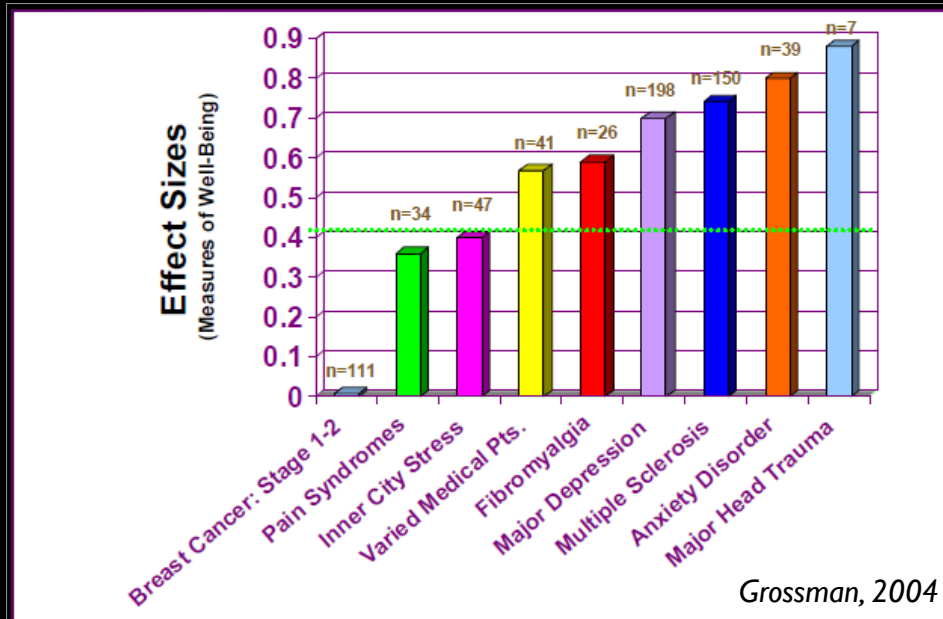


Increasing Research on Mindfulness



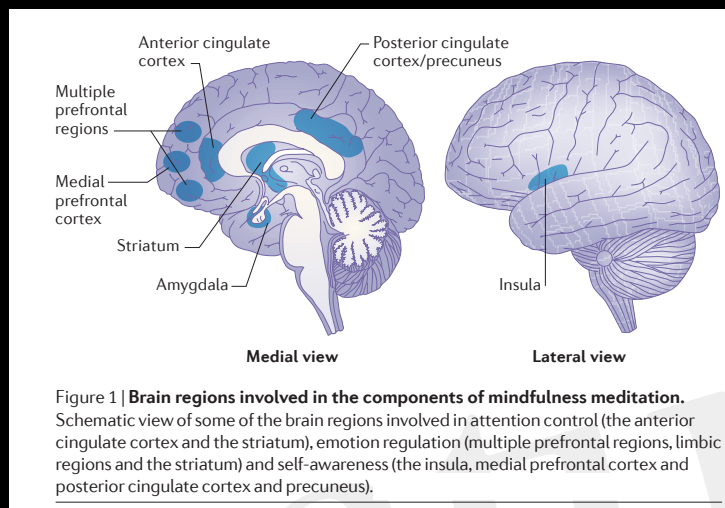
<https://goamra.org/resources/>

Specialization of Field



Specific Conditions

“Advancing hard science data”



Tang, Holzel & Posner (in press)

Nine Brain Regions Affected by Meditation Practice

Fronto-polar Cortex (meta-cognitive-awareness)
Sensory Cortices and Insula (somatic awareness)
Hippocampus (memory)
Anterior / Mid-Cingulate and Orbitofrontal Cortices (self- and emotion regulation)
Superior Longitudinal Fasciculus and Corpus Callosum (intra/inter-hemispheric communication)

“really hard science”



**Supporting Family, School
and Community Systems**

Human Development Perspective

Developmental Psychology
2015, Vol. 51, No. 1, 1–6

© 2015 American Psychological Association
0012-1649/15/\$12.00 <http://dx.doi.org/10.1037/a0038453>

Mindfulness and Compassion in Human Development: Introduction to the Special Section

Robert W. Roeser
Portland State University

Jacquelynne S. Eccles
University of California, Irvine

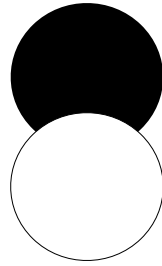
Research on contemplative practices (e.g., mindfulness or compassion training) is growing rapidly in the clinical, health and neuro-sciences, but almost none of this research takes an explicitly developmental life span perspective. At present, we know rather little about the naturalistic development of mindfulness or compassion in children and adolescents, or the processes by which parents can socialize these positive qualities in their offspring. Thus, the goal of this special section is to showcase empirical research articles that redress this absence of a developmental focus in contemplative science by focusing on issues of construct conceptualization and measurement, socialization practices in families, and the role that interventions can play in fostering mindfulness and compassion in children, adolescents, and care-givers alike.

Keywords: mindfulness, compassion, developmental contemplative science, parents, interventions

Developmental Psychology (2015)

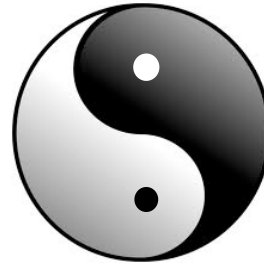
META-MODELS OF HUMAN DEVELOPMENT

Dualistic Meta-Model



Newton, Descartes
Machine/Mechanism as Root Image
Parts
Nature vs. Nurture
Person vs. Environment
Human vs. Animal
Mind vs. Body
Reason vs. Emotion

Dialectic Meta-Model*



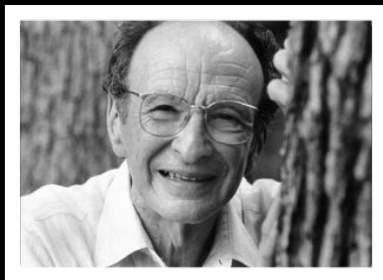
Einstein, Darwin
Cell/Process as Root Image
Part/Whole Relations (Holons)
Bio-Psycho-Social Transactions
Organism-in-Activity-with-Others
Human as Evolved Mammal
Mind is Embodied
Top-down and Bottom-up

“beyond all splits”

(Lerner & Overton, 2008)

Explaining Human Development via Reciprocal Relationality

(Bronfenbrenner & Morris, 1998)



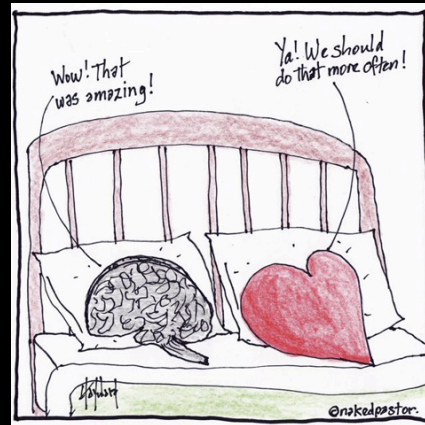
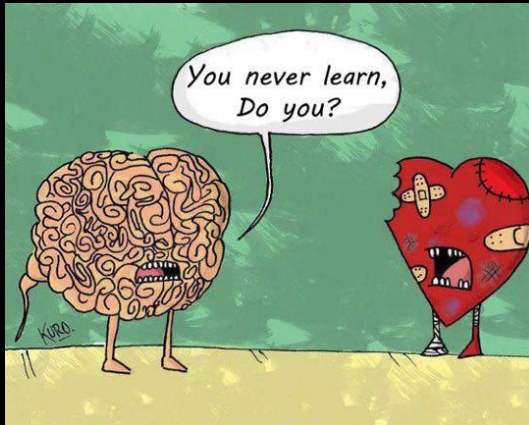
***...human development takes place
through processes of progressively
more complex reciprocal interaction
between an active, evolving,
biopsychological human organism...***

and

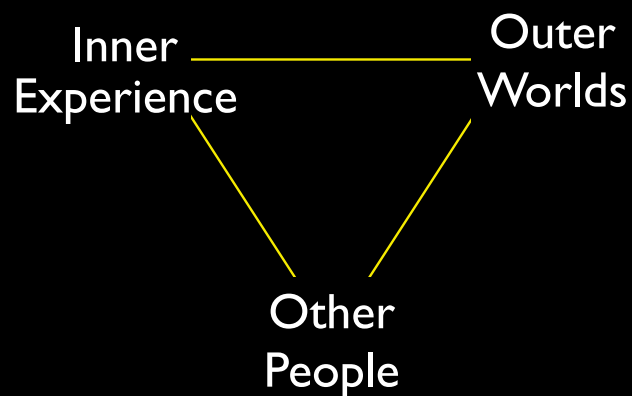
***the persons, objects and symbols in
the immediate external
environment***

“*development is an assisted performance*”

Centrality of Emotion and Body to Cognition, and Relationships Between Brain(s) & Heart(s)



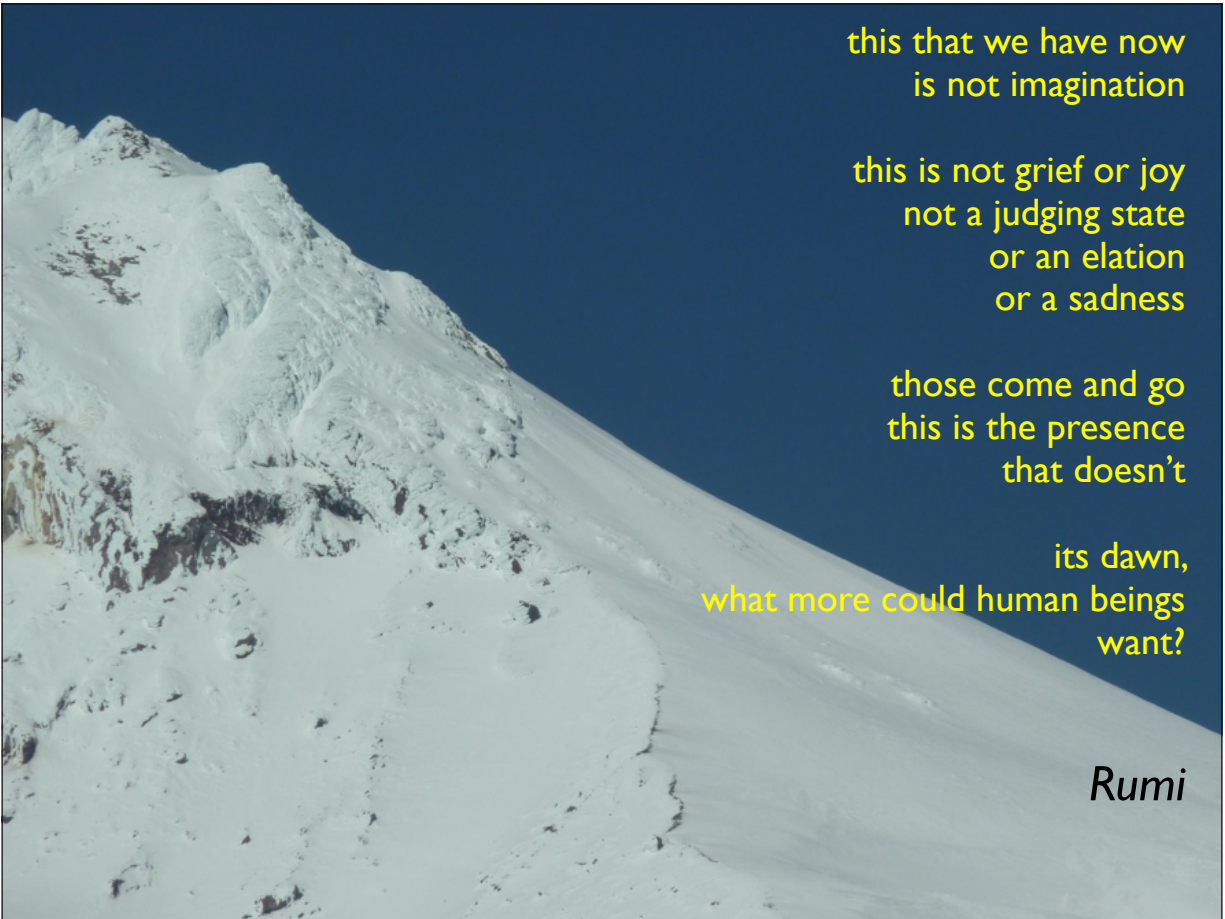
Mindfulness is relational and involves a “triple focus”



Next Generation

- Focusing Cultural Diversity
- Individual Differences in Uptake
- Addressing Social Systems
- Do No Harm!
- The real world is messy place for research, and we learn the most in that real place!

**What is
mindfulness?**



this that we have now
is not imagination

this is not grief or joy
not a judging state
or an elation
or a sadness

those come and go
this is the presence
that doesn't

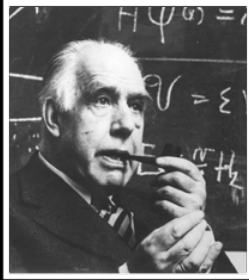
its dawn,
what more could human beings
want?

Rumi

Native Mindfulness



<https://www.youtube.com/watch?v=NUI6tUCtY28>

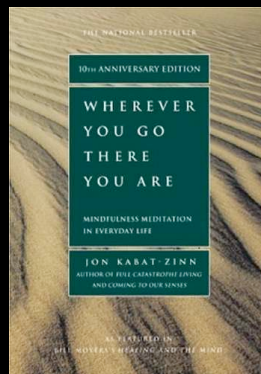


Niels Bohr

***The opposite of a true statement is
a false statement,***

***but the opposite of a profound truth
can be another profound truth.***

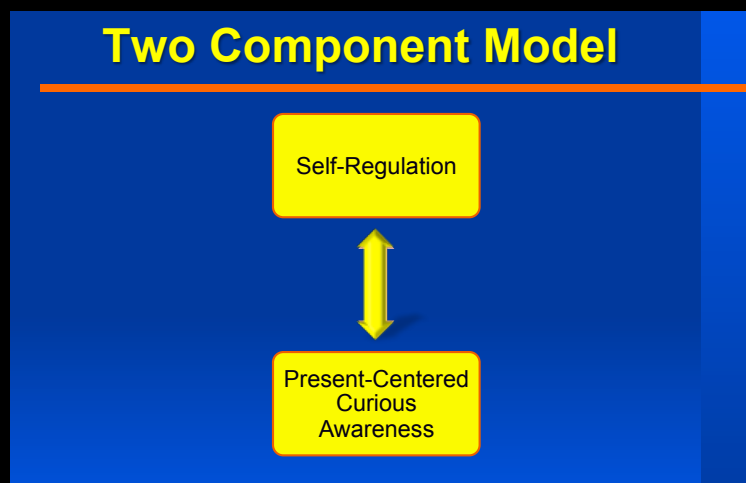
What is mindfulness?



Simple, but not easy.

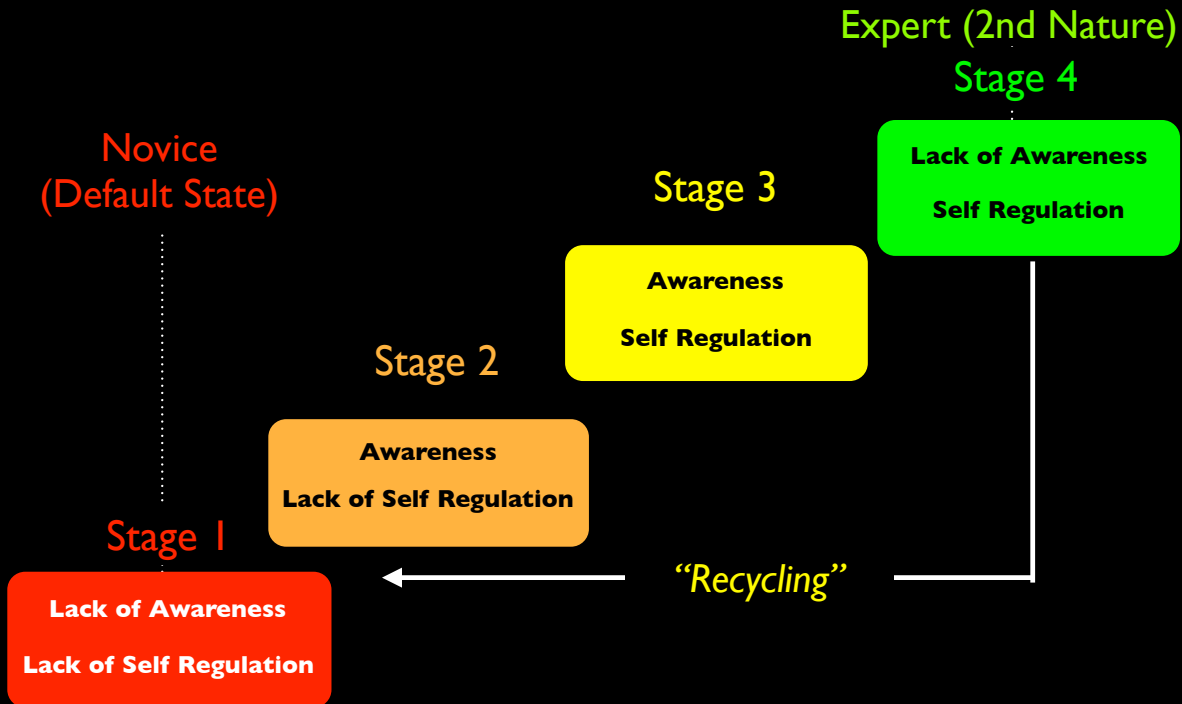
How does mindfulness develop?

Mindfulness Defined



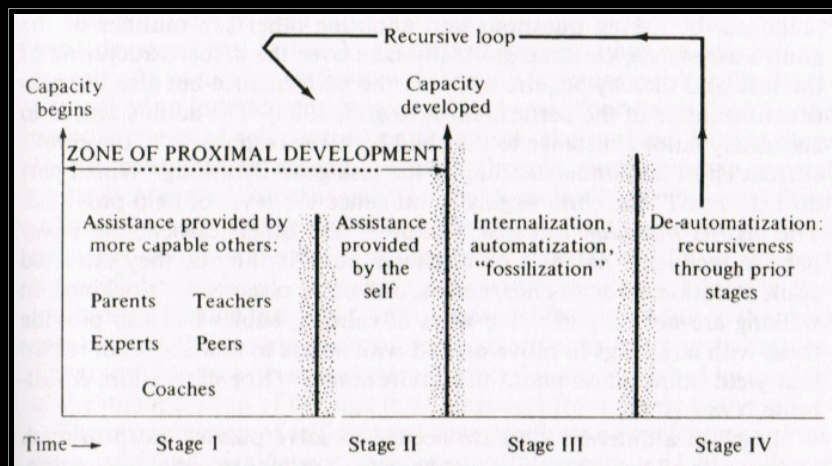
(Bishop et al., 2004)

Hypothesized Development of Mindfulness: View of Solitary Individual



Mindfulness = Self-Regulation+Awareness

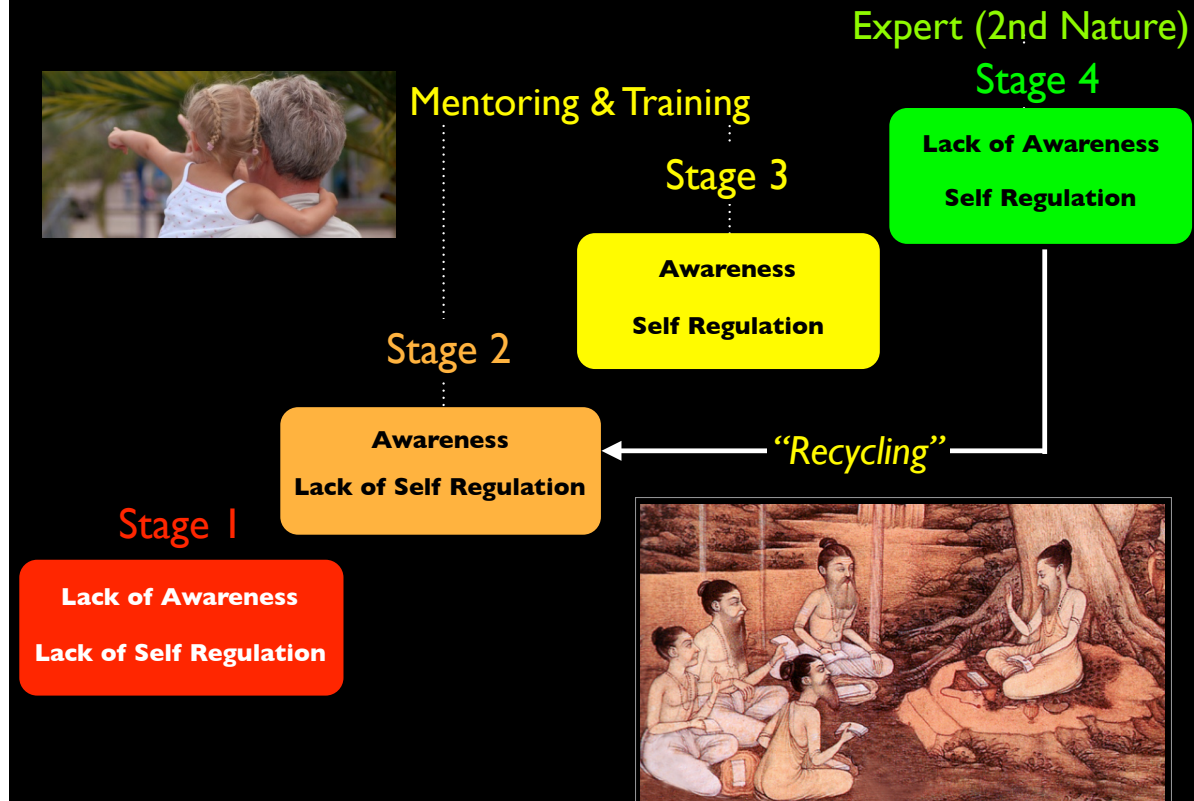
Vygotsky's View of Learning



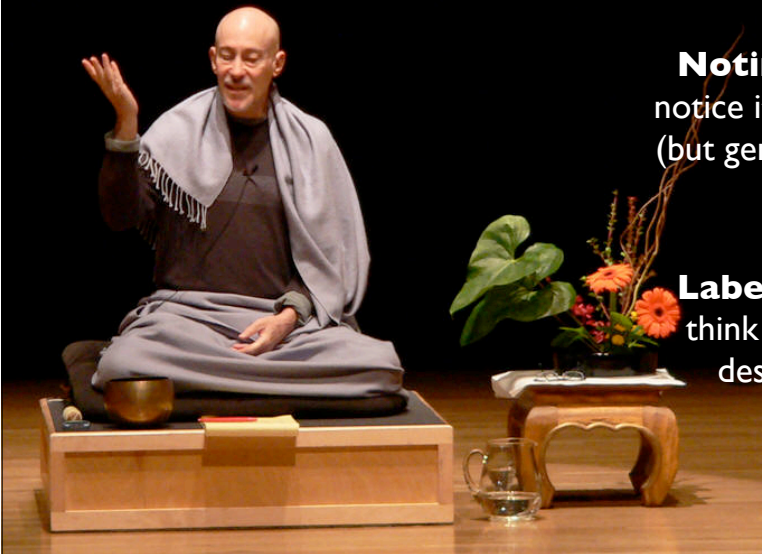
Social Regulation → Self-Regulation → Automatization → "Recycling"



Joint Attention as Key Interpersonal Means of Teaching Mindfulness



Joint Attention, Noting and Labeling



Noting: to note something is to notice it and then focus on it intently (but gently) for a few seconds, unless it happens to vanish

Labeling: to label something is to think or say a word or phrase that describes what you are noting

The relationship between mindfulness, noting and labeling is as follows: Labeling is designed to facilitate noting, noting is designed to facilitate mindfulness (Shinzen Young)

Secret hidden in plain sight

We teach who we are.

Who is the teacher?

How does the teacher teach?



Parker Palmer



Peering into the black box of MBIs and acknowledging the teacher, teaching, and the teacher-student relationship as central

Summary: **Its about transforming relationships**

Mindfulness **may** be conceived of as a way of relating to the “generalized other” - including our phenomenological experience of self, others, and the designed and natural worlds.

This way of relating is kind, spacious, and patient, and therefore full of possibility for new patterns of response to emerge in time and space from our interactions with the inner, the outer, and others.



Sunset on the **Age of Reason**
("Enlightenment" 1600-)

Dawning of the **Age of Compassion**
(1960-)

Stay together friends
Don't scatter and sleep,
Our friendship is made of being awake!

- Rumi