

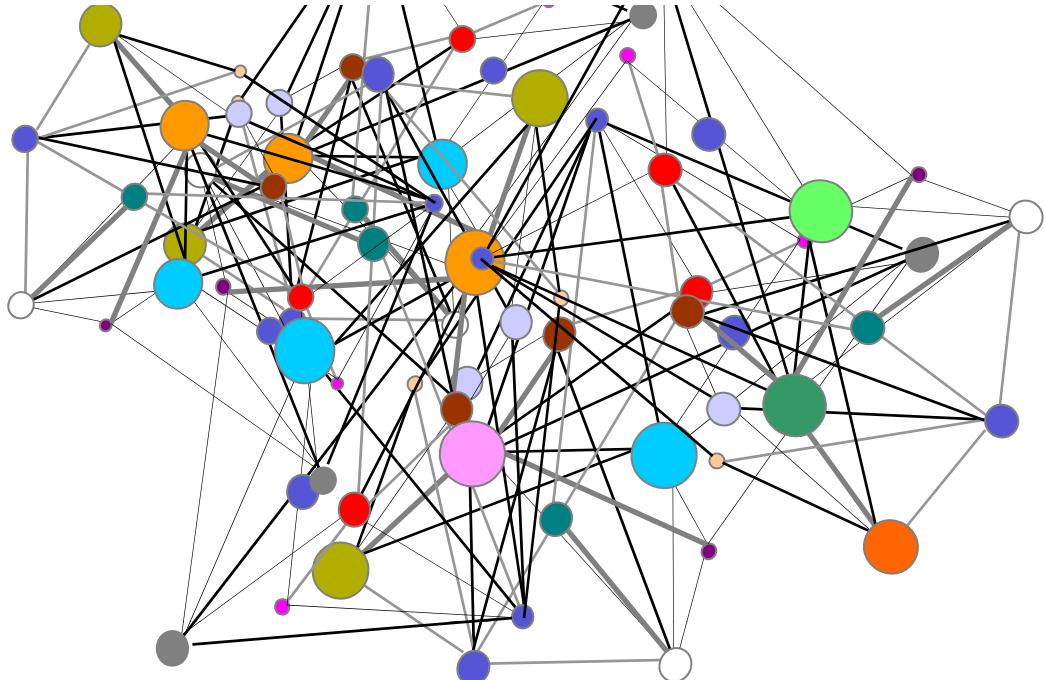
The Biology of Business

11 Simple Rules from Complex Adaptive Systems

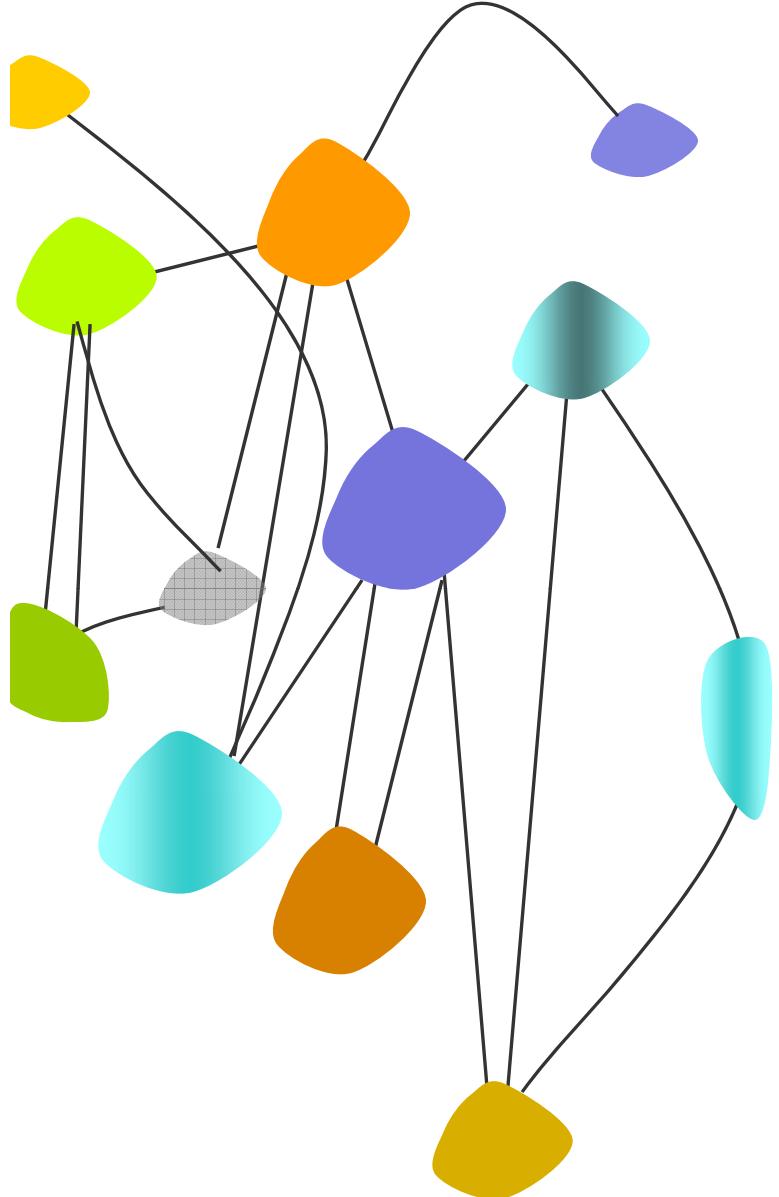
Sharon VanderKaay
Farrow Partnership Architects Inc.



**Concepts from
complexity science
point the way to a
healthier world
for business,
communities and
individuals.**

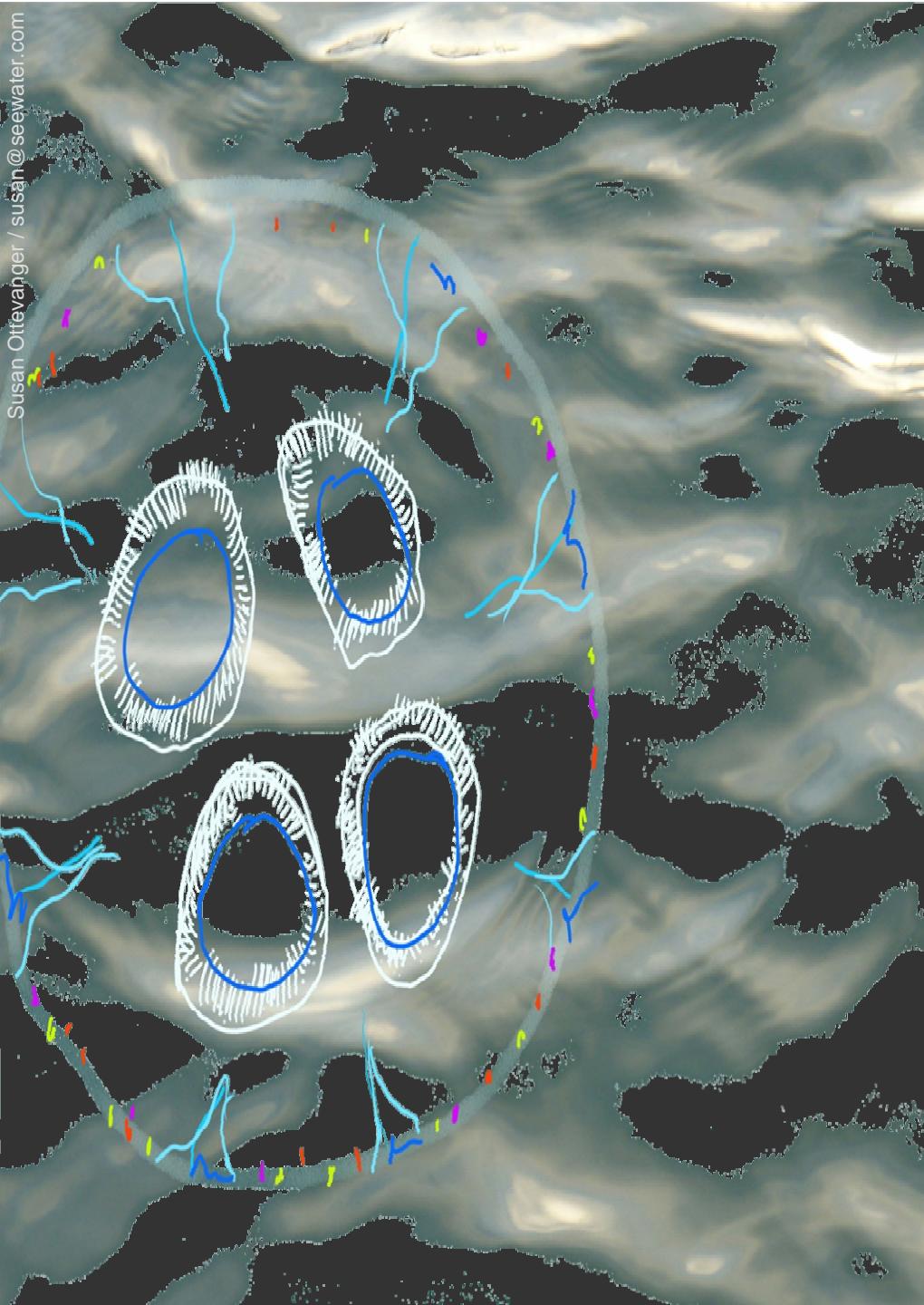


**These concepts
explain
the dynamics of
change in
living systems
that affect business
success in a
post-industrial era.**



A definition

Complex Adaptive Systems
are diverse
living elements
made up of multiple
interconnected agents
that have the capacity to
change and learn from
experience.



Industrial Residue

200+ years of
industrial progress
have left behind
tangible liabilities
such as toxic
landfill...



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...as well as
intangible
liabilities
such as
self-defeating
ways of working.



Susan Ottewanger / susan@seewater.com

We've become so disconnected from the natural world that unregimented business practices can seem strange to us.



Disconnect

Lingering
machine age
practices are
barriers to
prosperity...

**...and these
ways of
working
cause
unnecessary
distress.**



change programs?

strategy implementation?

performance reviews?



misguided mergers?

economic predictions?

Living Systems Mismatch

**Resources are
wasted by
diligently
applying
approaches
that have
proven
time after time
to FAIL.**

Why do our change programs produce so little change?

Living Systems Mismatch

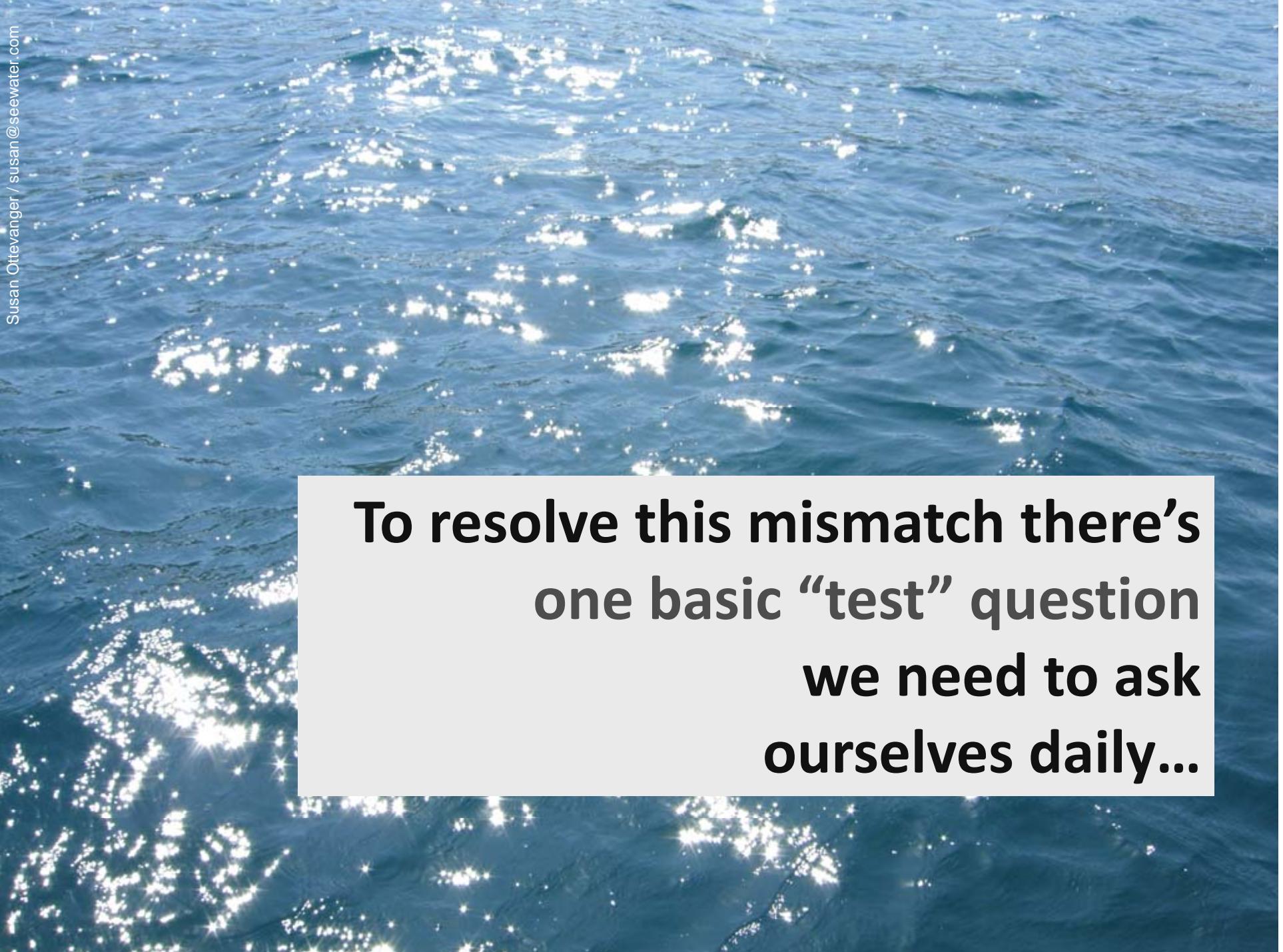
Why is it difficult to implement our strategic plan?

Why do efforts to gain buy-in frequently fail?

Why does the ROI for mergers tend to be low?

And why do so many headlines about the economy contain the word “unexpected”?

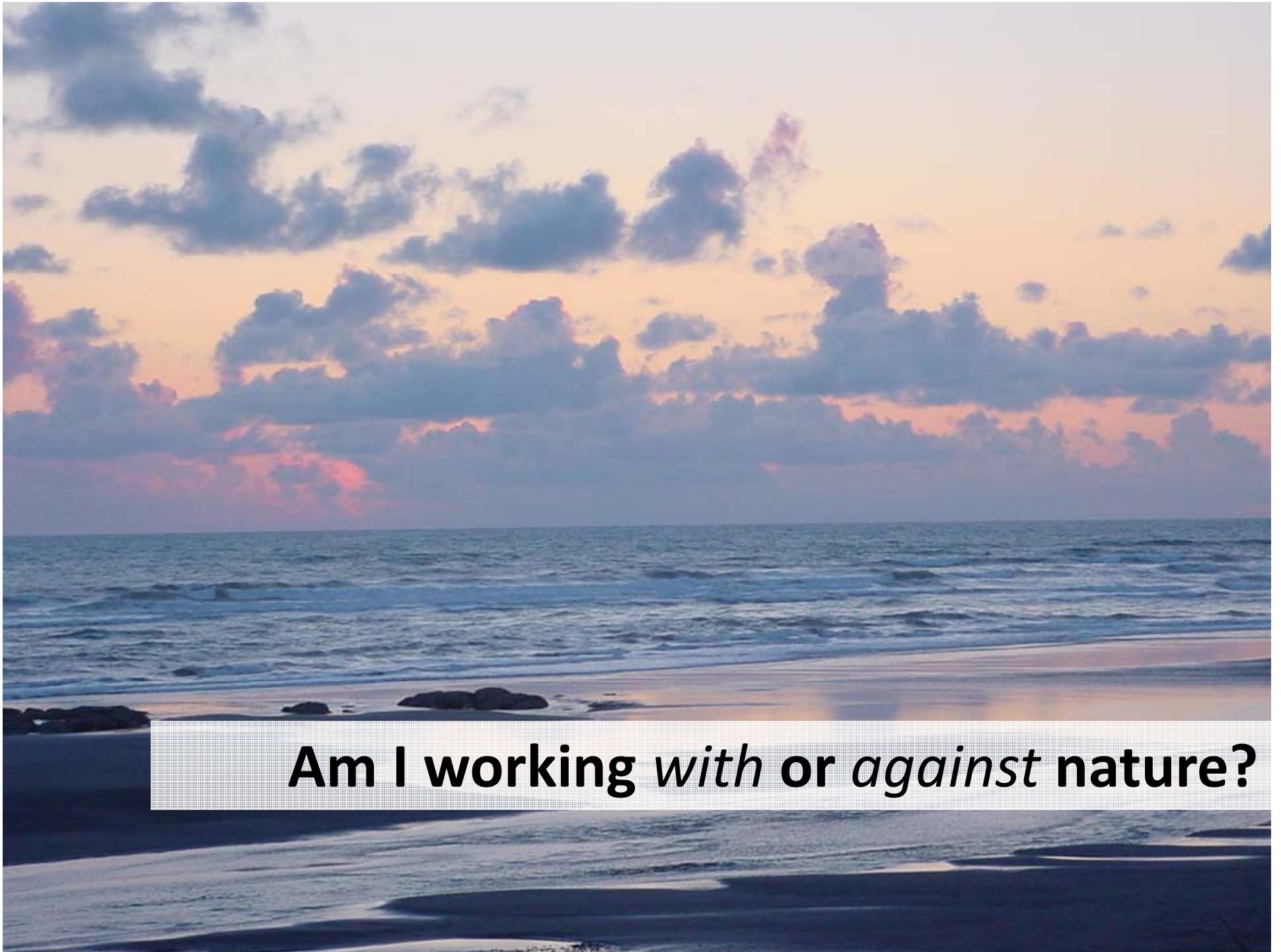
Resources are wasted by diligently applying approaches that have proven time after time to FAIL.

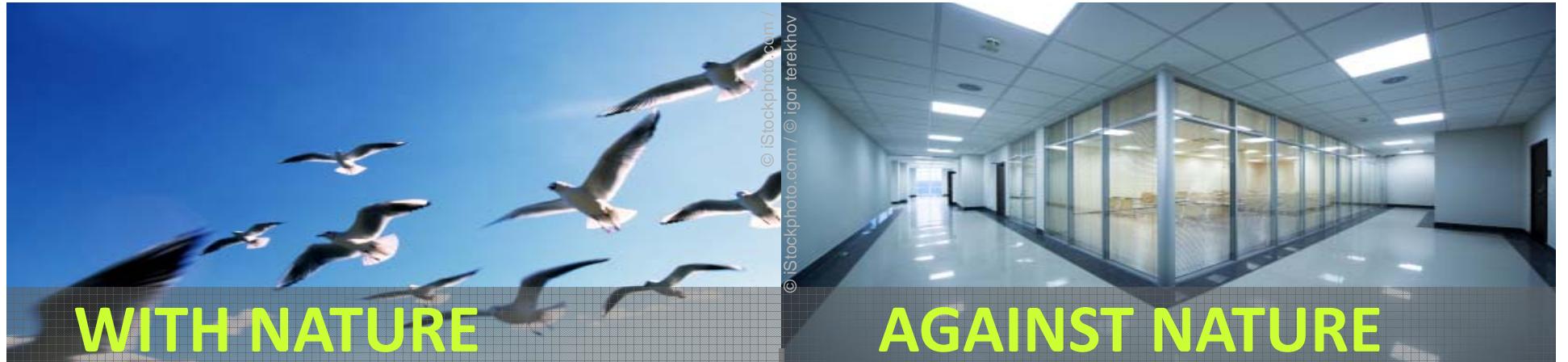


**To resolve this mismatch there's
one basic "test" question
we need to ask
ourselves daily...**

**...this question applies whether
we're aiming to
save the planet or
attempting to change
one person's opinion.**

The test question is:





purpose and boundaries

attract, work through

open, flexible system

cooperate to create conditions for abundance

solutions emerge /
expect surprises

tight, uniform control

impose, force feed

closed, rigid system

scarcity mindset

pre-determined /
attempt to predict

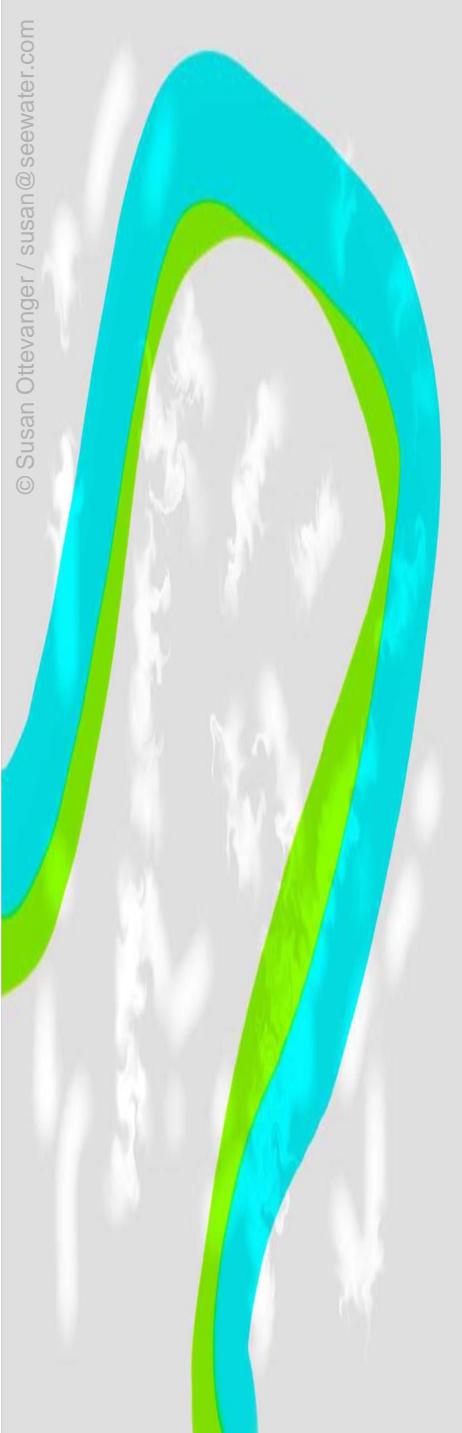


Susan Ottavanger / susan@seewater.com

Here are **11**
enabling rules
that work
with nature.



...these **11** enabling rules emerged from reflection on real, everyday business life with clients and colleagues through the lens of complex adaptive systems.



1.

Pursue agility and resilience.

(abandon illusions of predictability)

Living systems present too many variables for us to rely on one assumed future scenario.

“Life in beta” is Bruce Nussbaum’s¹ term for the notion of continuously sensing, interpreting and acting on shifting environmental conditions.

2.



Consciously learn from daily experience.

(rather than rely on formal training)

Step-by-step training prepares people for repetitive, judgment-free procedures.

But business skills such as sensing, sense-making and taking appropriate action are improved through a process of inquiry and reflection on real, messy human experiences.

3.

Allow solutions to emerge.

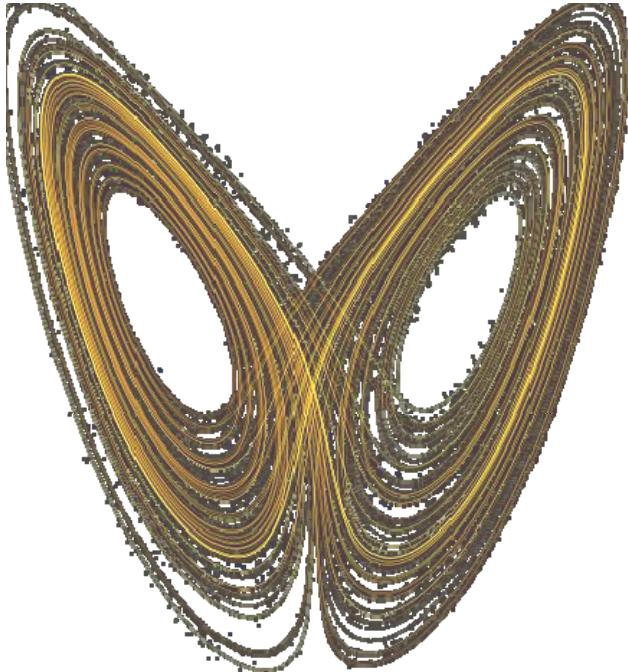
(look beyond existing pieces of the puzzle)

Avoid jumping to answers and making assumptions based on direct cause and effect relationships.

Instead, re-frame questions to expand the possibilities, then explore fast, cheap iterations in a process of experiment/learn/adjust/repeat until a better solution becomes apparent.



4.



← Strange Attractor

Pull, don't push.

(avoid efforts to overcome resistance to ideas)

Strange attractor is a term from chaos theory describing “points that remain close to the attractor even if slightly disturbed.”²

Scientists may wince at applying *attractor* to business, but this sticky term reminds us to engage followers, influencers, and champions while avoiding contests aimed at control.

5.

Seek healthy mixtures.

(avoid monocultures like the plague)

Biodiversity is a condition for survival.

Sameness and replication are enemies of innovation.

Diverse viewpoints lead to better solutions by challenging assumptions, reframing questions and avoiding self-limiting either/or choices.



6.



Establish a purpose and boundaries.

(tight controls do more harm than good)

Industrial era notions of control came about when people were viewed as extensions of machines.

Pay attention to what Dan Pink says about motivation – *Mastery! Purpose! Autonomy!*
(see Sources, slide #32)

7.

Appreciate the messy phases.

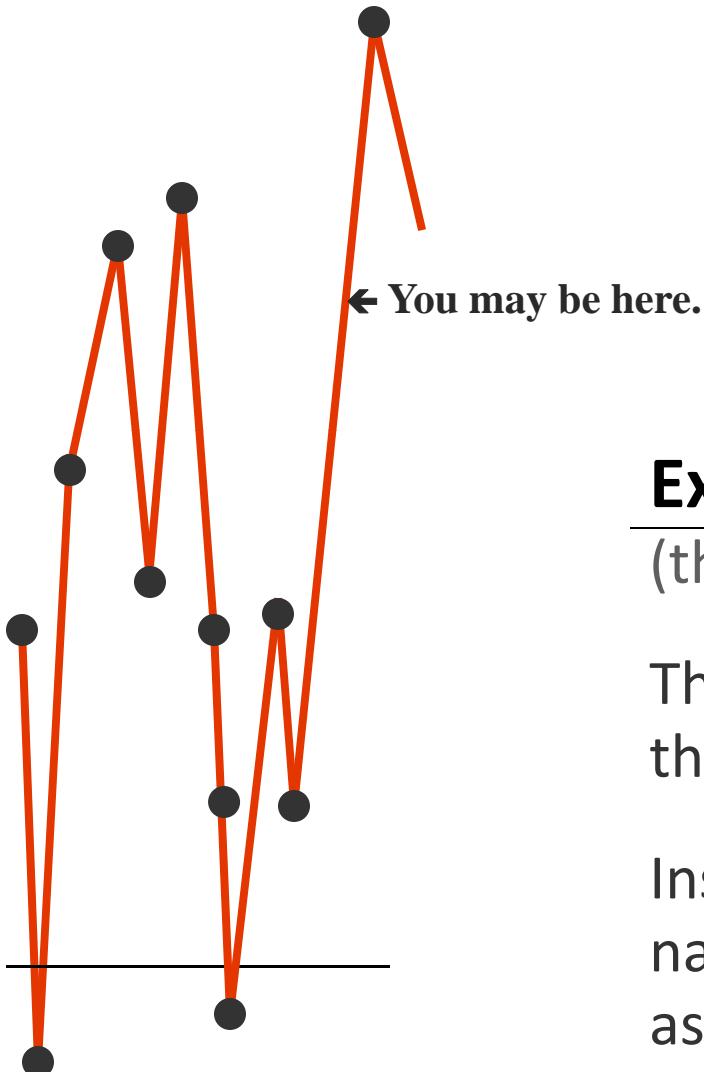
(innovation does not occur with clinical precision)

The notion of self-organization at the edge of chaos makes industrial-minded administrators nervous.

But successful innovation happens when people give up central planning and see beyond neat, over-simplified answers, then work through the disorder to create better solutions.



8.



Expect non-linear progress. (there will be ups and downs)

The creative process depends on the learning that emerges from each trial and error iteration.

Instead of being surprised and daunted by a naturally bumpy process, it can be recognized as a progressive journey. This view is not a matter of positive thinking; it's derived from the realities of adaptive systems.

9.



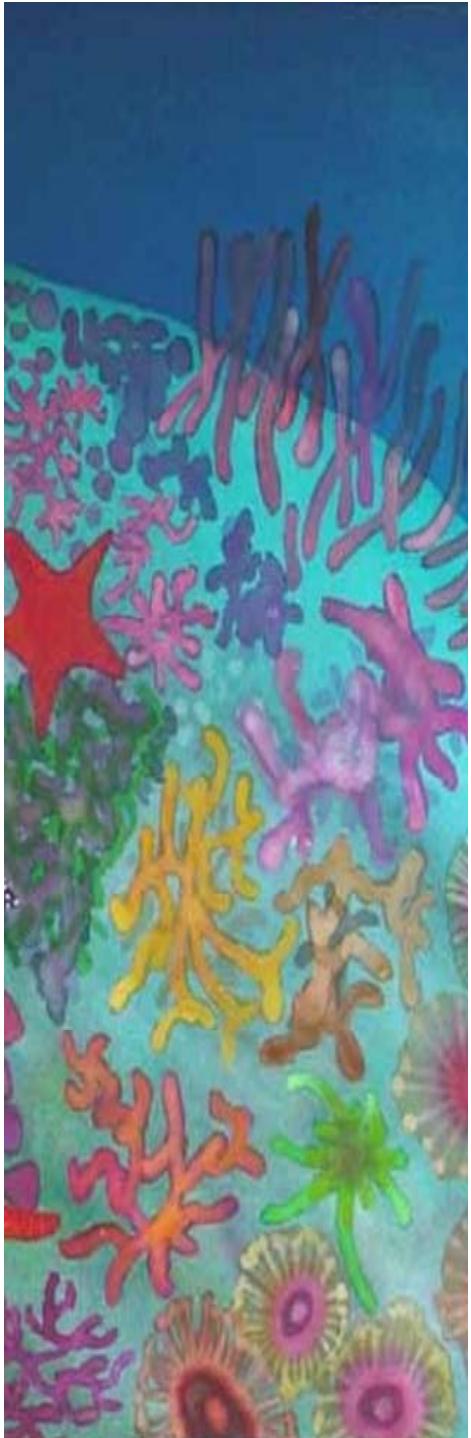
Cooperate to create abundance.

(pure competition leads to scarcity)

Machine age economics were based on assumptions of gain or loss, rather than interdependence.

In natural, self-organizing systems the well-being of any given organism is dependent on the success of the larger whole.

10.



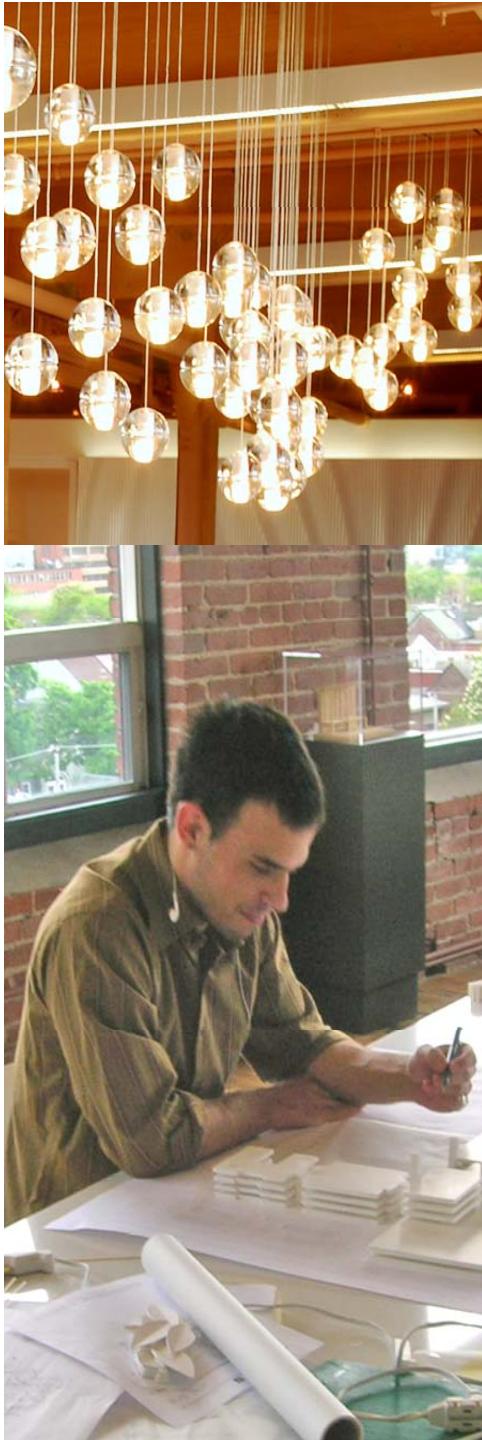
Promote grassroots initiatives.

(see the weaknesses in top-down programs)

In contrast to top-down programs that invite resistance, small self-organizing experiments can be contagious, with higher impact.

These outlier (or pilot) projects demonstrate a better way forward through *positive deviance* by mavericks who get things done.

11.



Work in a place designed for humans.

(in contrast to restrictive, generic office spaces)

Knowledge workers benefit from physical environments that recognize the changing biology of business.

This means creating spaces that inspire big ideas and facilitate the flow of various activities that take place in a day (instead of the old question: *open or closed offices?*).

1. Pursue agility and resilience.
2. Consciously learn from daily experience.
3. Allow solutions to emerge.
4. Pull, don't push.
5. Seek healthy mixtures.
6. Rely on vision and boundaries.
7. Appreciate the messy phases.
8. Expect non-linear progress.
9. Cooperate to create abundance.
10. Promote grassroots initiatives.
11. Work in a place designed for humans.

These design thinking concepts are not new, yet examples of mechanical models and their negative consequences are evident in business all day, every day.

summary comments

“

Business must abandon efforts to craft the perfect plan for the future.

Alex & David Bennet

Organizational Survival in the New World

Because change is non-linear, a small change can produce a large effect. Or a large change may produce no effect at all.

Curt Lindberg

Plexus Institute

...cannot be directed/controlled
but can be influenced/disturbed.

Henri Lipmanowicz

Plexus Institute

It's not a good time for control freaks.

”

Eric Young quoted in *Getting to Maybe*
by Westley, Zimmerman & Patton

Mastery.
Purpose.
Autonomy.

Dan Pink
Drive

credits + inspiration

Plexus Institute <http://www.plexusinstitute.org/>

Complexity: The Emerging Science at the Edge of Order and Chaos by A. Mitchell Waldrop

Drive: The Surprising Truth About What Motivates Us, by Dan Pink

¹ **Bruce Nussbaum**

http://www.businessweek.com/innovate/NussbaumOnDesign/archives/2009/11/life_in_beta--h.html

² **Wikipedia on “Attractors”**

<http://en.wikipedia.org/wiki/Attractor>

The Fortune Sellers by William A. Sherden

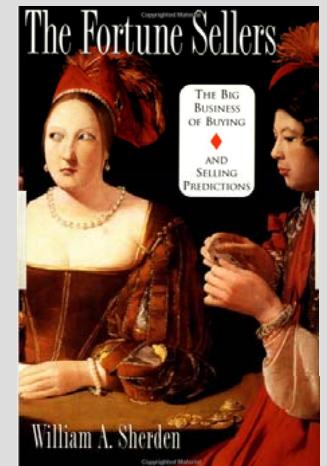
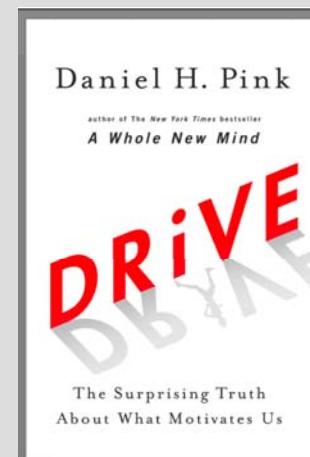
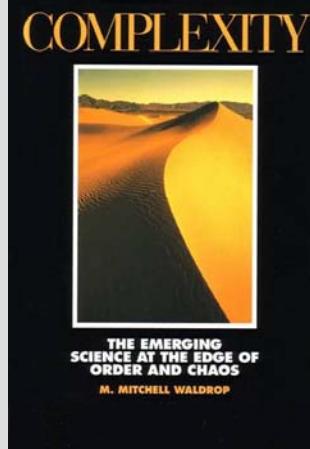
Getting to Maybe by Frances Westley, Brenda Zimmerman & Michael Quinn Patton

Managing the Unexpected: Assuring High Performance in an Age of Complexity by Karl E. Weick & Kathleen M. Sutcliffe

Modern Times, the film

artwork as noted: Susan Ottevanger
www.seewaterer.com

photos as noted: Tye Farrow





SIMPLE	COMPLICATED	COMPLEX
baking a cake	constructing a building	sustaining a business or raising a child
LINEAR INSTRUCTIONS, PREDICTABLE OUTCOME	EXPERTS COORDINATE MANY SETS of INSTRUCTIONS to ACHIEVE a SPECIFIC OUTCOME	INHERENT VARIETY and UNCERTAINTY in a DYNAMIC ENVIRONMENT that requires continuous INTERPRETING and SENSING; may lead to SURPRISE
PROJECT MANAGEMENT (e.g. to deliver construction documents) combines complicated + complex elements aimed at a reliable outcome		

adapted from *Getting to Maybe* by Westley, Zimmerman & Patton



When we're working with nature...



...fresh possibilities for success emerge.

Sharon VanderKaay
Farrow Partnership Architects
www.farrowpartnership.com