



Nature's Secrets for Successful Transformation

Barbara B. Lawton, Ph.D.
April 4, 2004



Transformation

- To change markedly, usually for the better
- To change the nature, function, or condition of

Nature's Path

■ Evolution

- A gradual process in which something changes into a different and usually more complex or better form

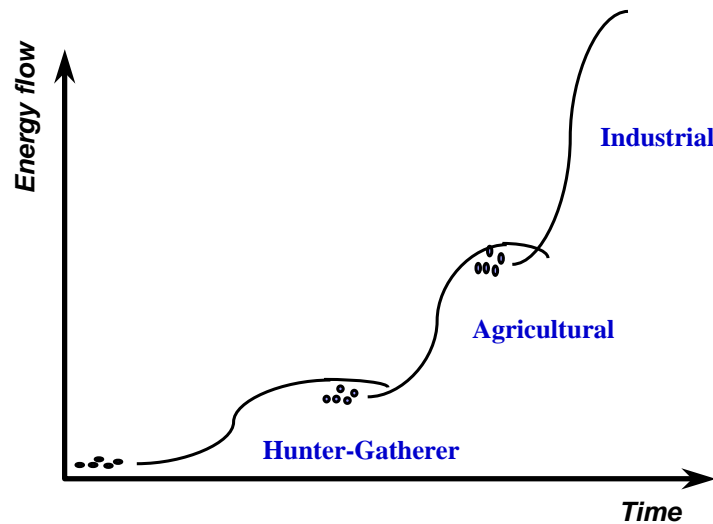
■ Dynamic Evolution

- The energy-driven process of evolution punctuated by transformative change

© Barbara Lawton 2003

3

Punctuated Pattern of Evolution

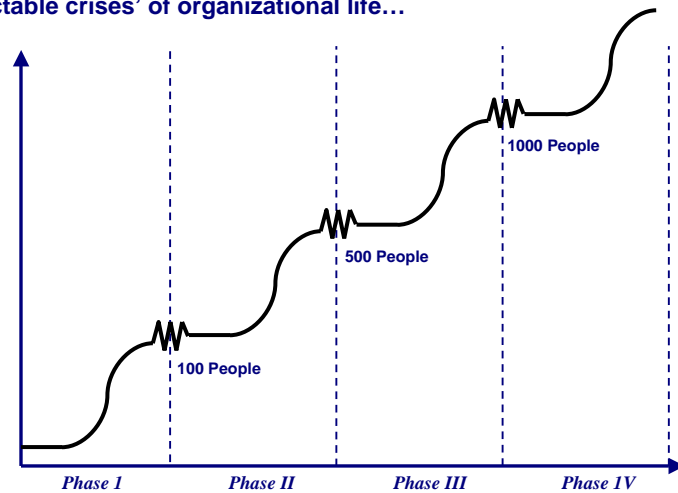


© Barbara Lawton 2003

4

Phase Change

'Predictable crises' of organizational life...



© Barbara Lawton 2003

Source: Larry Greiner—*Evolution and Revolution as Orgs. Grow*—HBR, 1972/ 1998

5

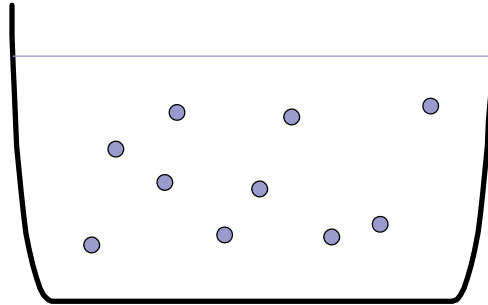
Outline

- Core threads
 - Structure & Process
 - Intelligence
- Human Foundation: Community
- Leadership

© Barbara Lawton 2003

6

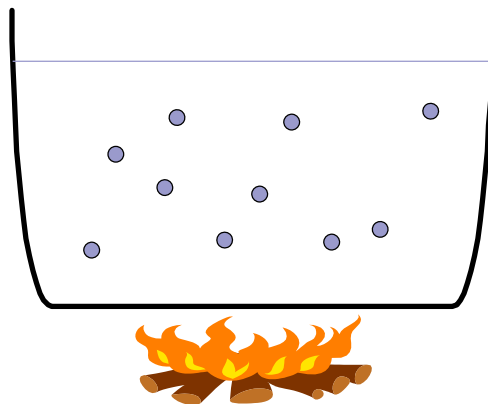
Equilibrium



© Barbara Lawton 2003

7

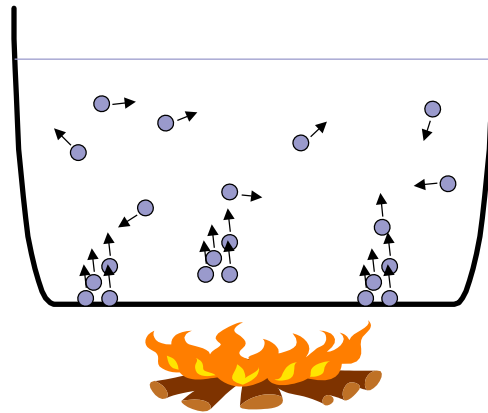
Driving Force for Change Energy Differential



© Barbara Lawton 2003

8

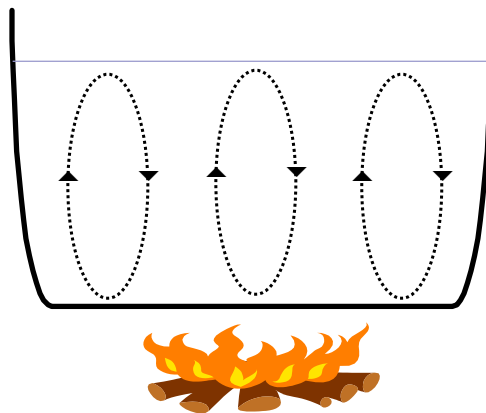
Faster and faster Until



© Barbara Lawton 2003

9

Self-organization into a Flow System



© Barbara Lawton 2003

10

Structure & Process

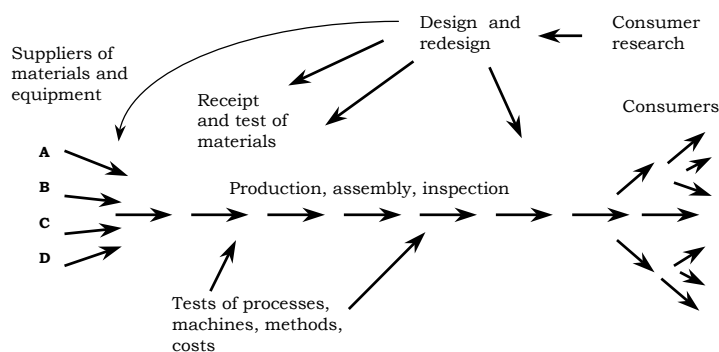
- Massive energy differentials
 - create pressure for energy to flow
 - system becomes unstable, chaotic
- Self-organization into flow systems
 - coherent patterns of interaction that *accelerate* flow in larger environment
 - reduce pressure
- Self-feeding
- Necessary conditions
 - energy differential + irregularities + whole path + positive feedback
- Flows disappear when differential is gone

© Barbara Lawton 2003

11

Organization as Flow System

“An economy is the way people use resources to fulfill their desires.”

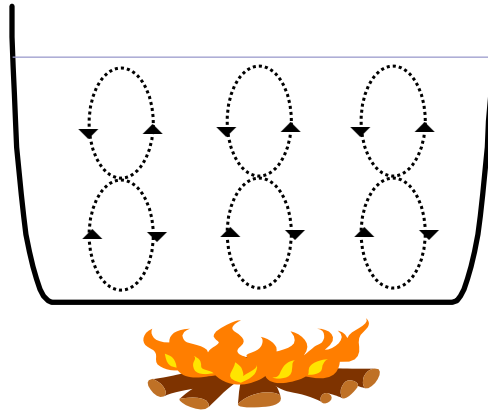


- W. Edwards Deming, 1950

© Barbara Lawton 2003

12

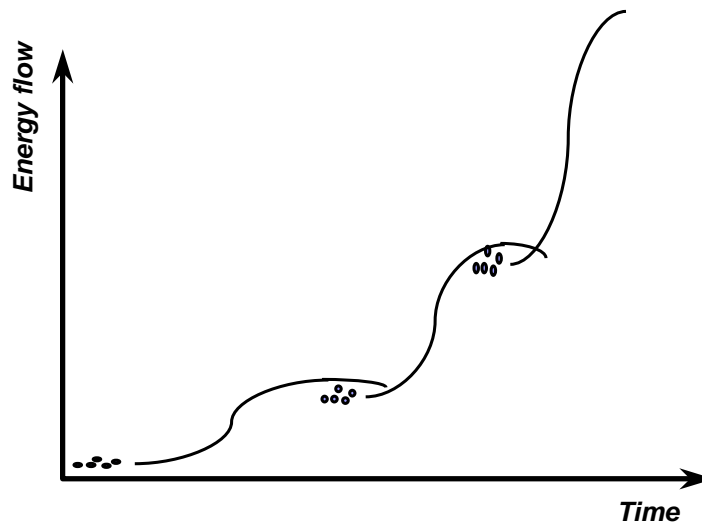
The pattern then repeats



© Barbara Lawton 2003

13

Punctuated Pattern of Evolution



© Barbara Lawton 2003

14

Underlying Dynamics

- Each cycle
 - reaches limits of current capability
 - pressure breaks constraints & opens new flow paths
 - old forms evolve/ die out, new ones emerge
- The new cycle
 - diversity seeds new
 - improves energy flow
 - changes the environment

© Barbara Lawton 2003

15

Evolution as Increasing Intricacy

Natural results of energy flow



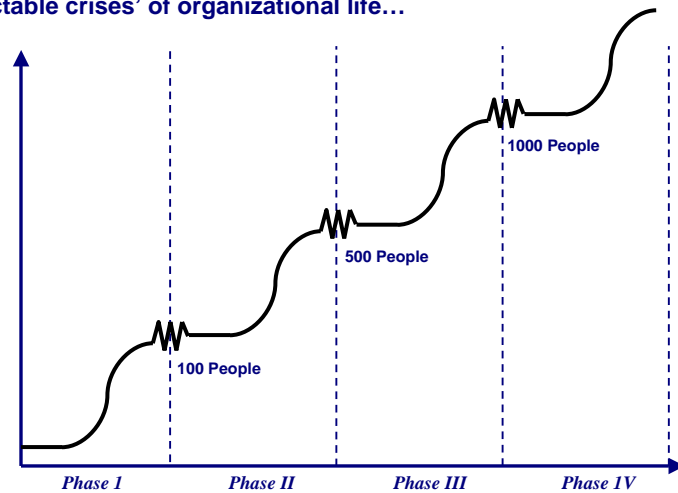
Structure	(ergs s ⁻¹ gm ⁻¹)
Milky Way	1
Sun	2
Earth's climasphere	80
Earth's biosphere (plants)	500
Human body	17,000
Human brain	150,000

Intricacy = connected smallness

16

Phase Change

'Predictable crises' of organizational life...



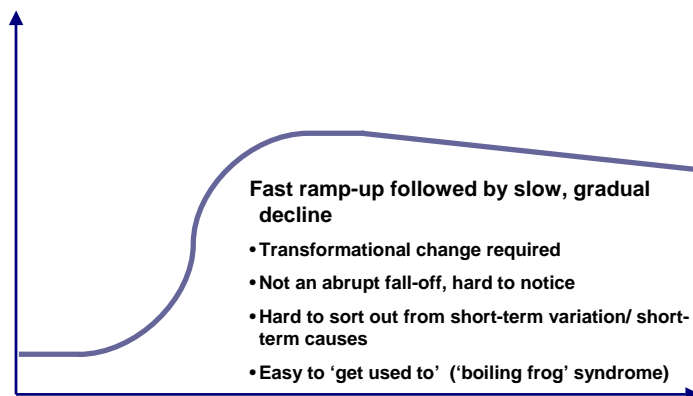
© Barbara Lawton 2003

Source: Larry Greiner— *Evolution and Revolution as Orgs. Grow* – HBR, 1972/ 1998

17

Life Cycle curve...

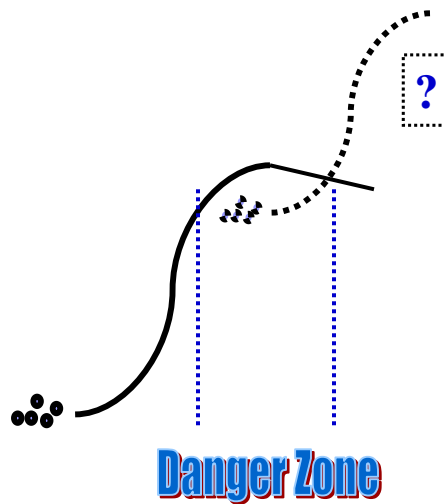
How Organization Typically Grow & Decline:



© Barbara Lawton 2003

18

Survival is NOT Guaranteed

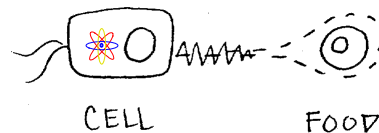


© Barbara Lawton 2003

19

Life a Flow System

Life follows information / energy trails



How life finds the energy it needs to survive

- Started with the first cells...
- Sensing and responding ...
- Ties locomotion, sensing, metabolism and genes...

© Barbara Lawton 2003

20

It's HOW we grow big
that determines our
capacity to sense,
respond & evolve

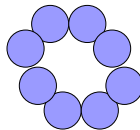
© Barbara Lawton 2003

21

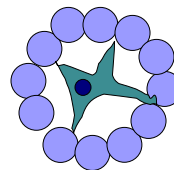
Evolution of Intelligence The Challenge of Growth



Connected



Growing
apart



Nerve
cell

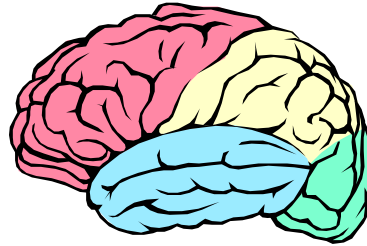
© Barbara Lawton 2003

22

Evolution of Human Brain

3 physical structures, 3 episodic periods of evolution

- ☐ Reptilian
- ☐ Limbic (mammalian)
- ☐ Neocortex (thinking)



© Barbara Lawton 2003

23

Central Lessons of Intelligence

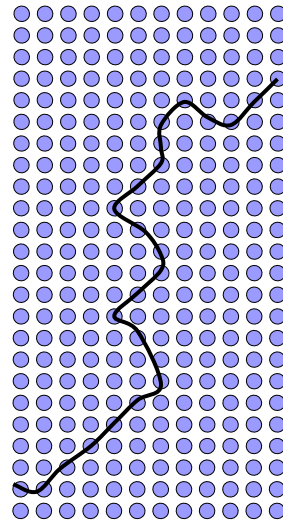
- Serve survival of the whole
- Specialize & integrate
- Distributed intelligence
- Subsidiarity
- Collaboratively based
- Competition in evolution to serve the whole

© Barbara Lawton 2003

24

How Intelligence Works

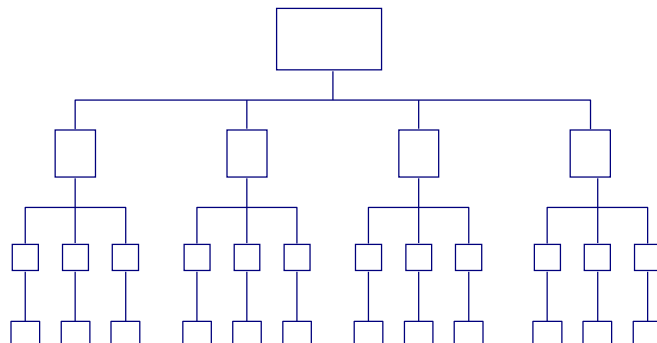
- Interaction between cells
- Knowledge
Not a thing but a
bodily process



© Barbara Lawton 2003

25

Where's the Intelligence?



© Barbara Lawton 2003

26

Community

The Ground of Intelligence

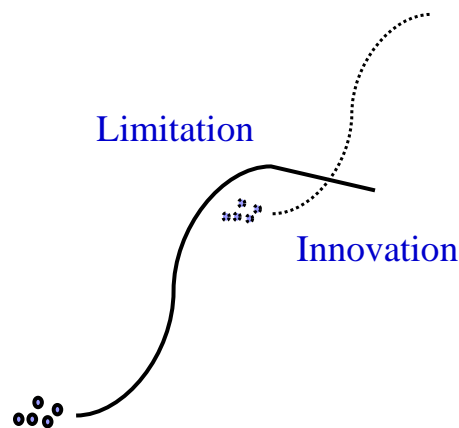
- Common purpose, framework, language
- Dense web of relationships
 - Warm, mutually supportive, collaborative
- Interdependence, win-win-win
- The test: *What's good for me and the whole?*

© Barbara Lawton 2003

27

The Challenge of Leadership

Navigating the Danger Zone



© Barbara Lawton 2003

28

Nature of the Danger Zone

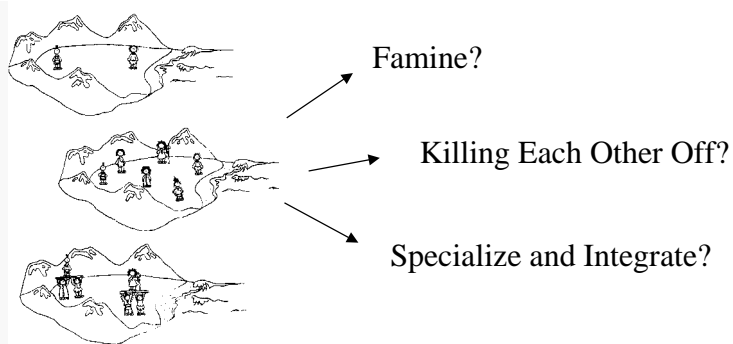
Limitation

- Declining results
- Fear & exhaustion
- Retrenchment
- Long hours, little result
- Reactionary, fire-fighting
- Decreasing loyalty
- Community disintegration

© Barbara Lawton 2003

29

Choices at Limitation phase



© Barbara Lawton 2003

30

Nature of the Danger Zone

Limitation

- Declining results
- Fear & exhaustion
- Retrenchment
- Long hours, little result
- Reactionary, fire-fighting
- Community disintegration
- Decreasing loyalty

Innovation

- Low results - high failure
- Vision & common goal
- Exploration & discovery
- Foster diversity
- Long hours, high energy
- Strong commitment & involvement
- Patience!

© Barbara Lawton 2003


31

Community Foundation of Transformation!

- Common purpose, framework, language
- Dense web of relationships
 - Warm, mutually supportive, collaborative
- Strong commitment
- Interdependence, win-win-win
- “The Living Company”

© Barbara Lawton 2003

32



Personal Challenges of Transformation

- Letting go
 - Loss of real & perceived status, benefits
- Working with fear
 - Fear for one's own future well being
- Trusting
 - In ability to learn and survive
 - In others

© Barbara Lawton 2003

33



A New Level of Leadership

You can't lead people where
you won't go yourself.

© Barbara Lawton 2003

34

Leading Transformation

- Begin with yourself
 - “Personal humility & fierce resolve”
 - Self-awareness, growth
- Service
 - External customers (flow system)
 - Nurture people, community & intelligence
- Create a container
- Confront “brutal facts”
- Preserve and build on the core
- Create new direction (specialize & integrate)
- Persistence & patience

© Barbara Lawton 2003

35

Summary

- Two interwoven threads
 - energy-based process & structure
 - evolving intelligence
- Grounded in community
 - an interdependent, collaborative and mutually supportive web of relationships
- A new level of leadership

© Barbara Lawton 2003

36

Some Counter-Cultural Results

■ Organizations

- A flow system
 - Follows natural laws, must serve larger system
- Like a living organism
 - Evolve: stability => edge of chaos => stability => ...
 - Survival of the “fittest”
 - Has intelligence

■ Transformation

- Is emergent
- Requires a higher level of self-awareness & capability

© Barbara Lawton 2003

37

More Results

■ Community is the foundation

- A collaborative and mutually supportive web of relationships
- For intelligence
- For evolution

■ Leadership is service

- Requires higher levels of self-awareness, ...
- Personal humility & fierce resolve

© Barbara Lawton 2003

38