Working/Learning/Leading in the Exponential Age

The Game is changing – are we?
as business schools/ as leaders/as value creators

Push Economy of the 20th Century

20th century infrastructure drove organization architectures where Scalable Efficiency was the holy grail.

- predictable
- hierarchy
- control
- organizational routines
- minimize variance

S-curve stable over decades.

This is the world we built our practices around.

Our management practices and the world we prepare(d) our students to thrive in..

The Big Shift Happened

The 21st C infrastructure is driven by the continual exponential advances of computation, storage & bandwidth, with no stability in sight!!

The rise of the new normal

yesterdays best practices are rapidly becoming outmoded.

From 20th C Push to 21st C Pull
Today, the game is different.
for
Corporations and how they work
Students and how they learn
Universities and how we teach
And the rate of change
won’t be slowing down

what this means
for business?
HOW BUSINESS IS
CHANGING

Unicorns galore

Not just silicon valley!!!

Rate of Market Growth
Time it took to reach 50 million users
Radio – 38 yrs
Television – 13 yrs
Internet – 4 yrs
Facebook – 3.5 yrs
Instagram – 6 months
Angry Birds – 35 days

The emerging world of
1000 fold increases
big data,
cloud computing,
mobile,
social networks
cognitive computing
augmented reality
iot

iot
Now add the speed of product deployments

**Speed of software deployments**
(each deployment is viewed as an experiment)

**DEPLOYMENTS AT AMAZON.COM**

<table>
<thead>
<tr>
<th>Mean time between deployments (workday)</th>
<th>Max number of deployments in a single hour</th>
<th>Mean number of hosts simultaneously receiving a deployment</th>
<th>Max number of hosts simultaneously receiving a deployment</th>
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<tbody>
<tr>
<td>11.6s</td>
<td>1,079</td>
<td>10,000</td>
<td>30,000</td>
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*Guess at the mean time between worldwide deployments*

in a world of increasingly rapid change, the half life of a given stock/skill is constantly shrinking (perhaps down to five years for many)

**Stocks === Flows**

- protecting knowledge assets
- participating in knowledge flows
- creating new knowledge
- And much of it is tacit

what this means for education?

HOW EDUCATION IS CHANGING
We used to know how to know. We got our answers from books or experts. We’d nail down the facts and move on. We even had canons.

“But in the Internet age, knowledge has moved onto networks. There’s more knowledge than ever, but it’s different. Topics have no boundaries, and nobody agrees on anything.” (and the context is fluid)

“In the future, it seems, there will be no fixed canons of texts and no fixed epistemological boundaries between disciplines, only paths of inquiry, modes of integration, and moments of encounter.”

Carla Hesse
Professor of History
UCBerkeley

Disruptions galore.

First let’s look at some informal models that might generalize to being hybrids with millennials in mind.

we have new tools and mechanism and we can invent more
Mixing & mingling at the Hacker Dojo

Millennials from around the world picking up the skills that they didn’t learn in college or refreshing their skills and making new connections...

Mixing & mingling at the Hacker Dojo

Learning thru concentrated diversity, mutual passion, social action learning.

Hackathons for edge dwellers

RocketSpace

RocketSpace, the San Francisco co-working space for tech and new media startups, has attracted a strong set of tenants in the 14 months since it first opened its doors. Uber, Zaarly, Giftiki, Spotify, and GeekList are just a few of the more than 100 companies who have called RocketSpace home for a

Some interesting precedents to stimulate our imagination around future schools of business. Can we think more radically?

initially collected and analyzed for designing the university in 2033

Shaolin Monks
World of Warcraft
Minerva

Ann Pendleton-Jullian

Buddhist monks learn thru debate. (dramatically extending the case method)
World of Warcraft
A massively multi-player online game : MMOG

What?? Are you kidding me?
First monks and now WoW!

WoW’s knowledge economy/ecology – help players gain & create knowledge faster

Blizzard Forums (~100)
(forums.worldofwarcraft.com, forums.wow-europe.com)

Other Forums (~countless)
(forums.dominionsunited.com, forums.unitycrafters.com)

Over a million videos from over 5k guilds

Databases

Blogs

Wikis
(www.wowwiki.com)

The Skills of a Guild Master

• Creates a vision and a set of values that attracts...
• Finds, evaluates and then recruits players that have a set of diverse skills and with fit with your norms.
• Creates a platform for apprenticeship – newbies
• Orchestrates group strategy and governance
• Creates, sells and adheres to the governance principles for the guild and adjudicates disputes.

Wow – aren’t these the fundamentals of leadership.

Minerva: A New Kind of Higher Education

Evolving a science of learning
Focus on habits of mind and related core principles and mechanisms and putting them into play systematically
In a highly instrumented way.

Stephen Kosslyn
Stepping back
how to look differently

Leadership skills
for a white water world
A whitewater kayakers, skillfully reads the currents & disturbances of the context around him, interprets the flows for what they reveal of what lies beneath the surface and leverages the flows for accelerated action.

Given the relentless pace of change & disruptions.
Scalable learning & incrementalism may no longer suffice!
Now, we must also be willing to reframe & regrind our conceptual lenses, often.

The Great Challenge
changing {one’s own} beliefs
changing {an institution’s} beliefs

Innovation is hard but institutional innovation is really hard!
a dramatic example that opened my eyes
JSOC in Iraq in 2003 was running 10 operations/month. When McChrystal became its head, two years later, he had radically transformed it to running 10 successful operations/night.

What happened?

<table>
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<tr>
<th>What we were designed for</th>
<th>What we were facing</th>
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It takes a network to fight/compete with a network.

A radical organizational reframing was call for!

1. Need to rapidly increase bandwidth to/from FWD teams - connect them to Rear NQ's.
2. Need to redistribute intel personnel to balance workload.
3. Need to tie FWD teams to Rear NQ's into a single fight.
Mechanism: Blending Intelligence and Operations through joint work on “pattern-of-life” analysis

Shoulder to shoulder learning can be amazingly powerful for amplifying informal learning practices for a white water world.

It takes a network to fight/compete with a network but that barely touches what Stan discovered

In McChrystal’s words:
The organization as a rigidly reductionist mechanical beast is an endangered species. The speed and interconnected nature of the new world has rendered it too stupid and slow to survive..... the speed and interdependence of our current environment means that what we cannot know has grown even faster than what we can comprehend...

“Shoulder to shoulder (analyst/operative)
Deep comingling of practices ➔
The joint absorption of tacit knowledge

The joint absorption of tacit knowledge shoulder to shoulder (analyst/operative) for amplifying informal learning practices for a white water world.

"I began to view effective leadership in the new environment as more akin to gardening than to chess"

Chess Master To Gardener: The Leaders We Now Need
“the mental transition from heroic leader to humble gardener was not an easy one. I needed to shift my focus from moving pieces on the board to shaping ... and tending to an ecosystem." General McChrystal
New lenses for the whitewater world

Complicated ≠ Complex
In essence – we have moved from the world of complicated systems to complex systems – densely interconnected & entangled

“...No significant problem is an island to itself... where the unintended consequences to an action can often overwhelm the intended consequences.”

THROUGH THE LENS OF COMPLEXITY
Think Clouds, not Clocks
“...To understand a clock you can take it apart, its individual pieces and you study the pieces and then you can understand how a clock works. A cloud – you can’t take apart a cloud. A cloud is a dynamic system. A cloud you can only study as a whole.”

Think Clouds, not Clocks
Karl Popper, the great philosopher, said all problems are either clouds or clocks.
One of the problems we have as a culture is we take clouds & pretend they are clocks.

In an era of complexity & wicked problems we need to move from problem solving as an engineering approach to working from an eco-systemic perspective.

McChrystal understood
The world of complexity:
• that everything you do alters the system because of complex interdependencies
• that you cannot learn about the problem without action – without trying solutions
• that all problems occur in social contexts that usually overwhelm any technical complexities
A mechanical system—a watch for instance—is divisible, while an ecosystem is indivisible because of well developed interdependences.

Sven E. Jorgensen, *Handbook of Ecosystem Theories and Management*

Because ecosystems are indivisible, they are environments where all work feeds back into the system, affecting the entire system.

With this kind of tool set
big data,
cloud computing,
mobile,
social networks
cognitive computing
Breaking frame and re-imagining
what might be possible
by us and by our students
is now our golden moment.

Chess Master To Gardener: The Leaders We Now Need.

But gardeners who are ecologists not just tenders of plants

and the schools that need to scaffold the emergence of these leaders
Thank You

Douglas Thomas & JSB
Ann Pendleton-Jullian & JSB

THE END