Learning/Unlearning
In these exponential times!

Honoring the tacit components in knowing

5 quick points

Point 1

Designing for maintaining states of flow

Ubiquitous computing - 1990

Key idea:

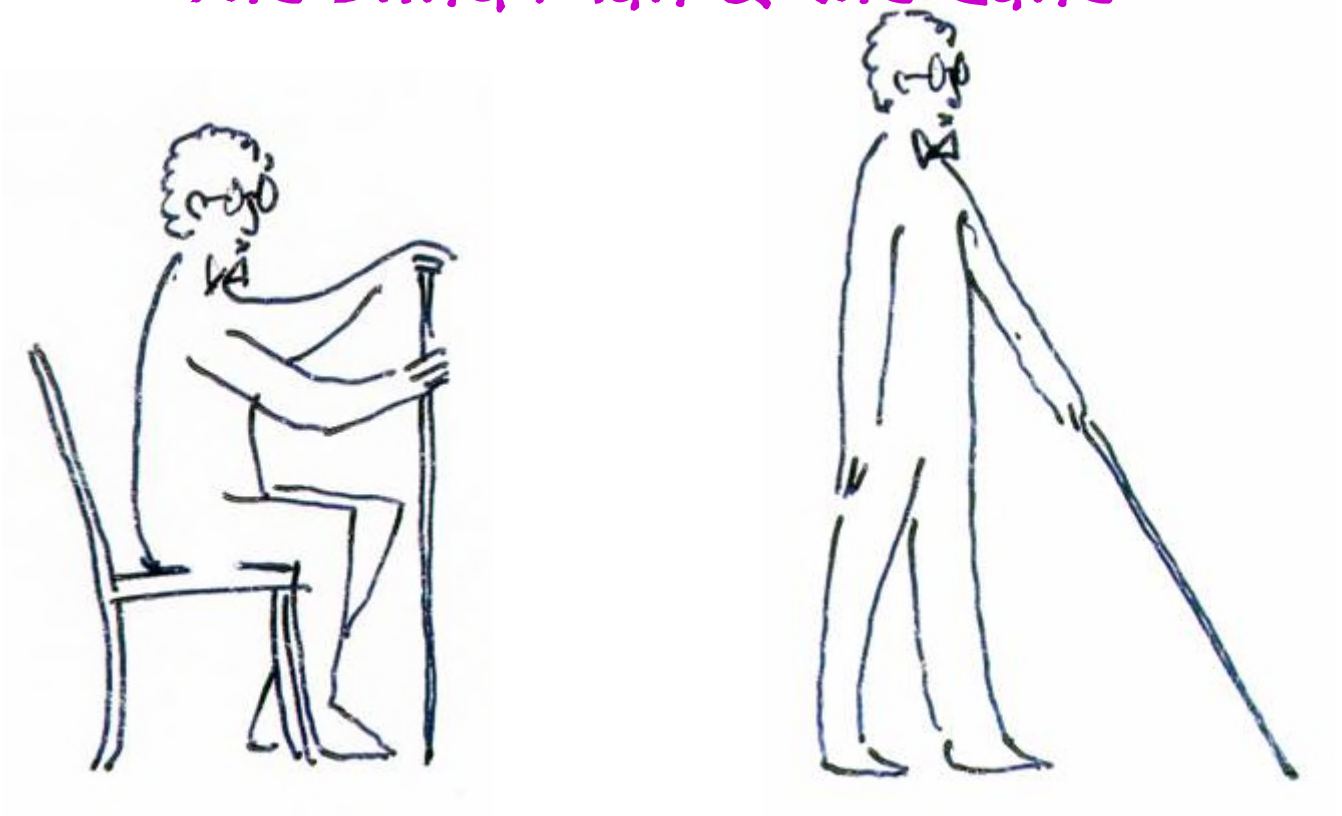
Eliminate the interface –

merging the interface with the world ie…

letting the world be your interface

The guiding images for mark wiser & me

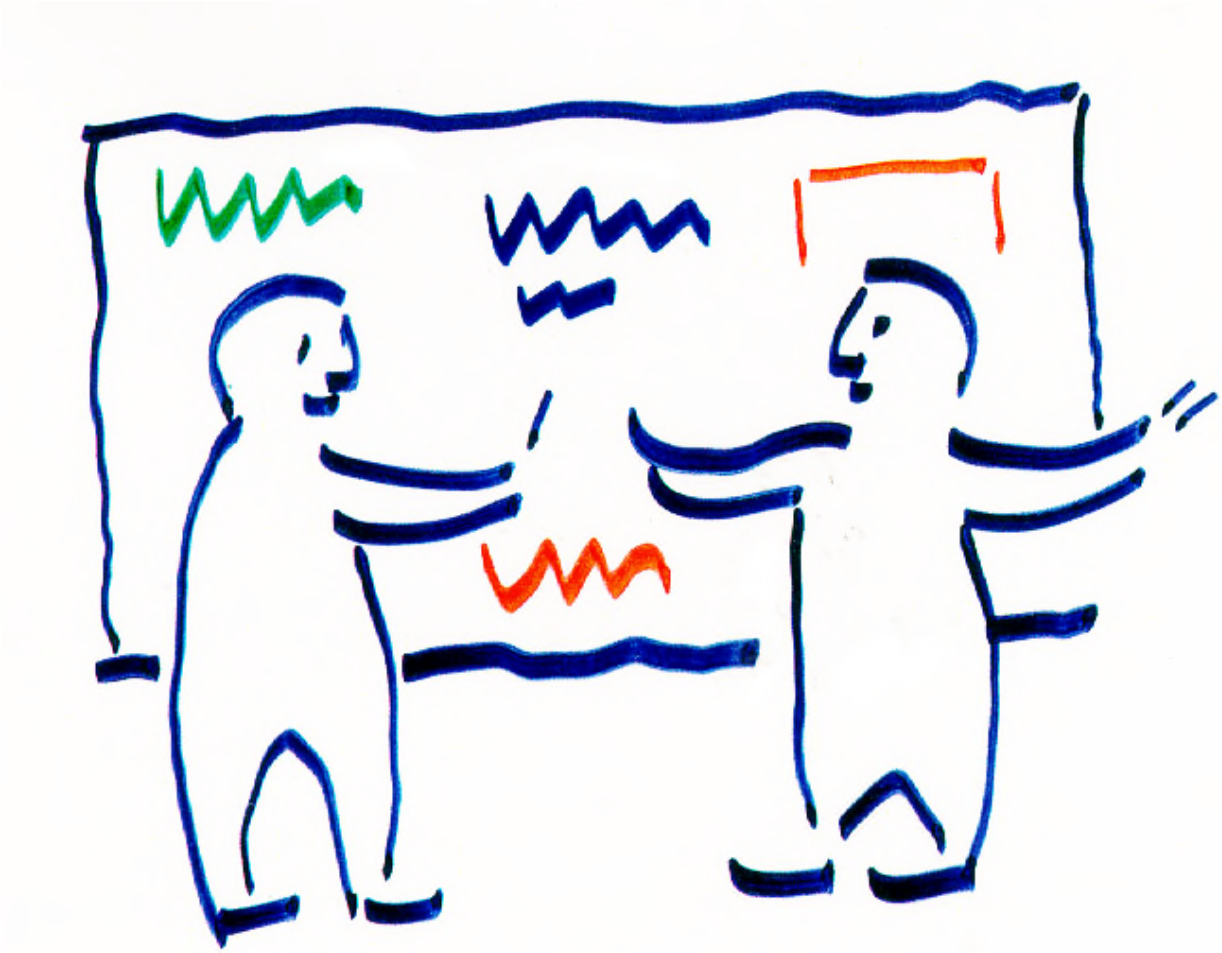
Our guiding metaphor:
The Blind Man & the Cane



Ready-at-hand: the handle disappears. (Heidegger)

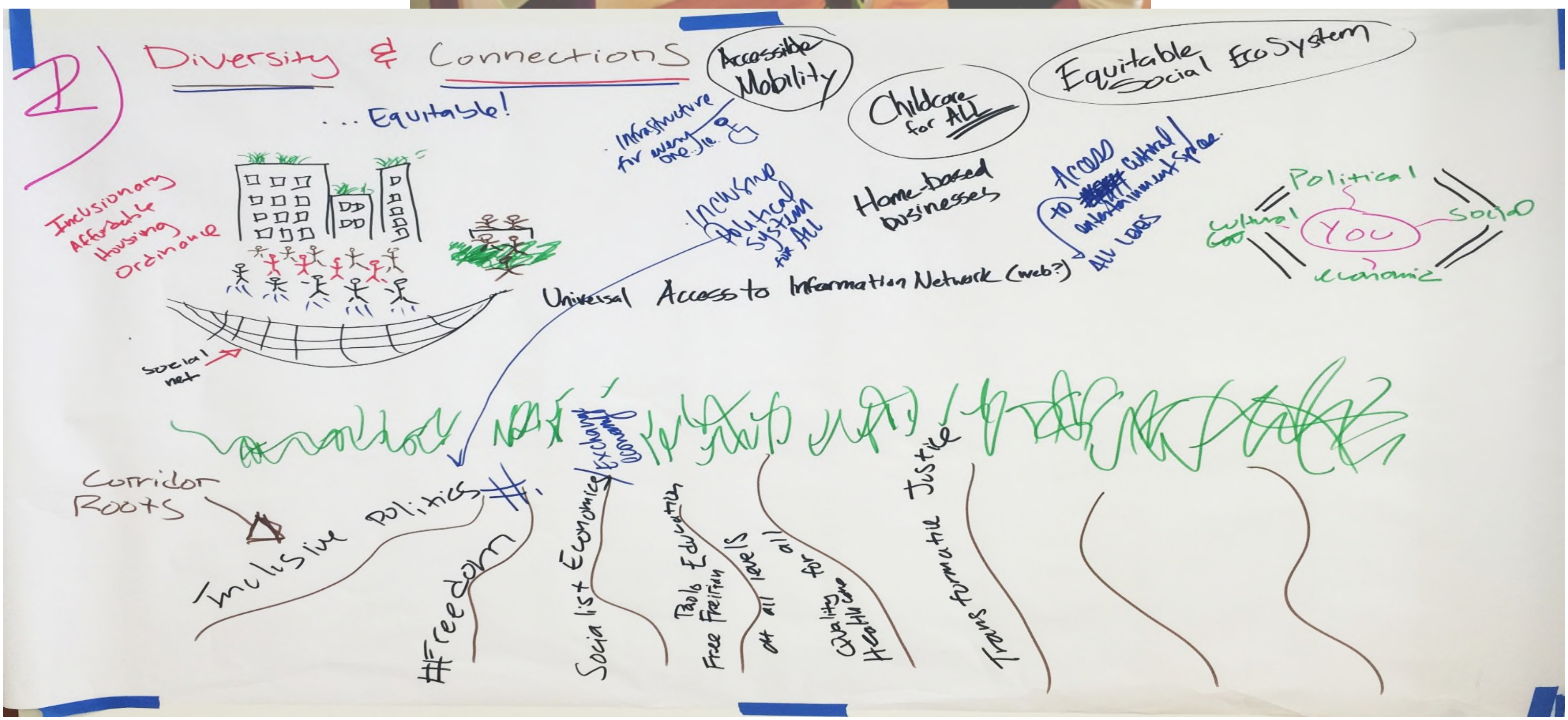
Reaching thru the 'interface' to touch the world directly almost like a prosthetics – reaching thru the interface to the subject matter itself..

Shoulder to Shoulder Computing



Might this help to explain SL's apparent success?

3 people with 3 different color pens – working shoulder to shoulder writing on the wall


2) Diversity & Connections
... Equitable!
Accessible Mobility
Childcare for ALL
Equitable Social EcoSystem
Infrastructure for every one...
Inclusionary Affordable Housing Ordinance
Inclusive Political System for All
Home-based businesses
Access to cultural entertainment space. All levels
Political
Social
cultural
economic
YOU
Universal Access to Information Network (web?)
social net
Corridor Roots
Inclusive politics
#Freedom
Socialist Economics
Exchange Economy
Free Education at all levels
Quality Healthcare for all
Transformative Justice

Point 2

designing a learning/doing fabric that captures the context of action for reflection, learning & archiving

What if….

- Every piece of data produced in was "citable
  - Microscope, flow cytometry, mass spec, sequencer…
  - Mouse, zebrafish, material sample
- Data flowed instantly and seemlessly
  - From points of production/acquisition
  - between dynamically evolving research teams
- Data was contextualized
- We had infinate storage and computing
- You had automated support to help discover data, extract interesting features, point you to related data, establish linkages…

USC

Carl Kesselman

An Ecosystem for Data

Why don't we have tools for managing data sets of cancer & kidneys that are as good as the tools we have for managing data sets of cats?

Flexible data organization

Editable attributes and metadata

Automatic analysis

Edit and share

Full text search

Data browsing

Apple iPhoto

Applied to other types of work?

- Can we create a reusable platform that enables us to address integration of devices, computation, human interactions…
- Model discovery as process of creating and updating contextualized digital assets.
  - Discovery Environment for Relational Information and Versioned Assets (DERIVA).

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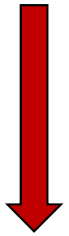
Point 3

Leveraging/amplifying the big shift for scalable learning

The Big Shift

Stocks ======> Flows

protecting/delivering
authoritative
knowledge assets



Scalable Efficiency

participating
in knowledge flows

creating new knowledge
(strong tacit component)

World of Warcraft

A massively multi-player online game : MMOG

Dashboards and After Action Reviews

World of WarCraft is way too complicated to play without complex analysis tools and dashboards.

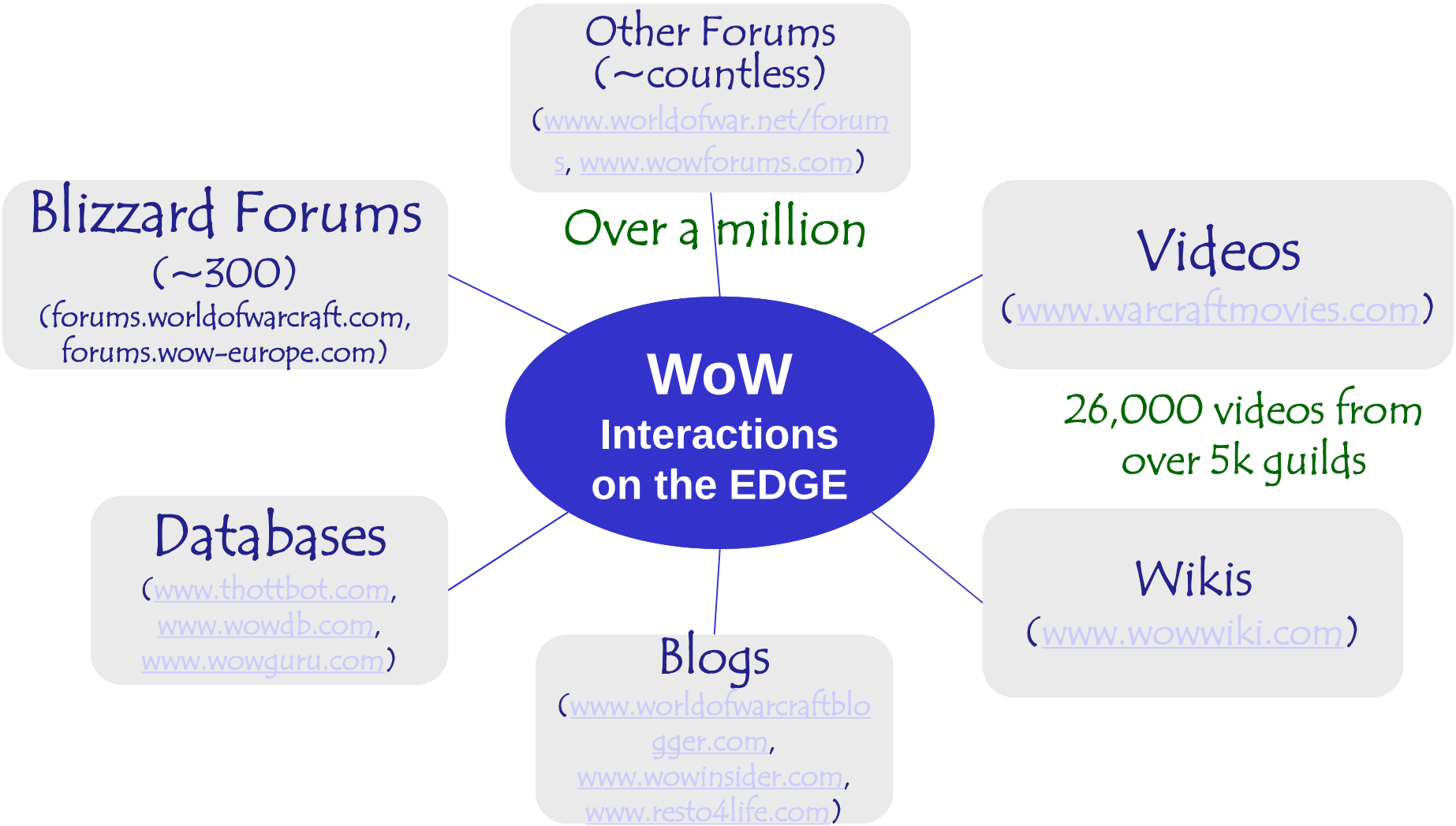
These dashboards are nearly always hand crafted by each player and are key to masterful play.

The following static image is hugely simplified.

.


Character Status
Character Info (Stats and Gear)
Healing Add On
Item Stats
Vendor Data
Auction Data
Inventory
Threat Meter
Buffs
Minimap
Quests
Guild Chat
Skills
Combat Logs
Nomitu
Level 65 Tauren Druid
Totemic Staff
Soulbound
Two-Hand
Staff
147 - 235 Damage
Speed 3.40
(56.2 damage per second)
+33 Stamina
+22 Intellect
Durability 85 / 85
Equip: Increases damage and healing done by magical spells and effects by up to 80.
Sell for [1]: 7 55 59
Sell price: 7 55 59
Nomitu's Inventory
Hide Bags
Hellfire Citadel
Hellfire Peninsula
Terokkar Forest
[Guild] [Sentina]: Hi, all.
[Guild] [Nomitu]: Morning
[Guild] [Zinnia]: good morning
Manually loading Auctioneer...
Auctioneer v3.9.0.1304 loaded

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



Point 4

Think free style chess:
racing with, not against, the machine

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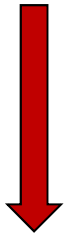

Scalable Efficiency

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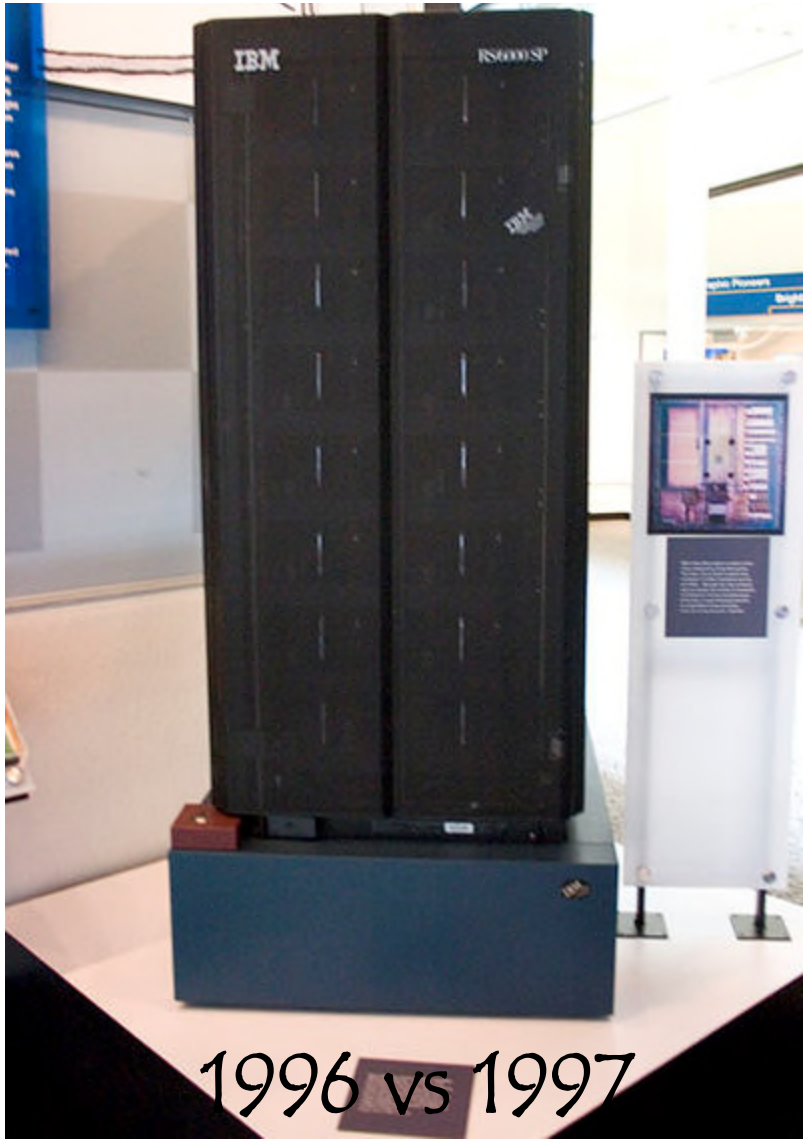
Scalable Learning

A new kind of symbiotic
relationship between
us and computation

Garry Kasparov
Grand Master

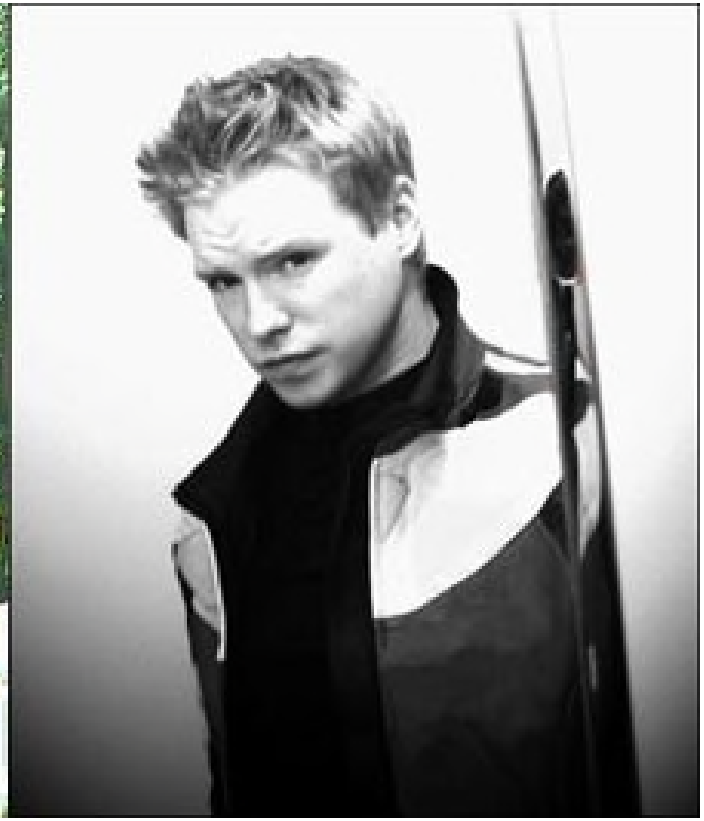
VS

Deep Blue



Freestyle chess tournament

The winners racing with the machine



Zack Stephen and Steven Cramton

On arriving in Iraq JSOC was running 10 operations/month. Two years later, radically transformed, was running 10 operations/night!

General Stanley Chrystal

Special Ops

Intel analysts

&

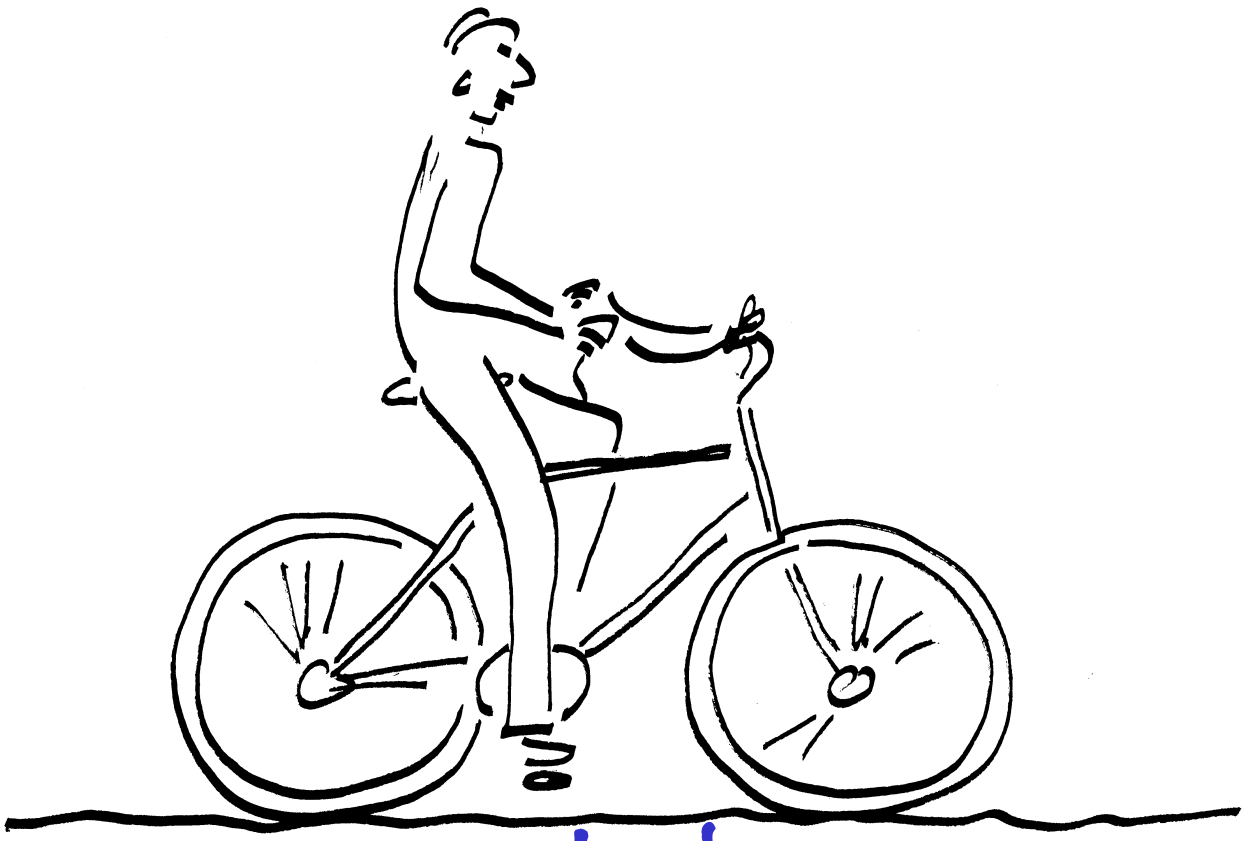
Context+ decision making

intel+ analytics + ISR

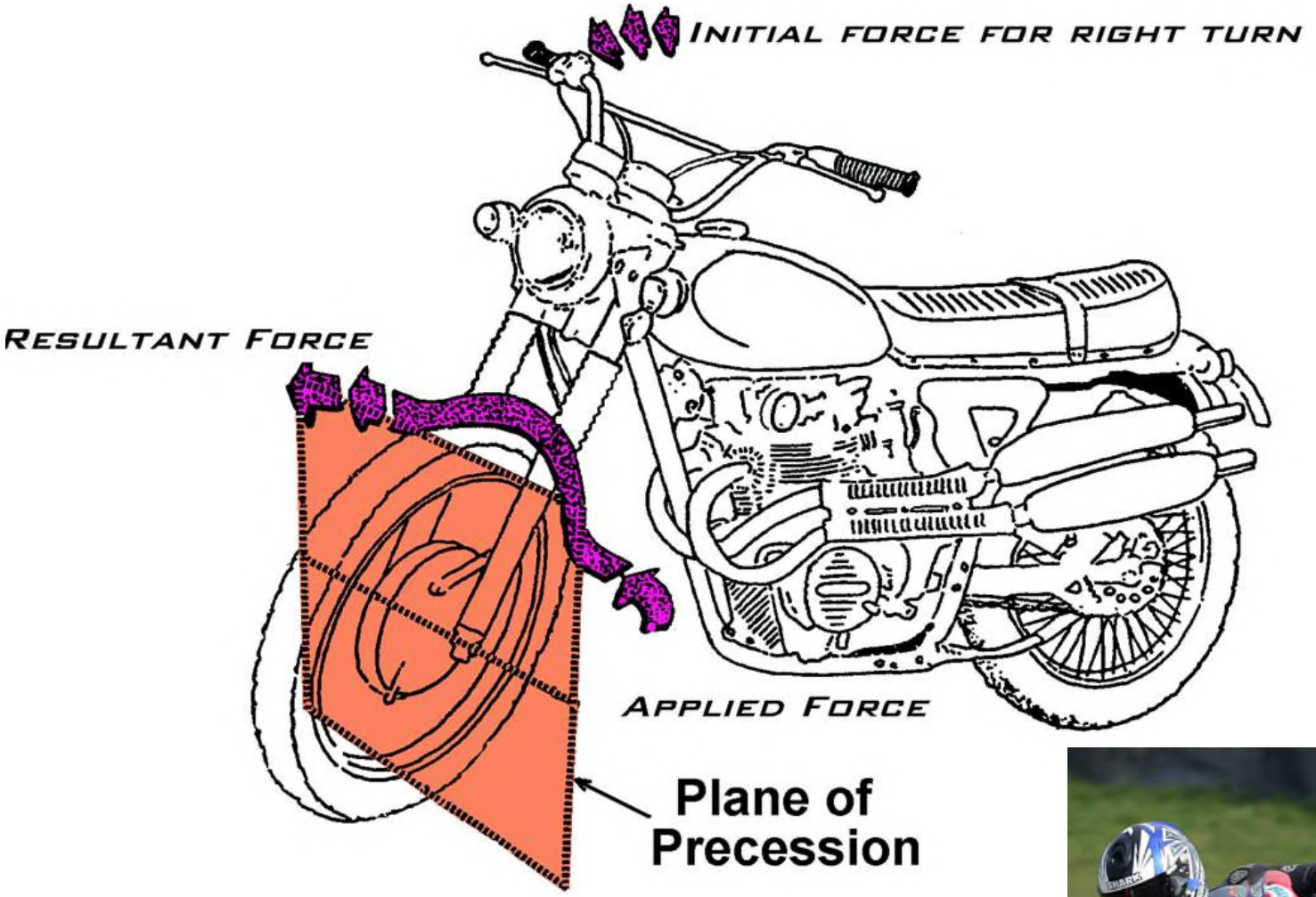
Point 5

Unlearning and reframing is hard because of the tacit part of knowing.

Tacit knowledge can be hard to recognize fostering incorrect beliefs and denial.



Trying is believing –
(but try it in a safe space)



Same for a bicycle!

The Big Shift

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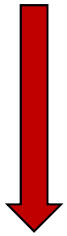

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Scalable Learning

Unlearning
Frame breaking
New conceptual lenses

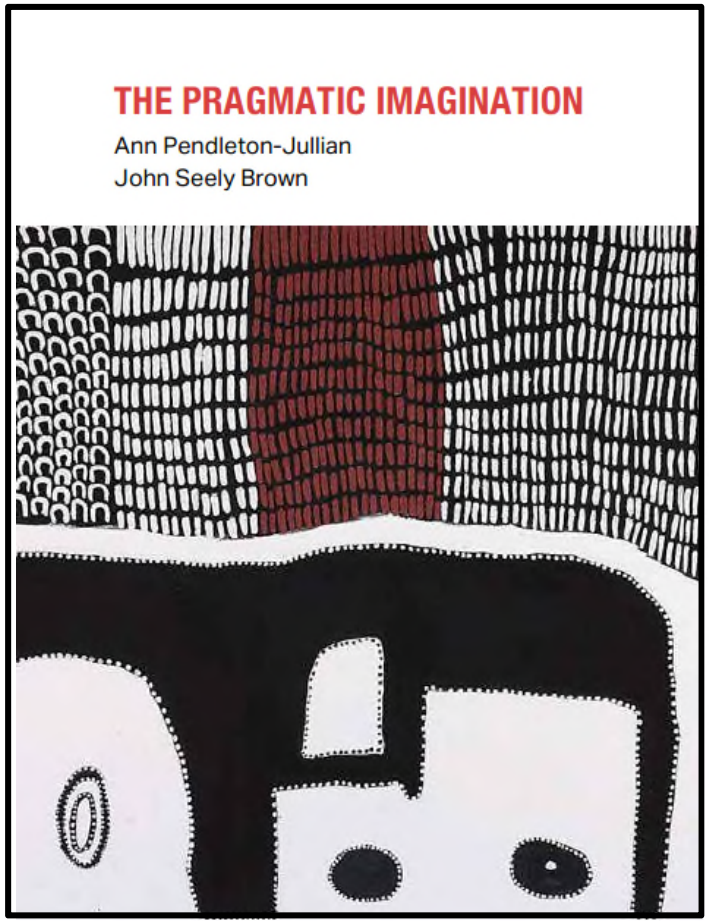
A simple key take away

Learning how to work most productively
with the machine
will involve a new kind of
man-machine symbiosis
freeing man to focus more on imagination

A more complicated take way

In a world of exponential change honoring the tacit
is now more important than ever.
Knowing over Knowledge.
Can deep machine learning help?

Thank You.



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