

- **WHAT COULD  $\geq$  70% UNEMPLOYMENT IN 10-20 YEARS DO TO US?**
- Will the average villager in Iowa and Punjab set up a successful small business to fill in? (What percentage of small businesses succeed?)
- We are at a huge crossroads where IT plays a central role either way:
  - Do we help create an oppressive world where most humans become more disconnected, rightly mistrustful, squashed and more violent? Where markets are rigged?
  - Or can we find a path more like Germany and Sweden, more actively fostering human empowerment and potential, honorable competition, resting on more solid privacy, openness, distributed power, worldwide?

# Learning Pains as Humanity Adapts to 1 or 2 New Central Organizing Systems

Most of Earth History

Learning Pains and Unfinished Struggle 2000 BC to 2000AD

New Global Controlling Systems as Important as DNA and \$

DNA Evolution: Biology (Including Brains, Families) Rule Life

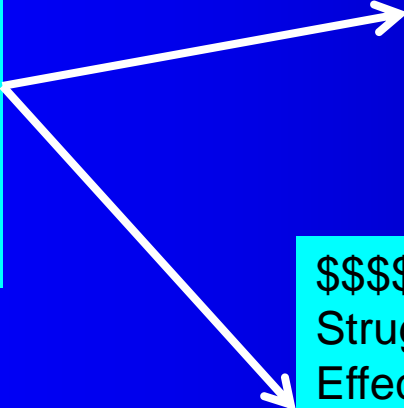
DNA, Biology

\$\$\$\$\$: Struggle for Effective Market Systems versus Dystopic Problems

?? Enable More, Deeper, More Effective Human Collective Consciousness?

Global Information Technology Systems Big Choices Being Made Here and Now

??



# New Tech Has Led to Dramatic Choices In The Past

**Personal PC:  
The Liberator**



**IBM WYLBUR:  
Rule by Power 1960 -...**



Oppression by  
Priest Kings, enabled  
by agriculture,  
Sumeria ++++



**AI can go either  
Way, depending  
on what paradigm  
we tacitly assume  
& build upon**



AI



BCI



H2S, Climate



WMD+

**Lifeboat Foundation Studies:  
Extinction of Human Species  
Quite Possible if Top Decision  
Makers Unconsciously  
Assume and Implement  
Obsolete Paradigms for IT!!!**

# Paradigms for IT: From Old and Dangerous to Emerging Hope

Expert Systems  
(no values)  
And Fixed  
Point Control  
(no freedom,  
growth)

Watson plan  
for global IOT,  
fortunately  
toned down

Today's Deep  
Learning:  
Prediction  
And Analytics  
But No Values,  
Decision

RLADP with  
Deep Learning  
Lewis, Liu '13:  
Foresight,  
Stochastic  
Optimum,  
But one value

See story of  
Stafford Beer  
In Chile

MARKETS: Multiplayer  
Generalization of  
RLADP, Like improved  
Intelligent grid DSOPF



Human Potential

Teleautonomy Baiden  
Words But Also...

Radical New Hardware  
Quantum, Heat, Energy

Unbreakable Transparent  
Open OS and Comm and Top Level

# Some citations (see google scholar)

- **Nuclear** proliferation, terrorism, cybersecurity, some quantum possibilities (ever more realistic): [www.werbos.com/NATO\\_terrorism.pdf](http://www.werbos.com/NATO_terrorism.pdf)
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- **AI**: additional slides, [www.werbos.com/Mind.htm](http://www.werbos.com/Mind.htm)
- **BCI**: additional slides, and Werbos and Davis, *Frontiers in Systems Neuroscience*, 2016.
- More **advanced quantum** technology: Werbos and Dolmatova, *Quantum Information Processing*, also posted at [www.werbos.com/triphoton.pdf](http://www.werbos.com/triphoton.pdf)