

# Future Design A Prelude

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# Outline

- ◆ Iroquois' Idea: Seven Generations Sustainability
- ◆ Markets deprive future generations' resources without hesitation
- ◆ Myopic Constitutions
- ◆ The Optimism Bias Dilemma
- ◆ How can we design the future?
- ◆ Educational Systems Design

# Iroquois' Idea

- ◆ **Seven Generations Sustainability:**  
“In every deliberation, we must consider the impact on the seventh generation ... even if it requires having skin as thick as the bark of a pine.”  
*Great Law of Peace.*
- ◆ The Iroquois system of government influenced the development of the Articles of Confederation and the United States Constitution.

# SENATE CONCURRENT RESOLUTION 76

Wednesday, September 16, 1987 100th Cong.

TO ACKNOWLEDGE THE CONTRIBUTION OF THE IROQUOIS CONFEDERACY OF NATIONS TO THE DEVELOPMENT OF THE U.S. CONSTITUTION AND TO REAFFIRM THE CONTINUING GOVERNMENT-TO-GOVERNMENT RELATIONSHIP BETWEEN INDIAN TRIBES AND THE UNITED STATES ESTABLISHED IN THE CONSTITUTION

Whereas, the original framers of the Constitution, including most notably, **George Washington** and **Benjamin Franklin**, are known to have greatly admired the concepts, principles and governmental practices of the Six Nations of the Iroquois Confederacy; and,

Whereas, the Confederation of the original **thirteen colonies** into one Republic was explicitly modeled upon the **Iroquois Confederacy** as were many of the democratic principles which were incorporated into the Constitution itself; and, ....

# SENATE CONCURRENT RESOLUTION 76

Now, therefore be it

RESOLVED BY THE SENATE (THE HOUSE OF  
REPRESENTATIVES CONCURRING), That:

The Congress, on the occasion of the 200<sup>th</sup>  
Anniversary of the signing of the United States  
Constitution, acknowledges the historical debt  
which this Republic of the United States of  
America owes to the Iroquois Confederacy and  
other Indian Nations for their demonstration of  
enlightened, democratic principles of government  
and their example of a free association of  
independent Indian nations; ....

# Three Human Oddities

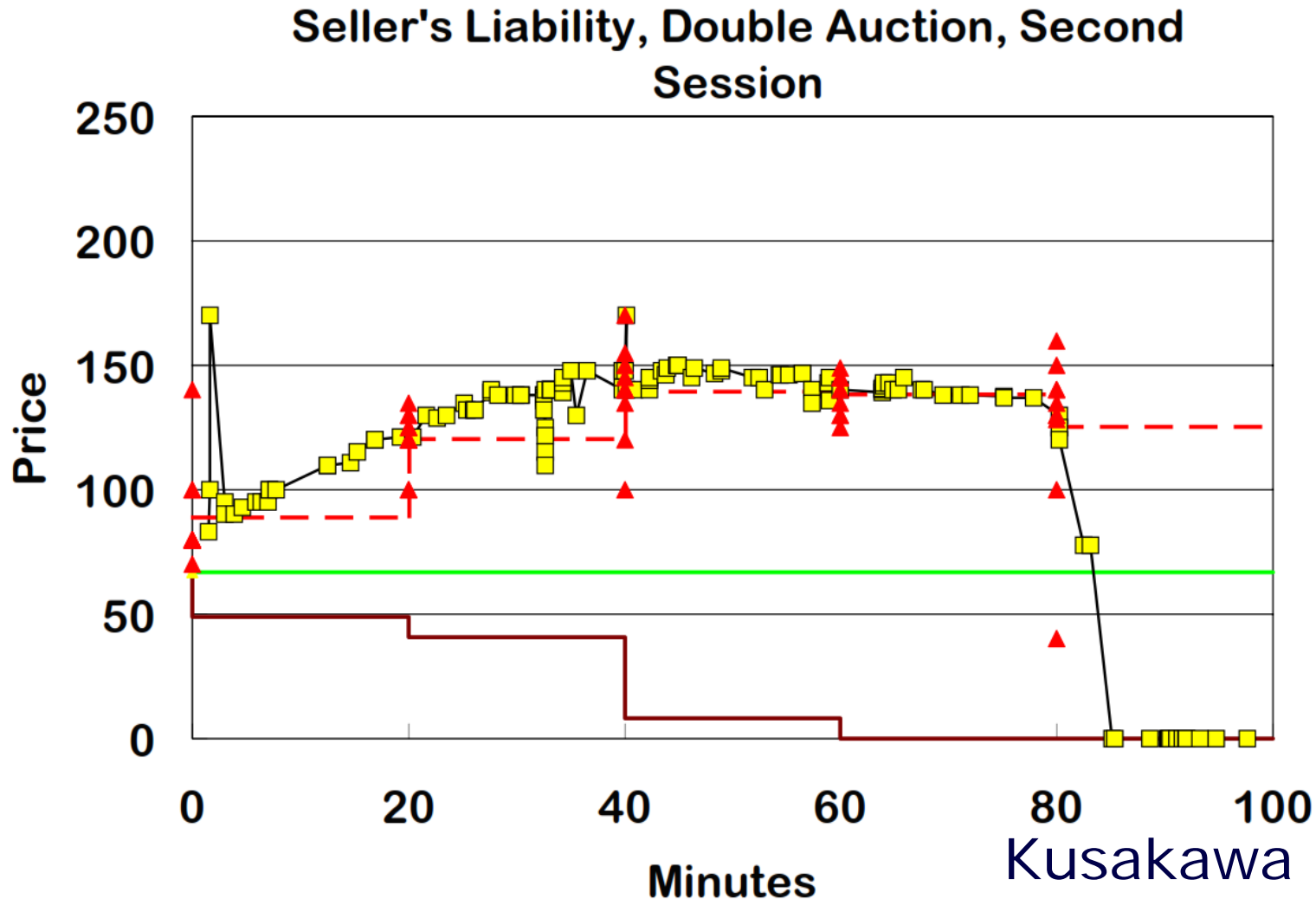
- ◆ **Contrasts (or Relativities)** rather than Absolutes: responds to changes of our environments – light or sound
- ◆ **Sociality**: understands human relationships.
- ◆ **Short-sidedness**: steep temporal discounting – the dopamine reward pathways in our brain light up on brain-imaging tests when we go for the impulsive immediate reward.

Sapolsky (2012)

# Three Market Oddities

- ◆ **Relativity** is **marginality** in economics. I.e., optimization tool.
- ◆ **Sociality**: the market is a device to erase sociality.
- ◆ **Short-sightedness**: Fundamental Theorems in Welfare Economics do not have **TIME**: market failure occurs if we include time in our models.

# Market Failure: Investment



Kusakawa & Saijo  
(2002)

Figure 11. The Bubble Case

# Markets Deprive Future Generations' Resources

- ◆ Markets do not have a function to allocate resources between current and future generations.
- ◆ Can government fix this problem?:  
The debt of the Japanese government is more than double the amount of our current GDP.
- ◆ Externalities among generations: climate change etc.

# Constitutions

- ◆ Do our constitutions consider future generations?
- ◆ Nine countries (USA, Canada, China, South Korea, Japan, France, Germany, Switzerland and Russia):  
No words such as future or generation in their constitutions.  
Article 20a, Preambles.

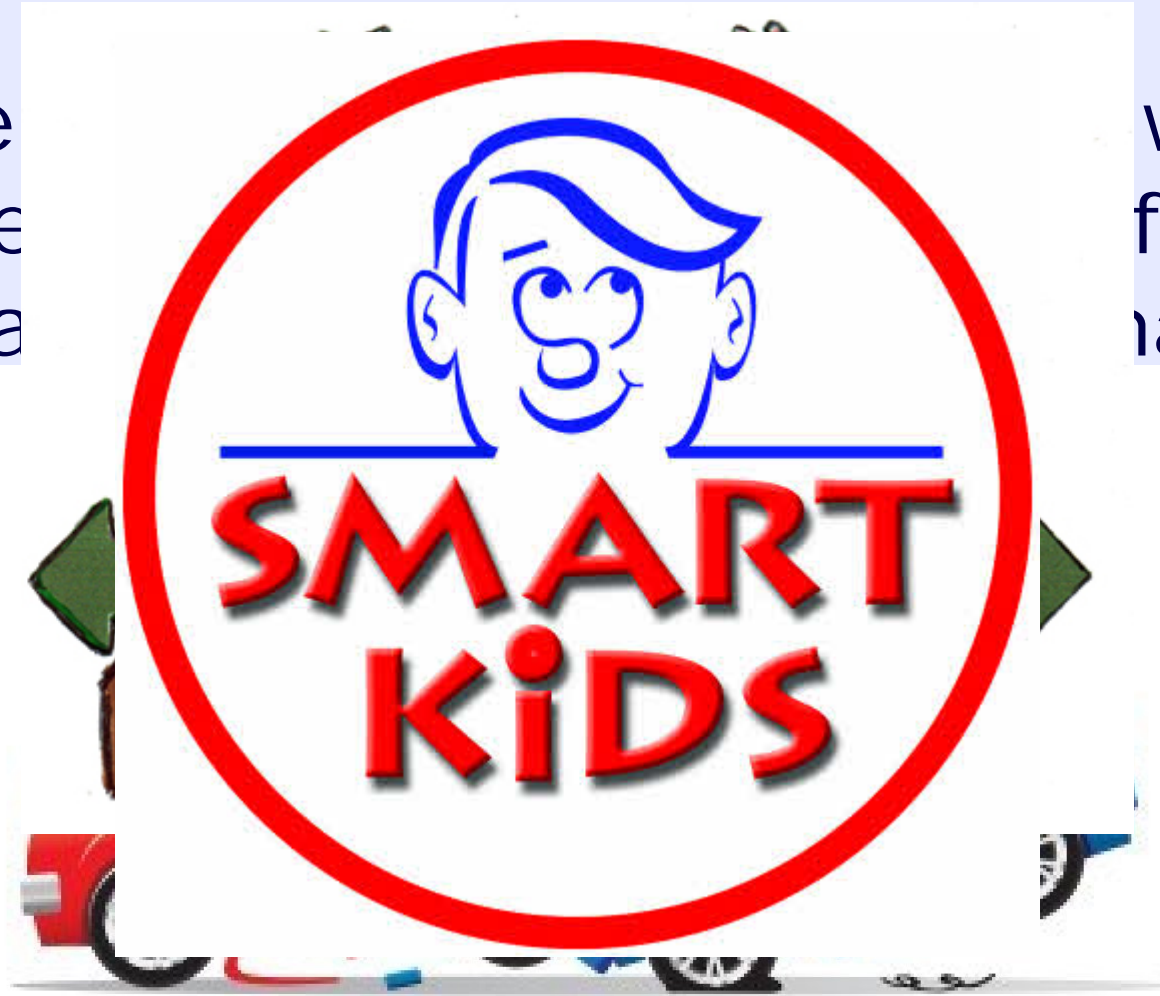
# Representative Democracy

- ◆ No words on the future or future generations in almost all constitutions.
- ◆ No obligations for considering future generations among citizens when they choose representatives.
- ◆ The representatives only seek to win in the next election.
- ◆ Present democracy does not consider future generations.

# The Optimism Bias 1

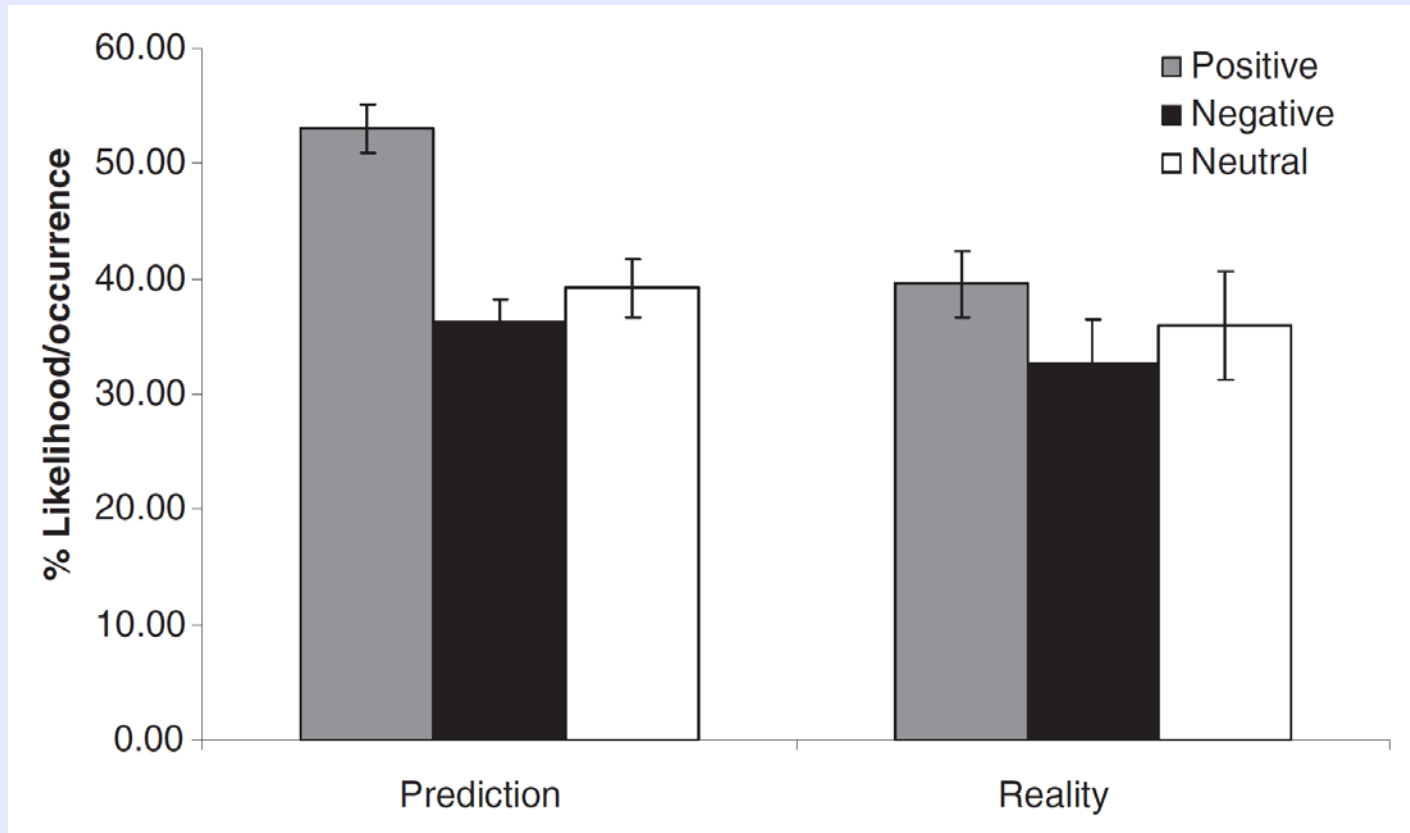
- ◆ When we underestimate negative events, we

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011.

# The Optimism Bias 1



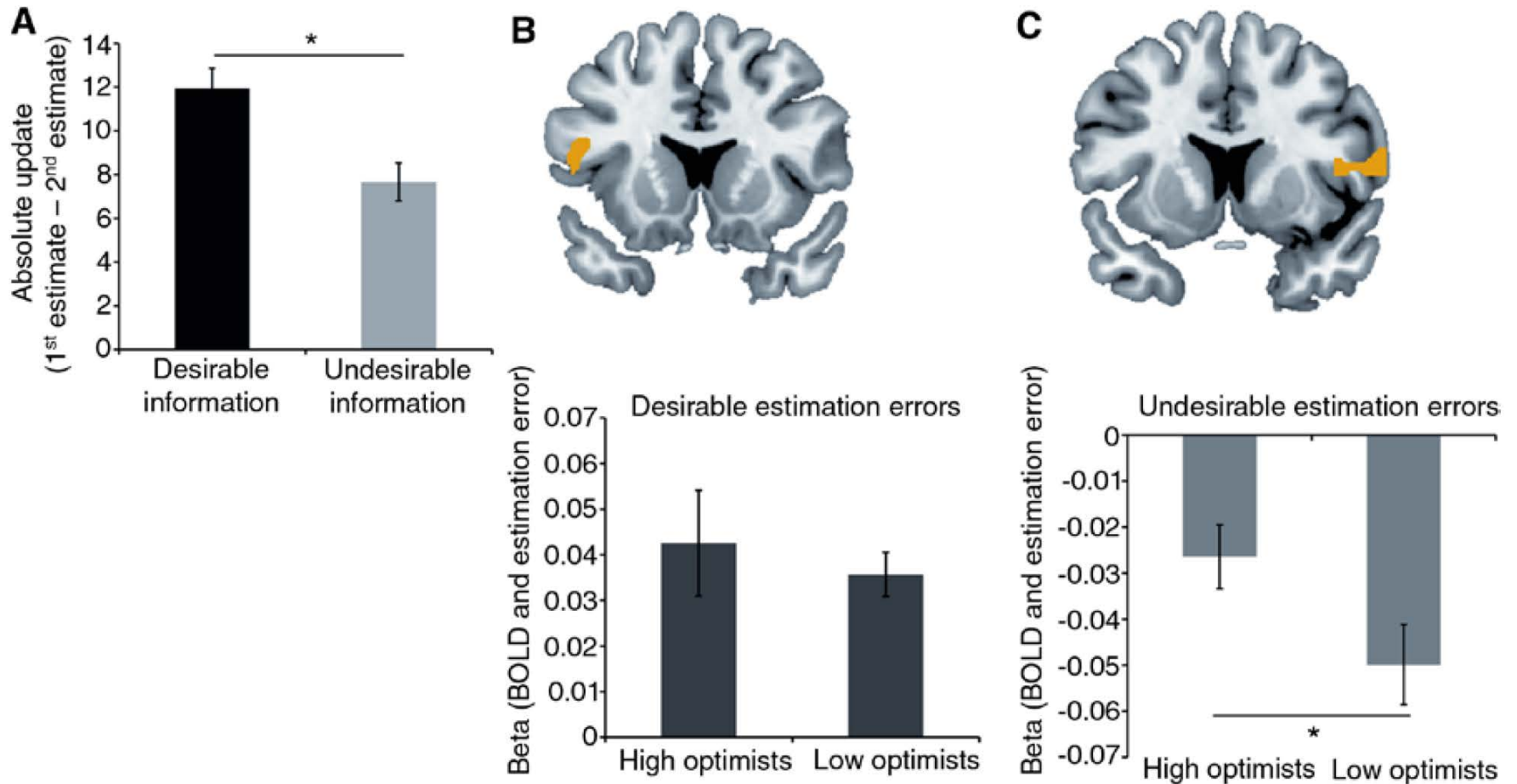
Tali Sharot, "The Optimism Bias," *Current Biology*, Vol. 21 No 23, R941-5, 2011.

# The Optimism Bias 2

(t)he brain was pretty good at tracking mismatches *only* when the new information was positive... When the news was undesirable..., the brain did not tack the error as closely. Since the frontal lobes selectively recorded desirable errors but failed to record undesirable ones, people learned more from the good news than from the bad news.

Tali Sharot, *The Optimism Bias: A Tour of the Irrationally Positive Brain*, Pantheon, 2011.

# The Optimism Bias 2



Sharot et al. *Nat. Neurosci.* (2011)

# Benefit of the Optimism Bias

- ◆ The effects can be quite substantial, with one survey of 97,000 individuals reporting that optimists are 14% less likely to die between the ages of 50 and 65, and 30% less likely to die from cardiac arrest. Optimism has also been related to extended survival time of cancer and AIDS patients.

Tali Sharot, *Current Biology* (2011).

# The Optimism Bias Dilemma

- ◆ Financial Downfall of 2008:  
Bankruptcy of Lehman Brothers
- ◆ Climate Change:  
Global warming, Sea level rise,  
Extreme weather etc.

# Need for Future Design

- ◆ **Market:** takes away resources of future generations without remorse.
- ◆ **Constitutions** are myopic.
- ◆ **The Optimism Bias Dilemma:** evolutionary nature of humans might be a source of future disasters.
- ◆ **Need Future Design**

# Future Design: Predecessors

- ◆ The **Green Book** in HM Treasury in England: relieves the optimism bias and strategic manipulation in public projects. => does not consider the benefits of future generations.
- ◆ **Two alternatives** in 2050 by Ehara et. al (2007). => do not show how to choose one of the alternatives.

# Future Design

- ◆ **Create Future Generations NOW.**
- ◆ People can pretend that they are somebody else. => Create a group of people who will consider only the future generations => **Ministry of the Future.**
- ◆ **Min. of Future** negotiates with the current generation.

# Non-Identity Problem

- ◆ **Parfit (1988):** The choice of the current generation stipulates the possibilities of future generations including the population.
- ◆ **Our first approximation:** We will have exactly the same distribution of people in the future.

# Negotiations

- ◆ People in the Min of the Future must identify problems in the future and then show alternatives to the current generation.
- ◆ Choose a group randomly from the current generation and then show them the alternatives. => **Virtual Future Generation.**
- ◆ Choose another group randomly from the current generation. => **Virtual current generation.**
- ◆ Both must talk and negotiate and then propose an alternative. => Congress etc.

# From Prediction to Retrodiction

- ◆ **Backcasting** (not forecasting, but retrodicting) would be an effective tool for future design.
- ◆ **Energy Trading**, i.e., after determining the path of an energy source such as coal, trade the usage rights among people.

# Evolution of New Society

- ◆ Constitutions will have “future” and “generations”.
- ◆ Fundamental Law on Future.
- ◆ Min of the Future, Division of the Future etc.
- ◆ Department of Future Design in Universities and graduate courses.
- ◆ These people will be respected.