

## Networks and The Creative Process

**Session Eight: March 5, 2010**

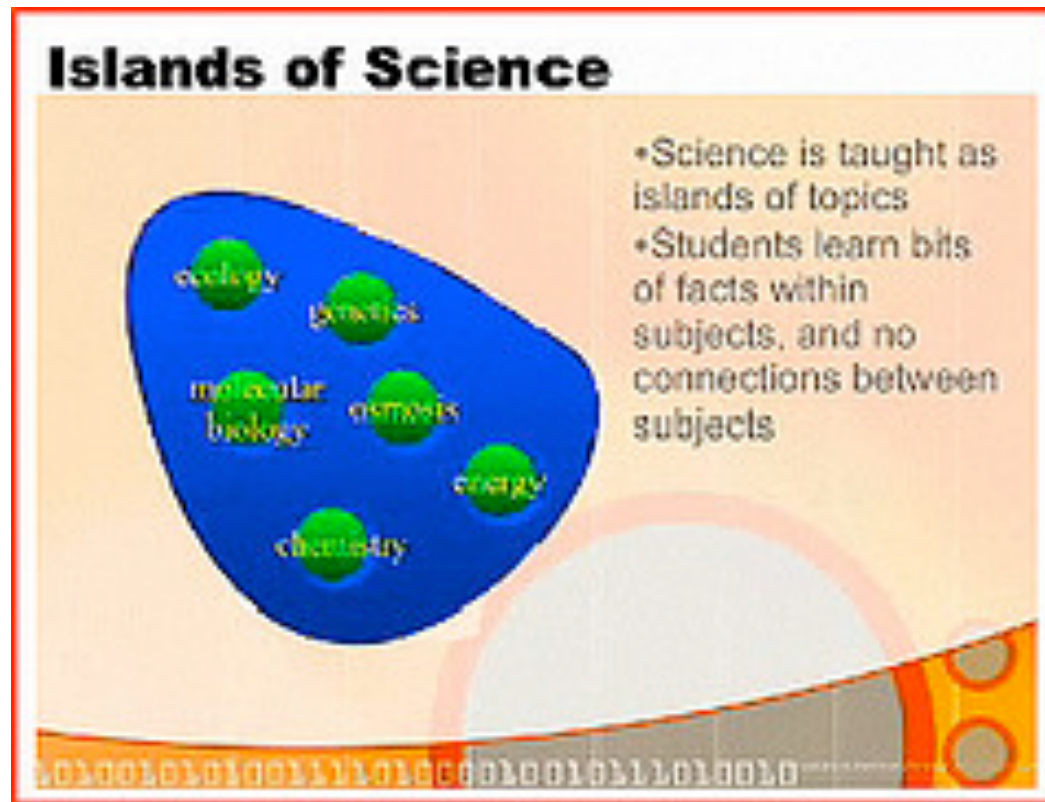
**Creativity and Complexity**

# + Remember Brian Arthur?



350 x 490 -  
53k - [jpgdomino.lancs.ac.uk](http://jpgdomino.lancs.ac.uk)

# + Is Complexity—A Creative Outcome?



Santa Fe Institute on importance of...  
from [judy\\_breck](#)

# + Is Creativity A Complex Process?



Simple Complexity in  
Circuit...  
from [RestLeSsD](#)

# + A Networked Environment.



Multicomplex Management (MCM) and...  
from [Hans Bruno Lund](#)

# + Oscillations



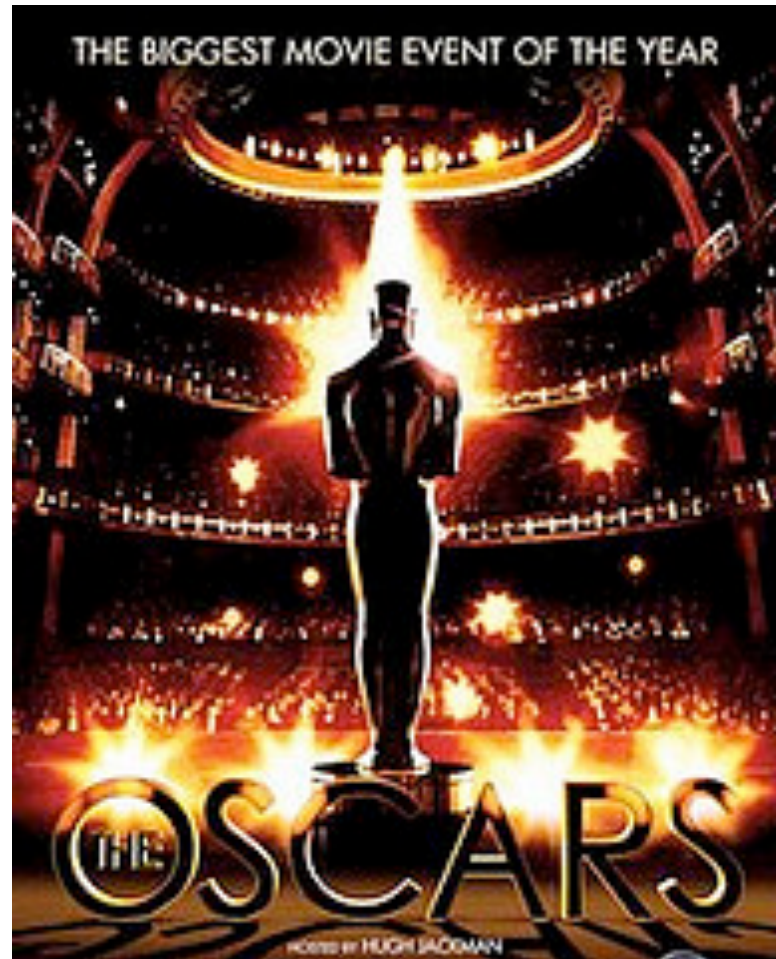
I Need To Change - Christian...  
from [~:i m a j a n::~](#)

# + Phase Transitions



[www.dadart.com/dada-media/galaxie-dada-p.jpg](http://www.dadart.com/dada-media/galaxie-dada-p.jpg)

# + The Power Law



10 Ways to Watch Oscar Awards  
2010...  
from [Kevisty](#)

# + The Importance of Architecture



London Underground in Urban...  
from [davidgutierrez photography](http://davidgutierrezphotography.com)

+

# Creativity and Small World Networks



Diversity Embraced  
from [\\*charminglyBohemian](#)

# + Size Offers Greater Opportunities for Novelty



# + But Increased Density May Stifle Creativity



Michael Wolf Architecture of...  
from [ludovicus2009](#)

# + Can We Design for Creativity?



Space: 1999 design essay  
from [toban nichols](#)

# + Creativity as a Function of Social Interaction



Interaction  
from [sonykus](#)

# + The Whole is Greater Than the Parts



Dallas Symphony Orchestra  
from [davidanthonyporter](#)

+ Is Culture a Creative (emergent)  
Outcome?



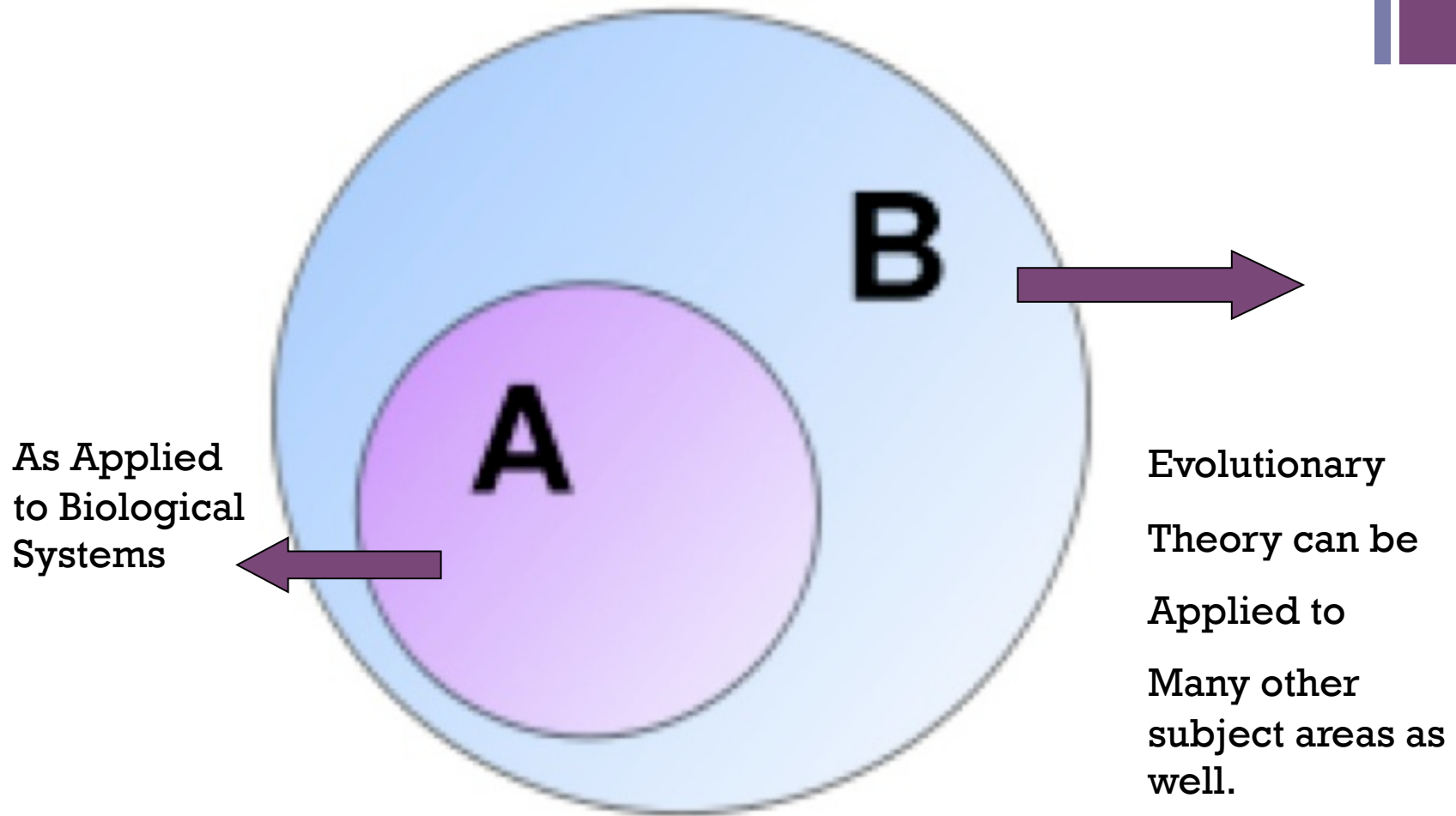
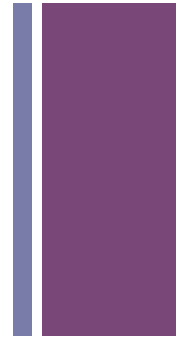
Lady Gaga [POP CULTURE]  
from [Jary\\*](#)

+ Creativity (learning) Is An Evolutionary Process.



learning love  
from [Maggie's World](#)

# + Biological Evolution A Subset...



## + Evolutionary Theory Provides An Analytical Framework

$$(4) \quad cpi = \sum_n \lambda_n p_n$$

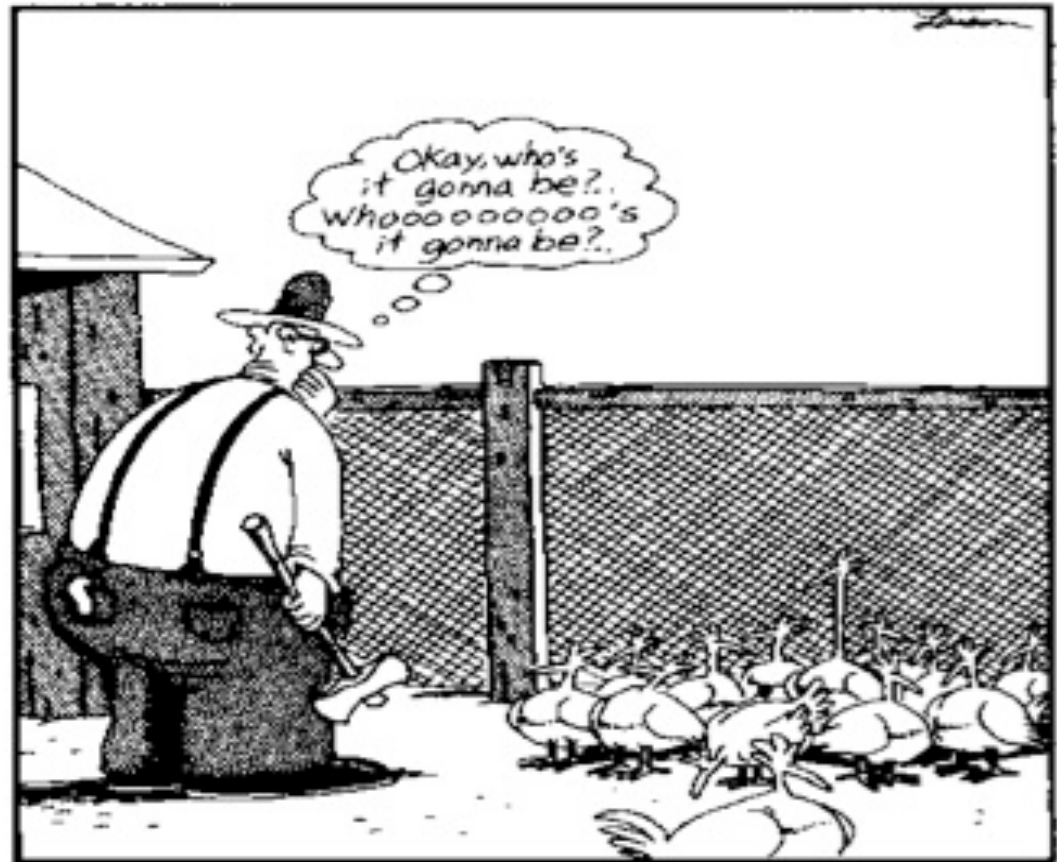
$$(5) \quad y^i = \sum_m \Omega_m^i \omega_m$$

$$(6) \quad y = \sum_m \Pi_m \omega_m$$

For Understanding Selection Choices & Relating them to Society

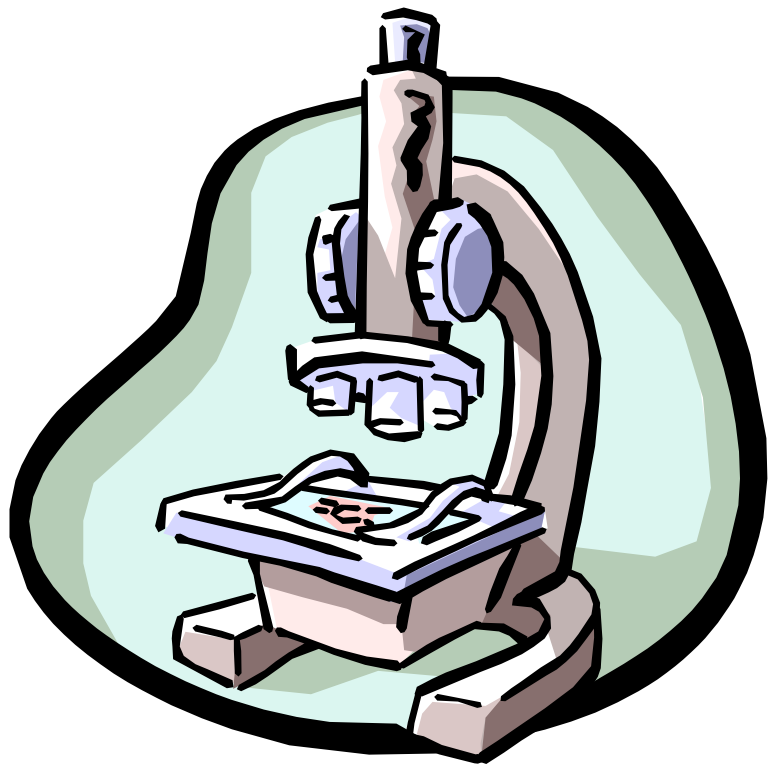
# + Evolution Is an Algorithm: A Recipe for Selection & Innovation.

If you:  
Differentiate  
Select  
Amplify



Evolution Will Ensnue

+ Evolutionary Theory Allows for A  
Multilevel Analysis.



From Micro to Macro

# + Sims Block Creatures



[digitalspace.com](http://digitalspace.com)

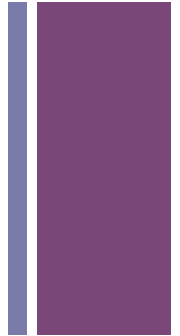
# + Design Space



[evilmadscientist.com](http://evilmadscientist.com)



# The Lego Library



**The Schema**

**The Schema Reader**

**The Interactor**

**The Judge**

**Variation**

**Selection**

**Amplification**

# + Fitness Landscapes



[classes.yale.edu](http://classes.yale.edu)