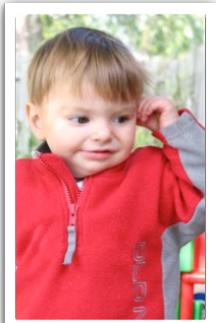


Developmental Learning Theory



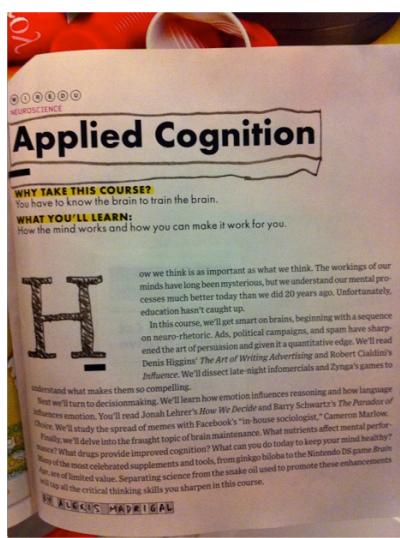
George Hollich

Purdue University
Department of Psychological Sciences

Favorite Movie

- Your Favorite...
- Your Favorite Children's...
- Your Children's Favorite...

Favorite Book

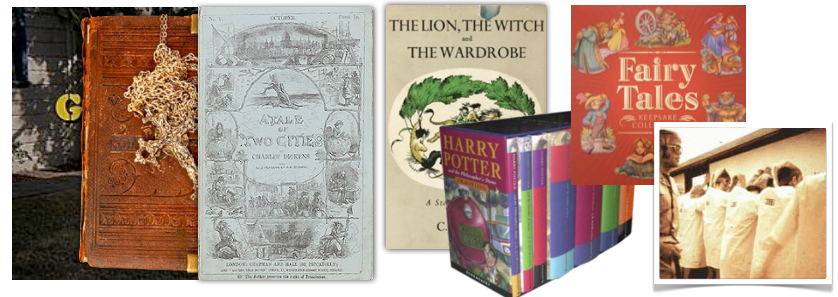


“We understand our mental processes much better today than we did 20 years ago. Unfortunately education hasn't caught up.”

-Wired

love, lust, & betrayal
with violence, death,
heroes and villains
psychological
transformation

deep meditation on how to be a better person



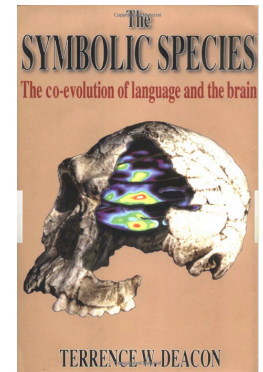
Socializing Stories of Self-Actualization

Wildly Popular Things
Tap into the **Purpose**
of Memory & Learning

(Nairne's "Nature's Criterion")

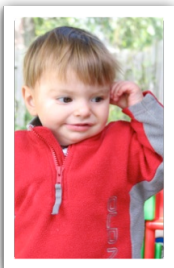
What is learning **for** ?

Language and
Expert Learning
are two sides of
the same coin.

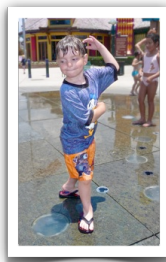


Expert Ultimate
Learning = Survival = Language

Developmental Learning Theory



Novice

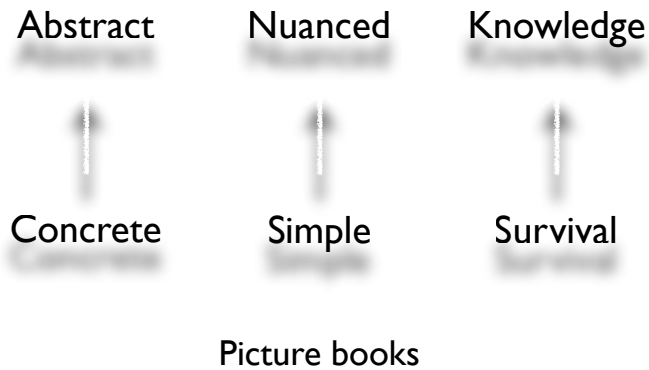


Expert

Experts are
Nuanced Semanticists

Novices are
Simplifying Survivalists

Book books, no more pictures



Experts socialize us
into their fields

Science, Technology & Math

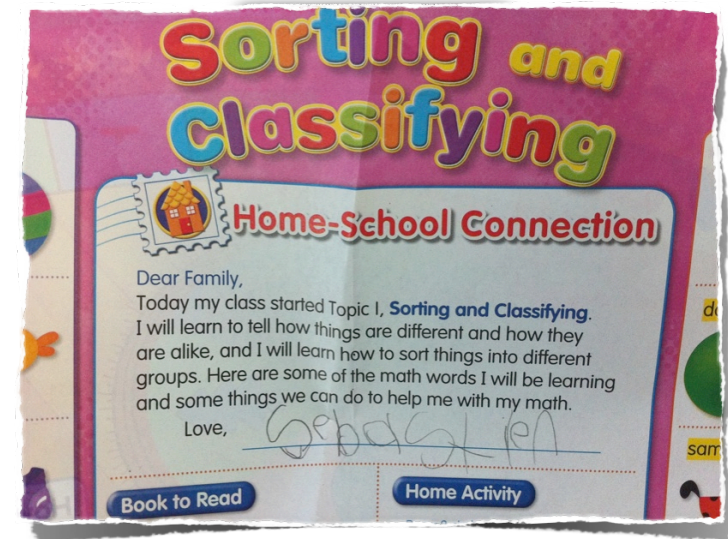
Music

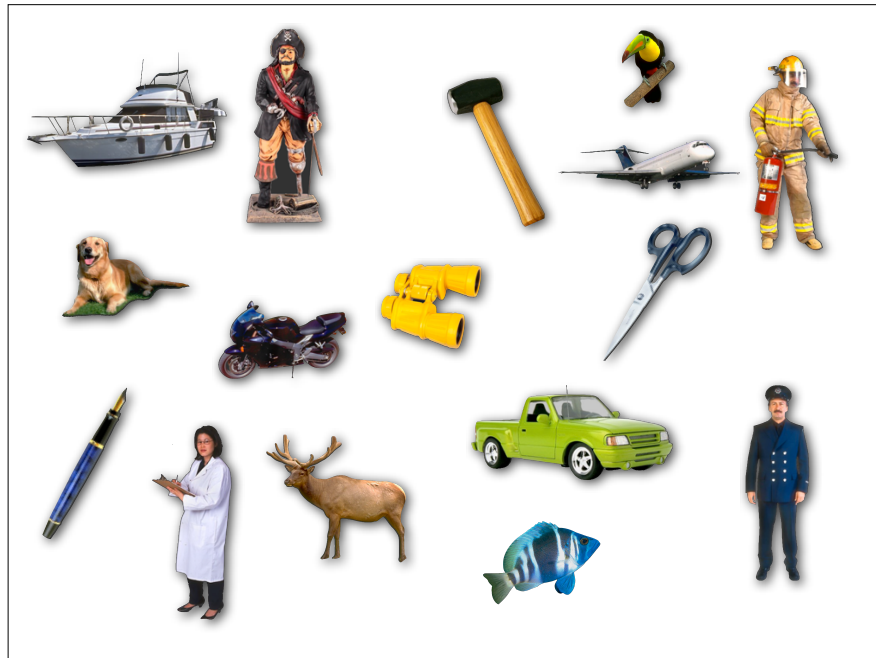
Psychology

Proper Behavior

Symbolic
Hierarchy
Highlighting
Subtle Patterns

What is Language for?






Superordinate-Level Categories






				
				
Animals		Vehicles		
				
				
Tools		People		

Basic-level Categories

Vehicles

	Motorcycles		Planes
	Cars		Trains
	Trucks		Boats

Cars

DLT Provides a framework:
What do we remember?
What will we learn?
Based on How Language is Learned

Language is Learning

Immersion

Sensory-Based

Relevance

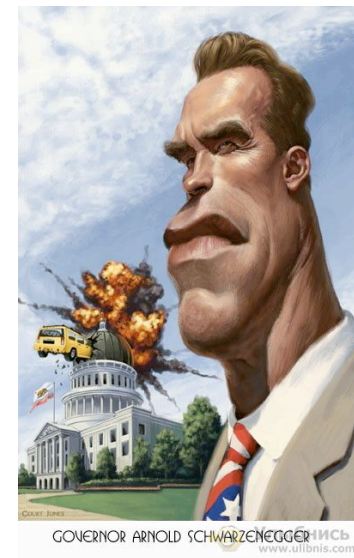
Survival

Invariance
Detection

Theme & Variation



Hyper-reality



Gregory House, M.D.

Simon Cowel



What [the artist] does (unconsciously) is to take the average of all faces, subtract the average from Nixon's face (to get the difference between Nixon's face and all others) and then amplify the differences to produce a caricature.

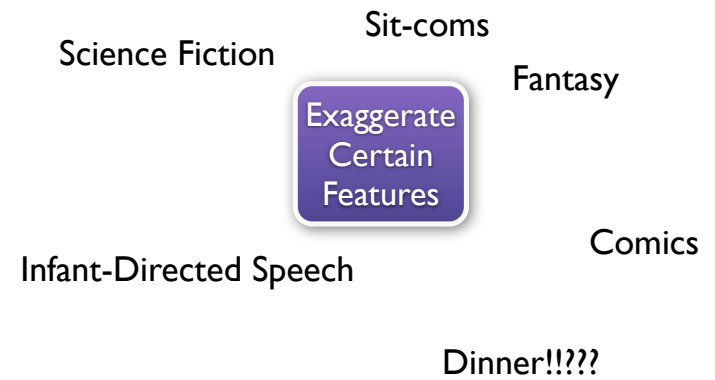
“Peak shift effect” (Ramachandran & Hirstein, 1999)



More REAL than reality.



More REAL than reality.





What do we remember?



Surprise!!

Death

Scarcity

Threats

Social Isolation

Hit you in the gut

Disgust

Joy

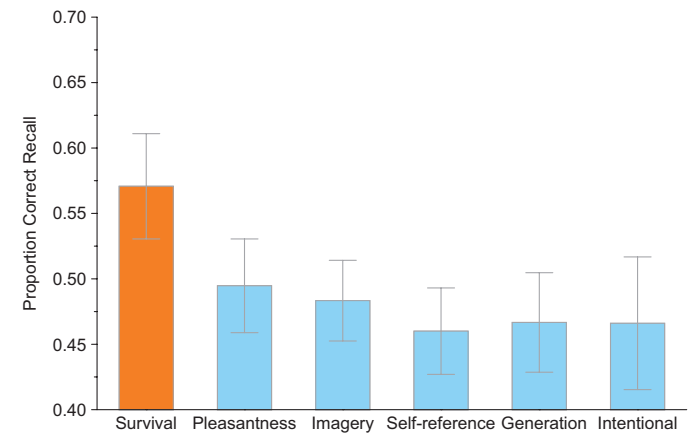
Relief

Social Acceptance

Table 1 Potential Candidates for Domain-Specific Mnemonic Processes.

Type of fitness-relevant selection pressure	Examples of potential mnemonic targets relevant to each type of selection pressure
Survival-related events	Food (edible vs. inedible), water, shelter, medicinal plants, predators, prey
Navigation	Landmarks, constellations, weather patterns
Reproduction	Physical and/or social characteristics of potential mating partners and/or rivals
Social exchange	Altruistic acts, reciprocation, violation of social contracts, social status or hierarchy
Kin	Physical features and social actions of kin versus nonkin

Note: For each category, our memory systems might be tuned to remember the examples on the right; for example, remembering the locations of edible food, medicinal plants, the meaning of weather patterns, family members, and altruistic acts.



Nairne, Pandeirada, and Thompson (2008)

“Each of these procedures is known to produce **excellent long-term retention** —in fact, these are among the best encoding techniques available in the arsenal of the memory researcher—yet once again, a simple decision about relevance in a survival scenario was sufficient to produce the **best** recall performance.”



- James S. Nairne

Top 10 Book Sales - Adult Non Fiction - 2009					
Rank	Title	Format	Author	Publisher	Publication Date
1	Act Like A Lady, Think Like A Man: What Men Really Think About Love, Relationships Intimacy, And Commitment	Hardcover	Steve Harvey	Amistad Press	2/1/2009
2	Glenn Beck's Common Sense: The Case Against An Out-Of-Control Government, Inspired By Thomas Paine	Trade Paperback	Glenn Beck	Threshold Editions	6/1/2009
3	Liberty And Tyranny: A Conservative Manifesto	Hardcover	Mark R. Levin	Threshold Editions	3/1/2009
4	Outliers: The Story Of Success	Hardcover	Malcolm Gladwell	Little Brown And Company	11/1/2008
5	Going Rogue: An American Life	Hardcover	Sarah Palin	HarperCollins	11/1/2009
6	Three Cups Of Tea: One Man's Mission To Promote Peace ... One School At A Time	Trade Paperback	Greg Mortenson	Penguin Books	2/1/2007
7	Eat This, Not That! Supermarket Survival Guide: The No-Diet Weight Loss Solution	Trade Paperback	David Zinczenko	Rodale Press	12/1/2008
8	The Last Lecture	Hardcover	Randy Pausch	Hyperion Books	1/1/2008
9	Have a Little Faith: A True Story	Hardcover	Mitch Albom	Hyperion Books	9/1/2009
10	Arguing with Idiots: How to Stop Small Minds and Big Government	Hardcover	Glenn Beck	Threshold Editions	9/1/2009

Source: The Nielsen Company. Data does not include sales from Wal-Mart, Sam's, BJ's or libraries.
Note: Sales from December 28, 2008 – November 29, 2009.

Socializing Stories of
Self-Actualization

Religion & Politics

Stories that
“play to the lowest
common denominator”



Keeping up with

OUR KIN???

...nise, she's a wonderful per-
...didn't want to show the
... We did the Pamela Ander-
... thought, 'We're going to
... ever! She has all sorts of
... on!' [She] didn't want to
... Kardashians decided early
... re going to do this, we're
... out there.'
... ough, is in how those mis-
... packaged. Nearly every epi-
... sode of *Keeping Up* and *Kourtney & Khloé*
... adheres to a well-worn sitcom formula
... whereby Lapses in Judgment or Bone-
... headed Mistakes lead to Nutty Conse-
... quences and Hurt Feelings that get
... resolved with Confession, Discussion,
... Apology, and Hugging. "When we origi-
... nally talked about doing this, I told them

(PREVIOUS SPREAD) KOURTNEY, KHLOE, AND KIM
JENNER: ALLSPORT UK/GETTY IMAGES EUROPE STA
LACHEY, ANNA WEBBER/WIREIMAGE.COM; BUSH, JOE SE
THE KARDASHIAN FAMILY: JEFF VESPA/WIREIMAGE.COM
TODD V

Are we, the experts,
“above this”?

Not if we want to
reach our students.

NO INTEREST
NO LEARNING



“The movie didn’t
add to the book”

“Felt like I’d already seen it”

“Loved the book,
hated the movie”

Curse of Knowledge?

Theme & Variation

(Schema Theory, Assimilation & Accommodation)

Always learning with respect to what came before.

Show what's the same & Different



• Assimilation



• Accommodation

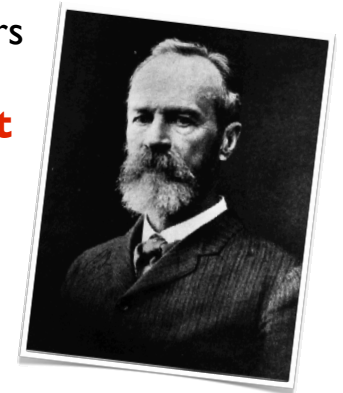
“Some academic writers harbor the illusion that the **more abstract and high-sounding their writing is**, the more readers will be impressed. On the contrary, most readers **need concrete examples** or analogies in order to understand other people's ideas.”

“The more abstract the points, the more readers need examples.”

- Sternberg








“In my belief that a **large** acquaintance with particulars often makes us wiser than the possession of **abstract** formulas, however deep, I have loaded [my] lectures with **CONCRETE** examples...”



- William James



				
Color Fur Shape Sound Parts	Shape Sound Parts	Shape Sound Parts	And Exceptions	Shape Sound Parts
Individual	General			Nuanced

Not just Word Learning

Case Studies in Law

Gathering good examples

Medical Residency

Profiles in Courage

Fairy Tales

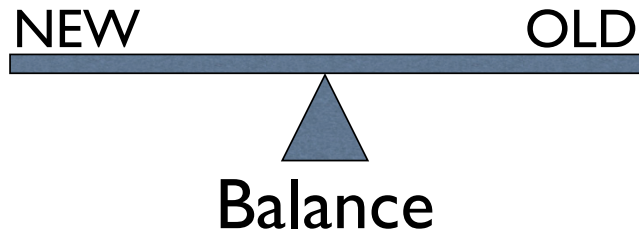
Pinker, Gladwell, and other Popular Science Writing

“Once you’ve been wowed, the same trick doesn’t work anymore”

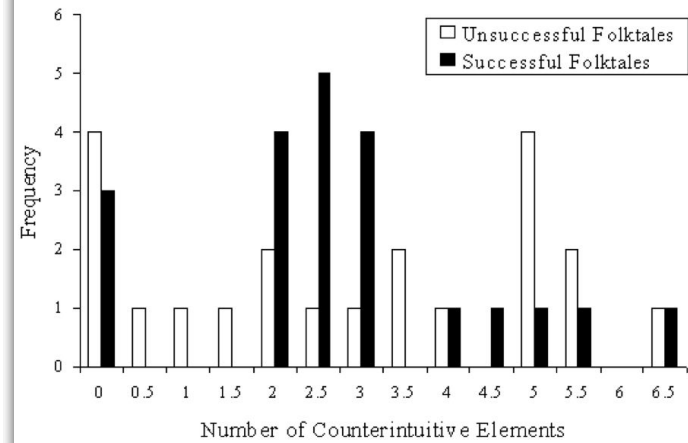
- Seth Godin

Something out of place

Completely Familiar



A. Norenzayan, S. Atran, J. Faulkner, M. Schaller/Cognitive Science 30 (2006)



Humor

US / but NOT

Songs

Allegory & Metaphor



and those that don't

Children's Books





What do we remember?

Hyper-real
 Survival-Based
 Variations on a theme

Intervention Effectiveness (R^2)	Print Knowledge	Phonological Processing
Sensory-Based	0.22	0.35*
Survival	0.00	0.13
Theme & Variation	0.80**	0.58**

Han & Hollich, in progress