

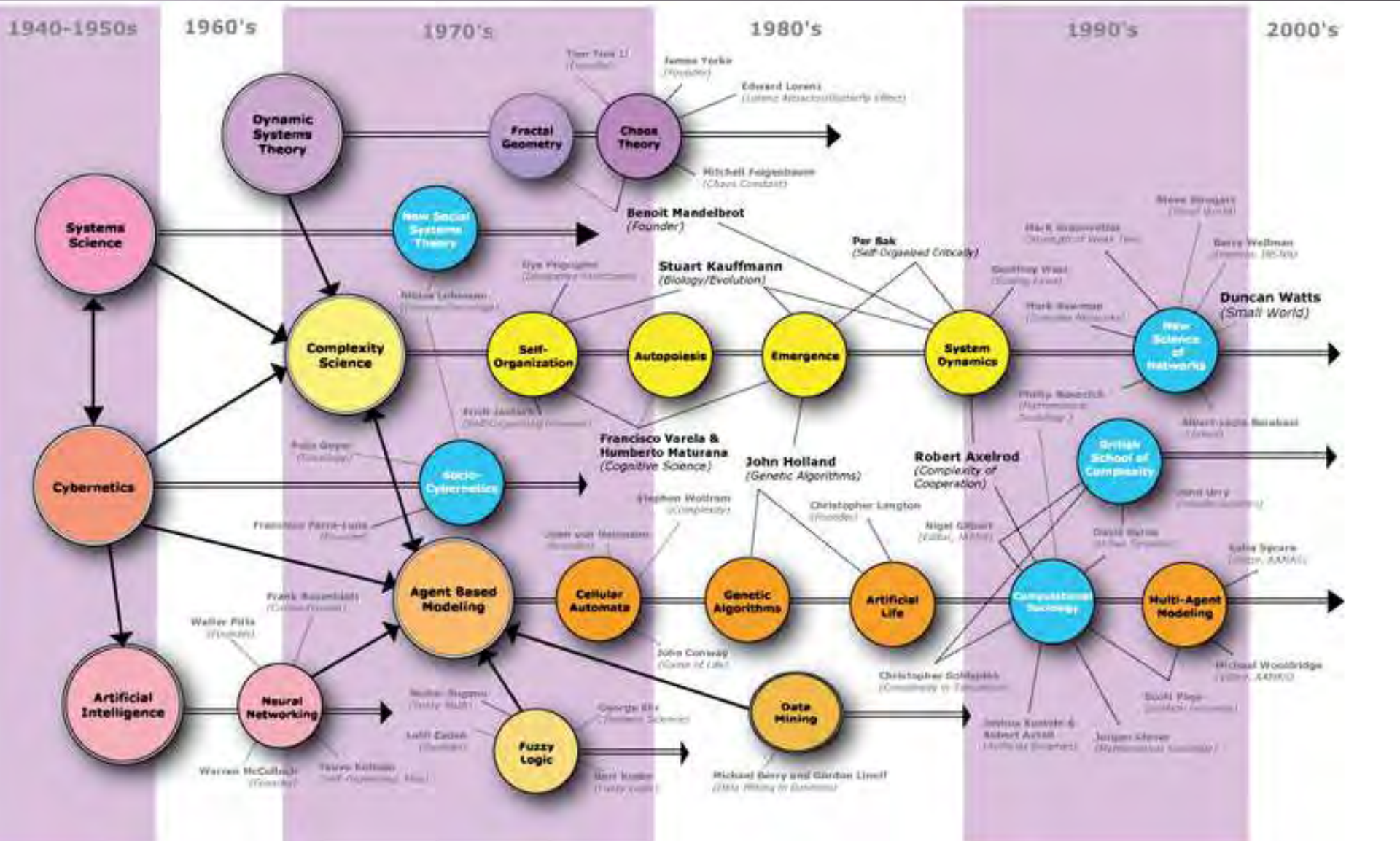
*COMPLEXITY IS MORE THAN A  
LABEL:*

*A LOOK AT AFFORDANCES AND  
HOMOLOGIES*

Michael Lissack

Executive Director

Institute for the Study of Coherence & Emergence



What's the worst  
thing complexity  
does to your  
business?

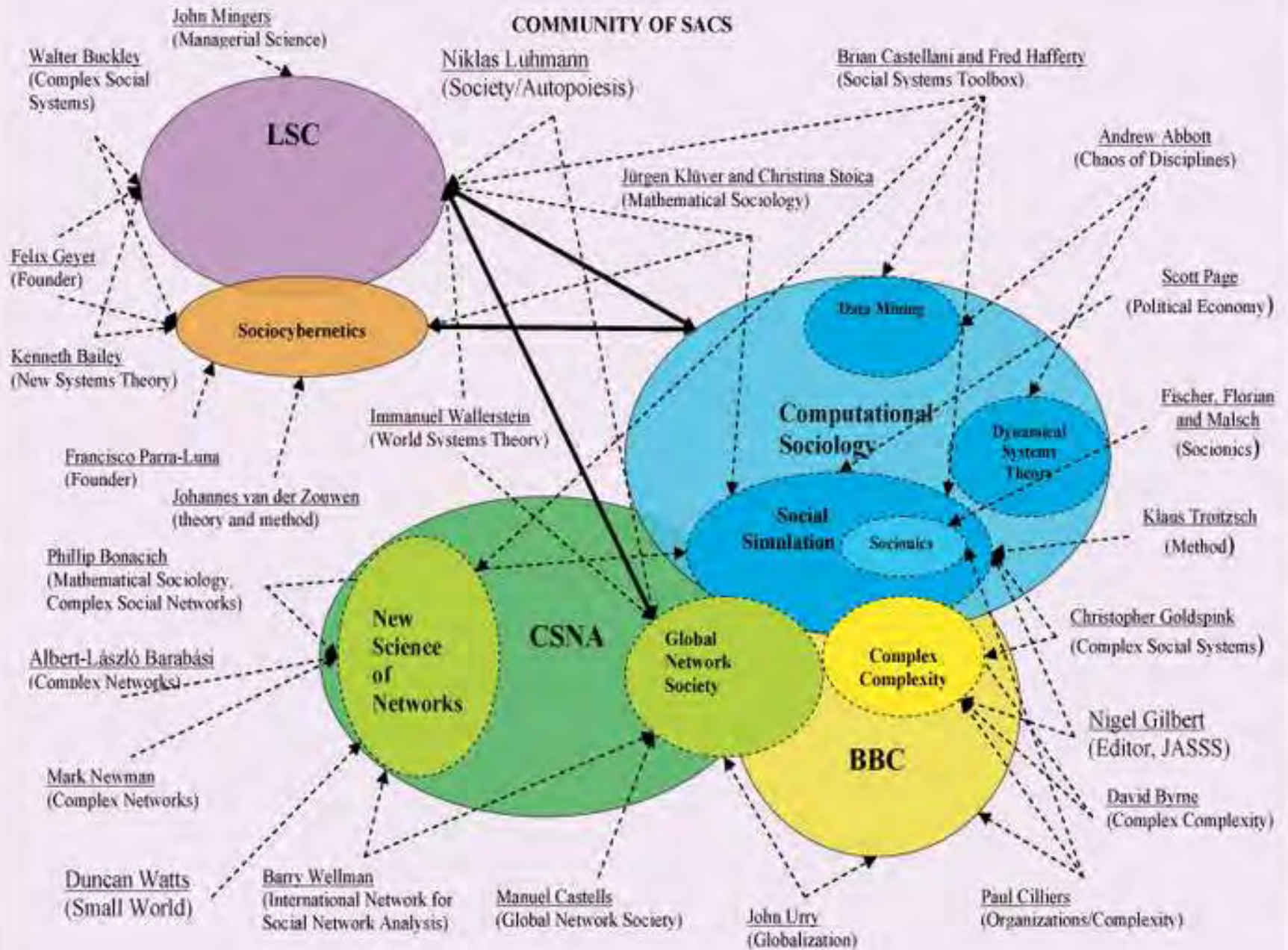
Adds cost or  
hides value?

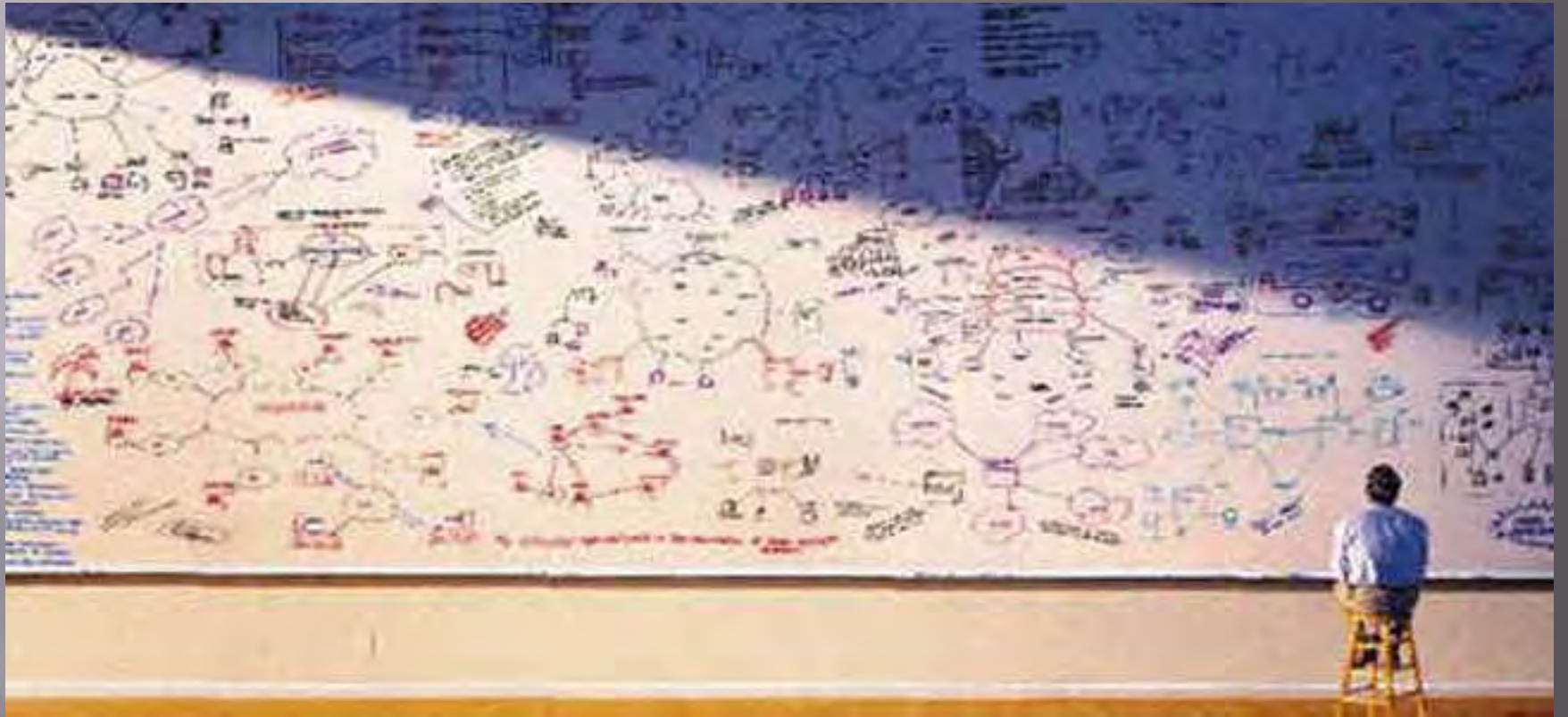


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[whatwouldyouliketochange.com](http://whatwouldyouliketochange.com)

# COMMUNITY OF SACS





“Knowledge is not a matter of getting reality right, ... but rather a matter of acquiring habits of action for coping with reality”

Richard Rorty

- ▣ When I use a word,” Humpty Dumpty said in a rather scornful tone, “it means just what I choose it to mean—neither more nor less.”
- ▣ “The question is,” said Alice, “whether you can make words mean so many different things.”

—Lewis Carroll

▣

# Complexity reveals difficulties in “meaning”

- ▣ Identity of actors, situations, and contexts is seldom stable and often time proceeds in multiple directions
- ▣ Inter-relatedness
- ▣ Ambiguity
- ▣ Emergence
- ▣ Multiple Levels
- ▣ Multiple Perspectives
- ▣ Weak Signals
- ▣ Emergence and weak signals raise questions about models, labels, attributes, metaphors.... and meaning



- ▣ We live in a time that is exemplified by fleeting messages, complex shifting meanings and mercurial contexts.

William Seaman

- ▣ Our identities are constructed along narrative principles, and often constructed and reconstructed in the actual telling of stories about ourselves in daily life, in family groups, etc

Jerome Bruner

- ▣ We tell our lives as narratives, but we experience them as hypertexts'.

Jay Lemke





# A Golfing Parable





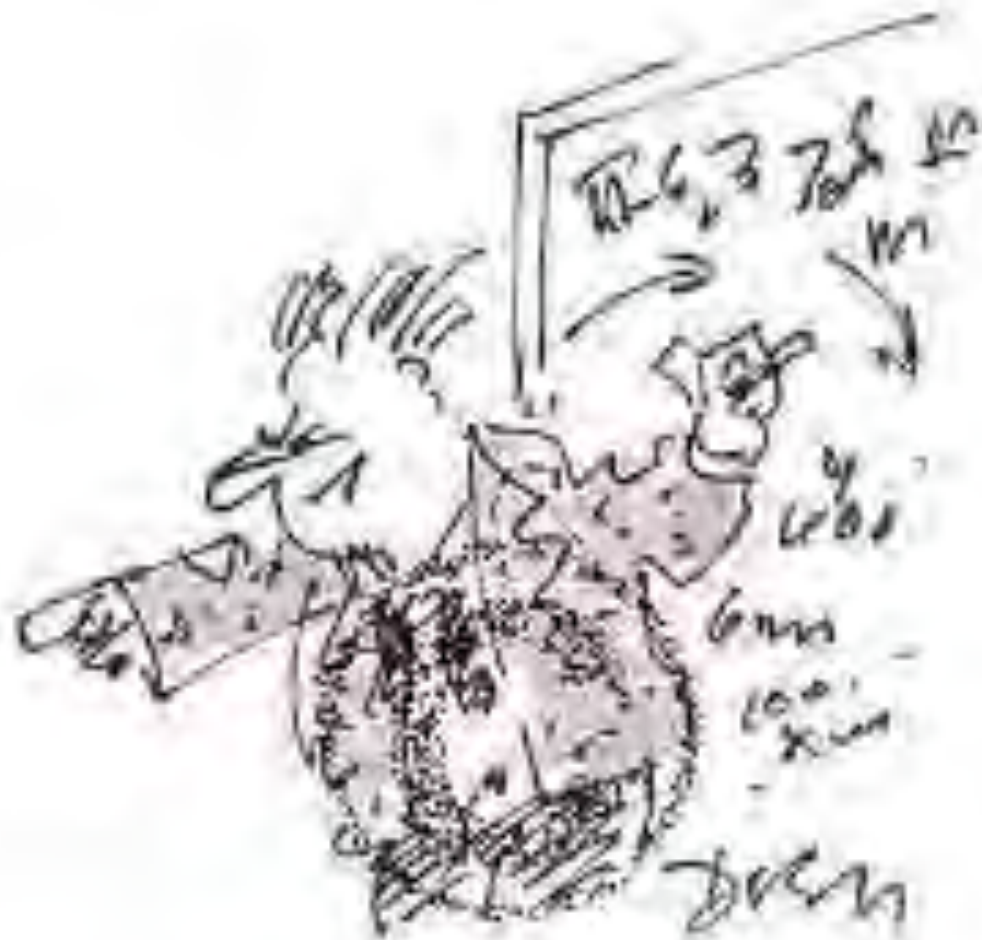












'That's where you're wrong!  
It is rocket science.'



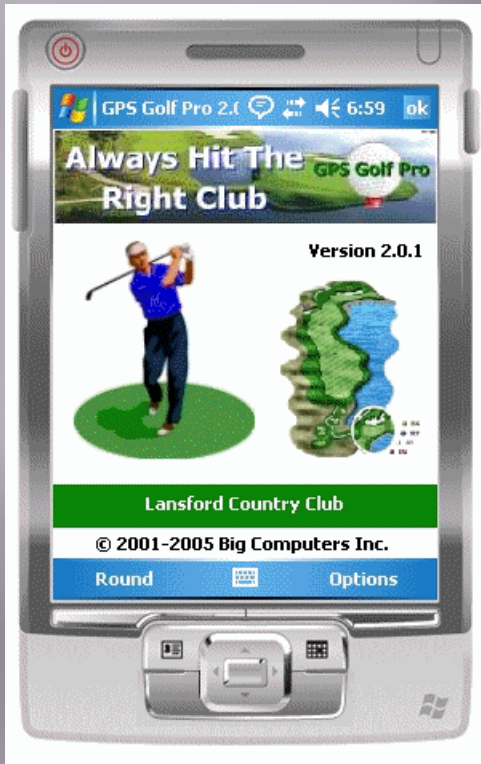
How the computer pictures the hole

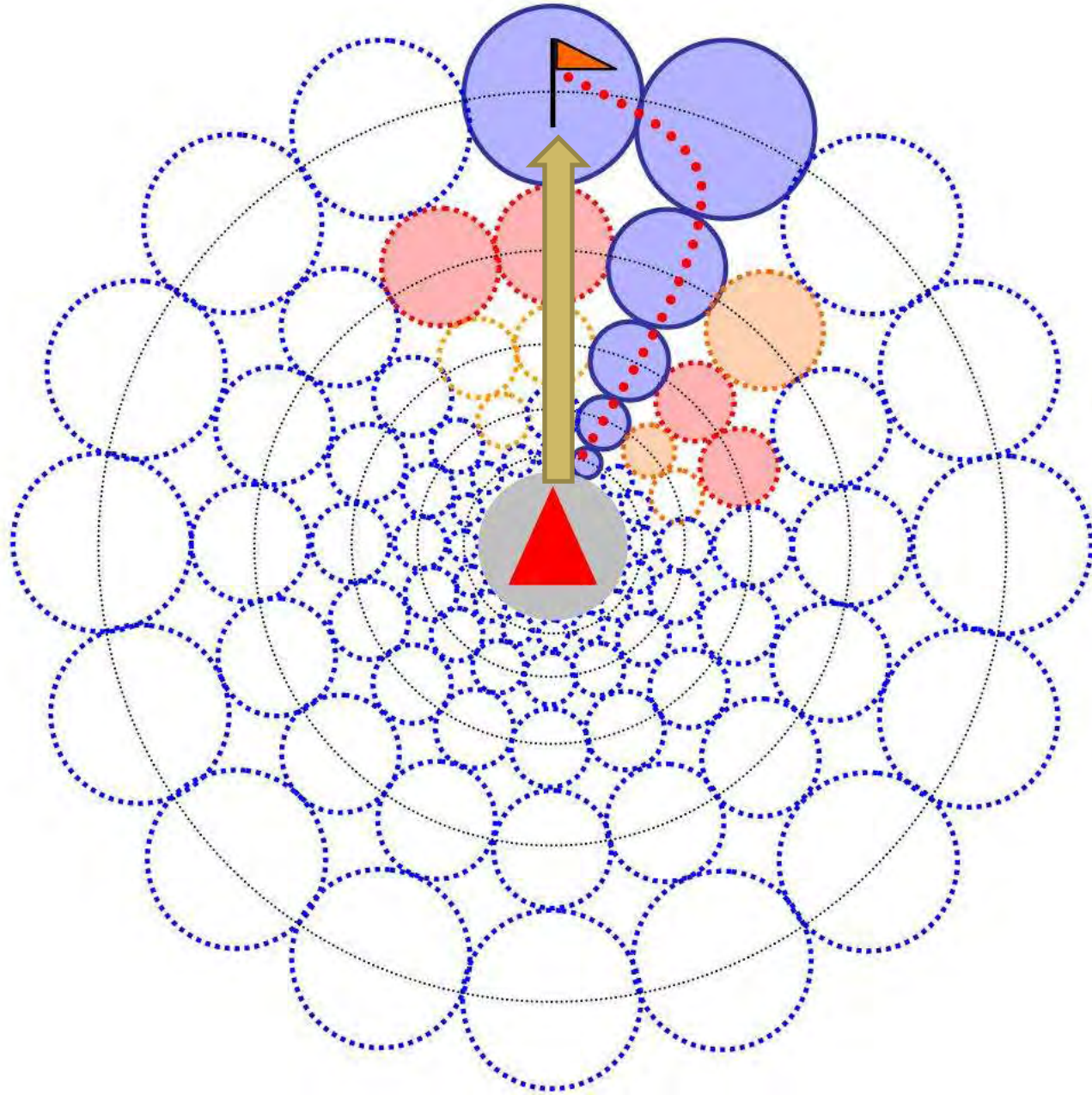


**小心滑倒**

**Slip and fall down carefully**

# You Cannot Code the Wind





**But You Can Read Its Cues**

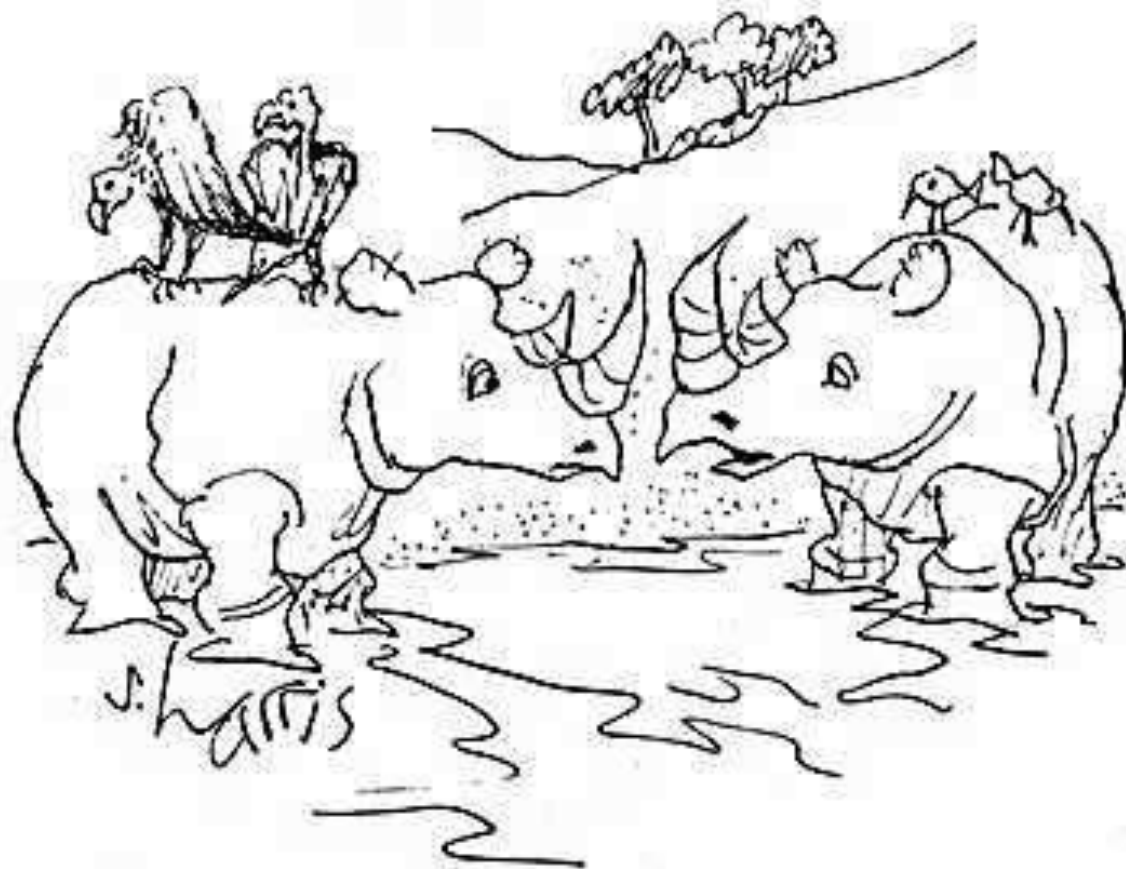
## Science Places Great Emphasis on Codes

- ▣ What happens in perception is similar to what at a higher psychological level is described as understanding or insight. Perceiving is abstracting in that it represents individual cases through configurations of general categories.  
Rudolf Arnheim
- ▣ Reading a text involves relating it to relevant 'codes'.  
Roman Jakobson
- ▣ Perception depends on coding the world into iconic signs that can re-present it within our mind. The force of the apparent identity is enormous, however. We think that it is the world itself we see in our "mind's eye", rather than a coded picture of it'  
Jacques Derrida





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"ALL I CAN TELL YOU IS THEY'RE NOT THE CUTE  
LITTLE BIRDS WHO USUALLY RIDE AROUND ON US."

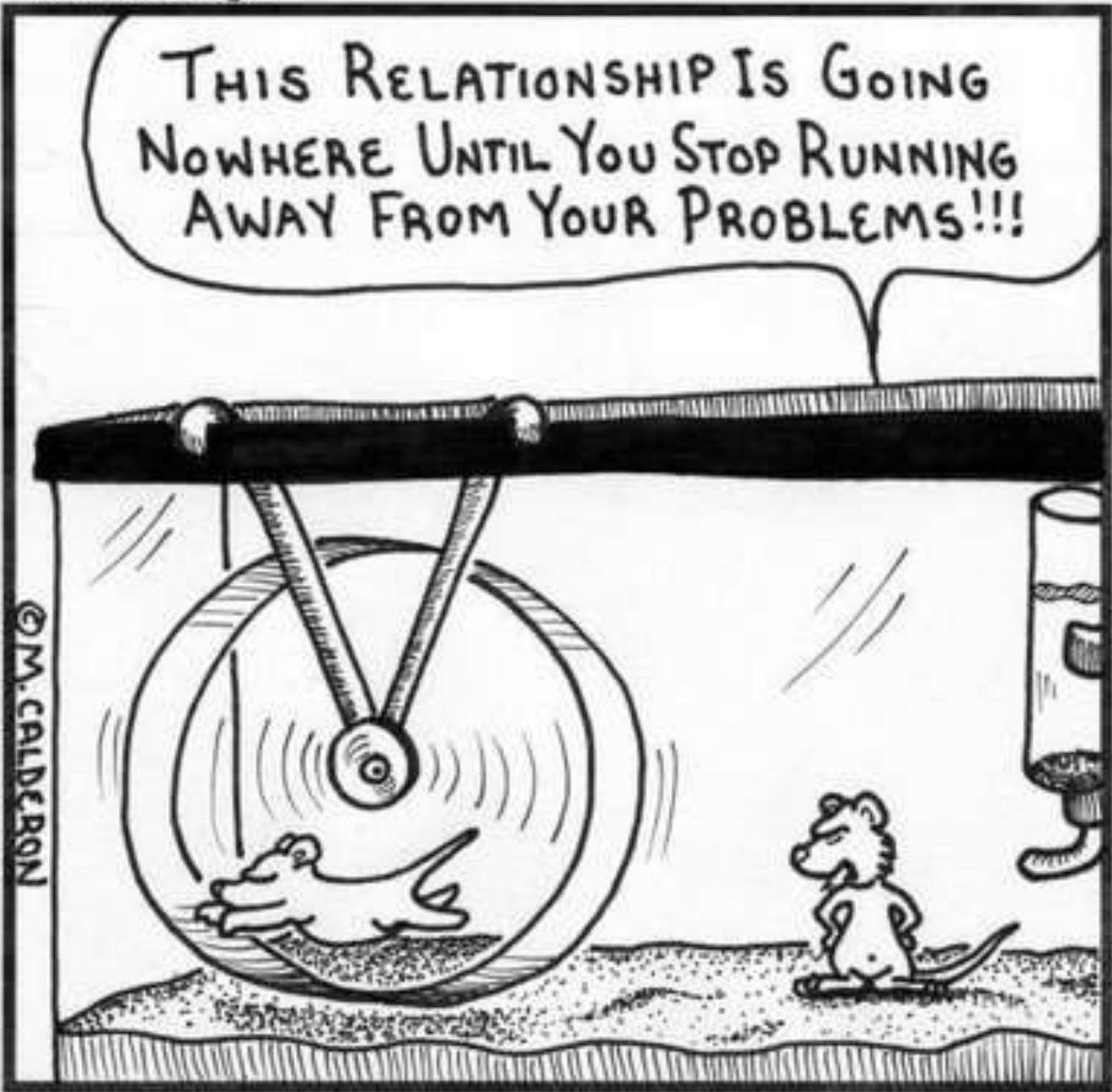
# Complexity Suggests that Codes are not as Omnipresent as We may Think

In re combinatorial environments, meaning is characterized by a fluid, shifting, continuous state of becoming. In this form of fleeting context, content is always emergent, arising out of the superimposition and or juxtaposition of a series of "poetic" elements and processes functioning in relation to one another. Fleeting and shifting qualities of engagement become an experiential focus. During interaction, the user, through direct experience, encounters a series of potential "states" of meaning. We should always view these states as a temporary glimpse at a continuous process of meaning-becoming, motivating the thought and behavioral reaction of the user.

William Seaman

THIS RELATIONSHIP IS GOING NOWHERE UNTIL YOU STOP RUNNING AWAY FROM YOUR PROBLEMS!!!

©M. CALDECOTT



## Complexity and Life

The degree of complexity present is the degree to which our chosen method of reduction has failed

Any reduction's effectiveness is determined not only by the nature of the reductive process, but also by the context in which the reduction is employed.

Codes are reductions.

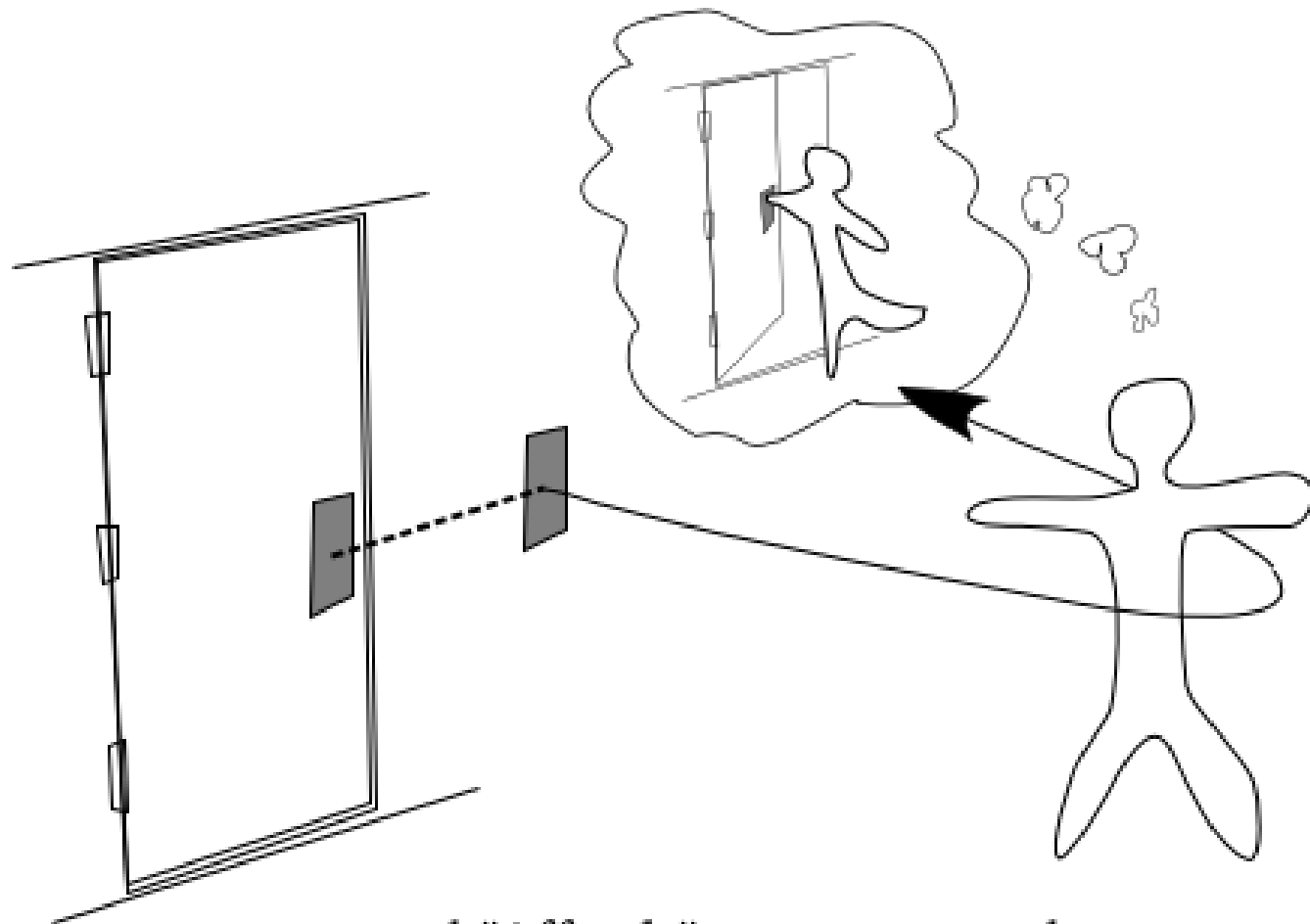
So are Models.

## Codes Seek To Reduce Complexity

In everyday parlance, an observation is just the memory trace left behind in our brains when the outside world impresses itself upon us via our sensory channels of sight, sound, touch, smell or taste...In science we usually try to code these memories by numbers, mostly for the sake of compactness and so that we will have a common scale by which to compare different observations. This kind of coding also has the salutary side effect of providing the basis for representing the observations in symbols, hence allowing us to encode the world in stylized mathematical terms.

John Casti

# Affordances



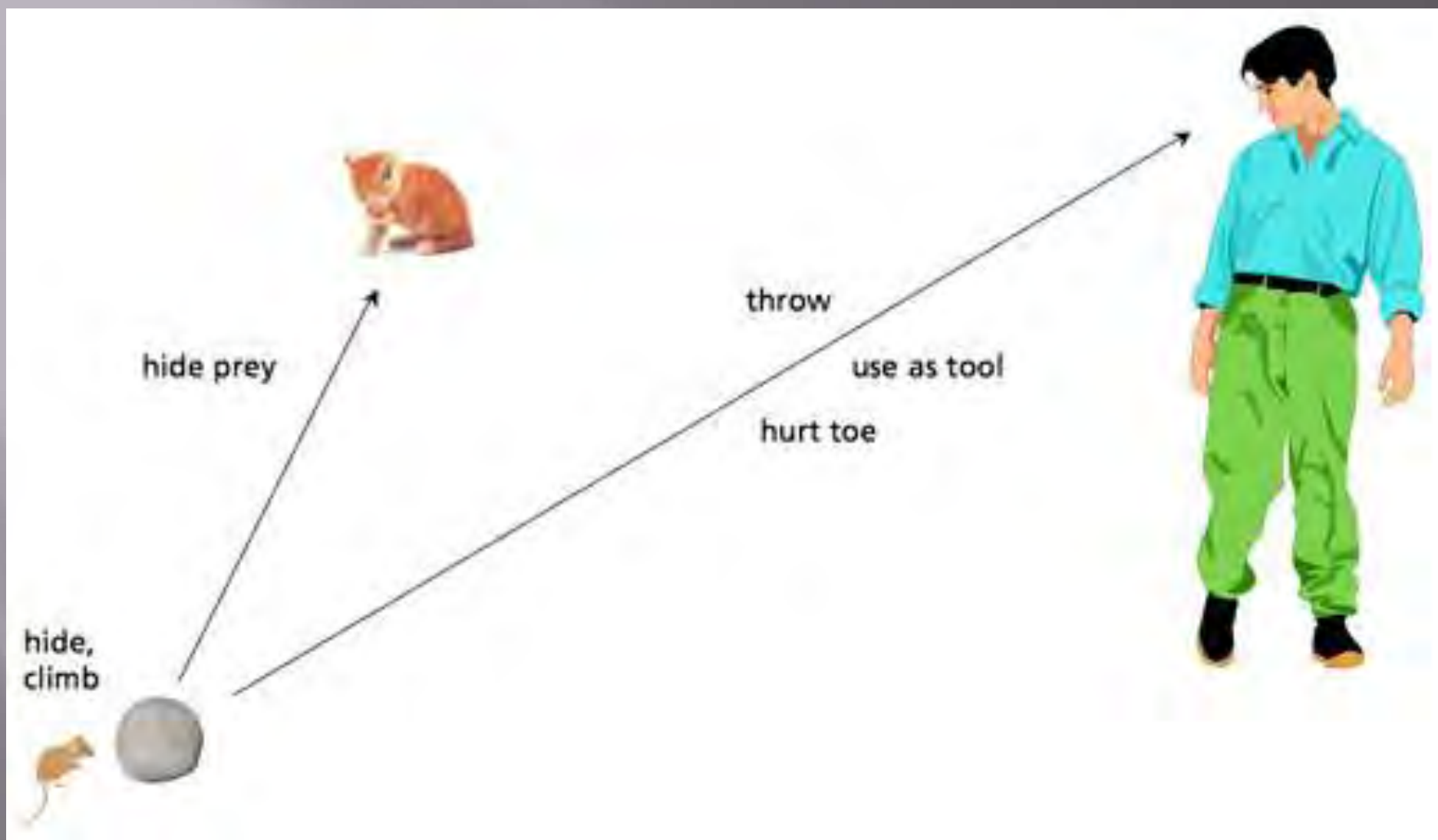
panel "Affords" person to push

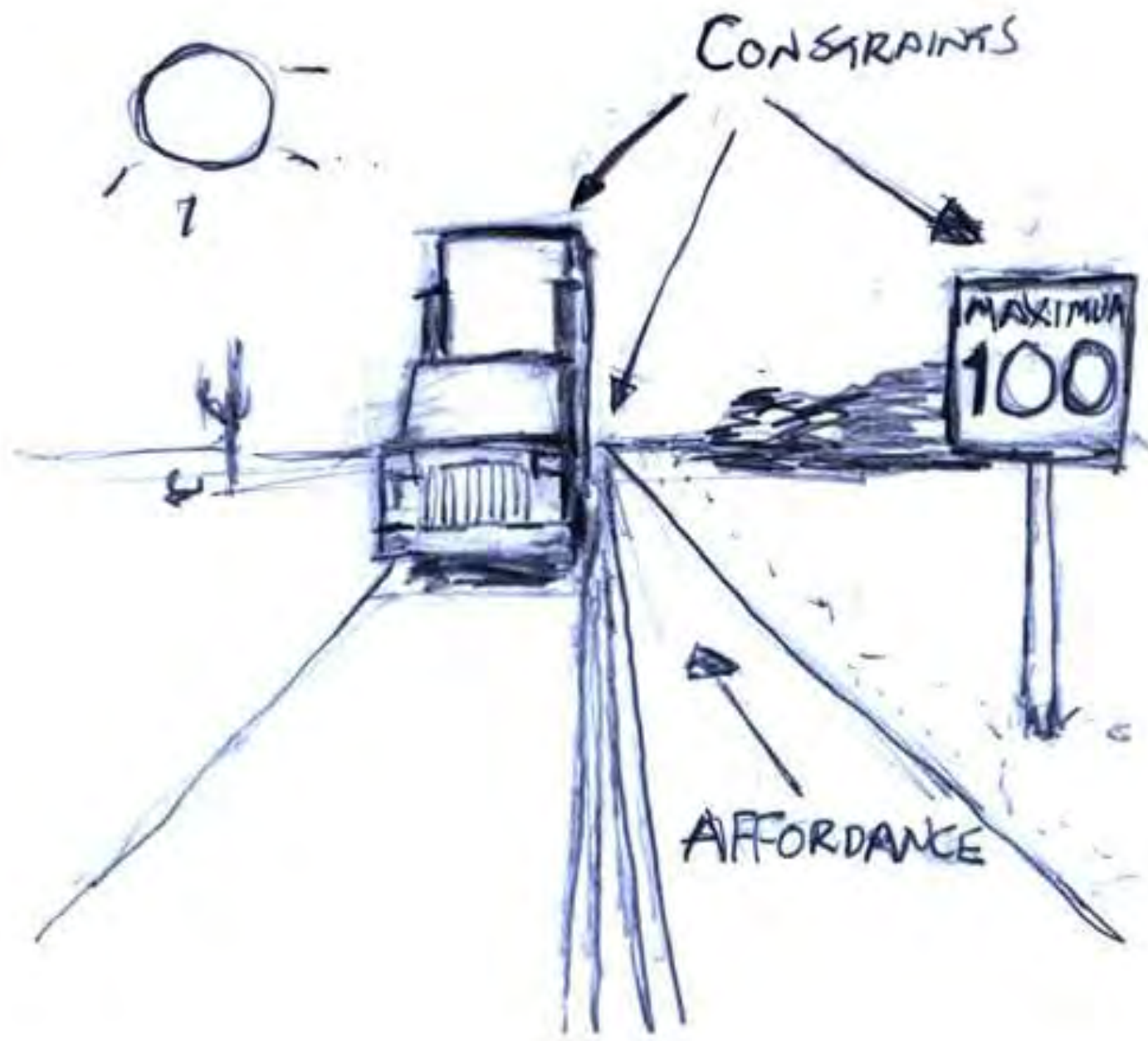


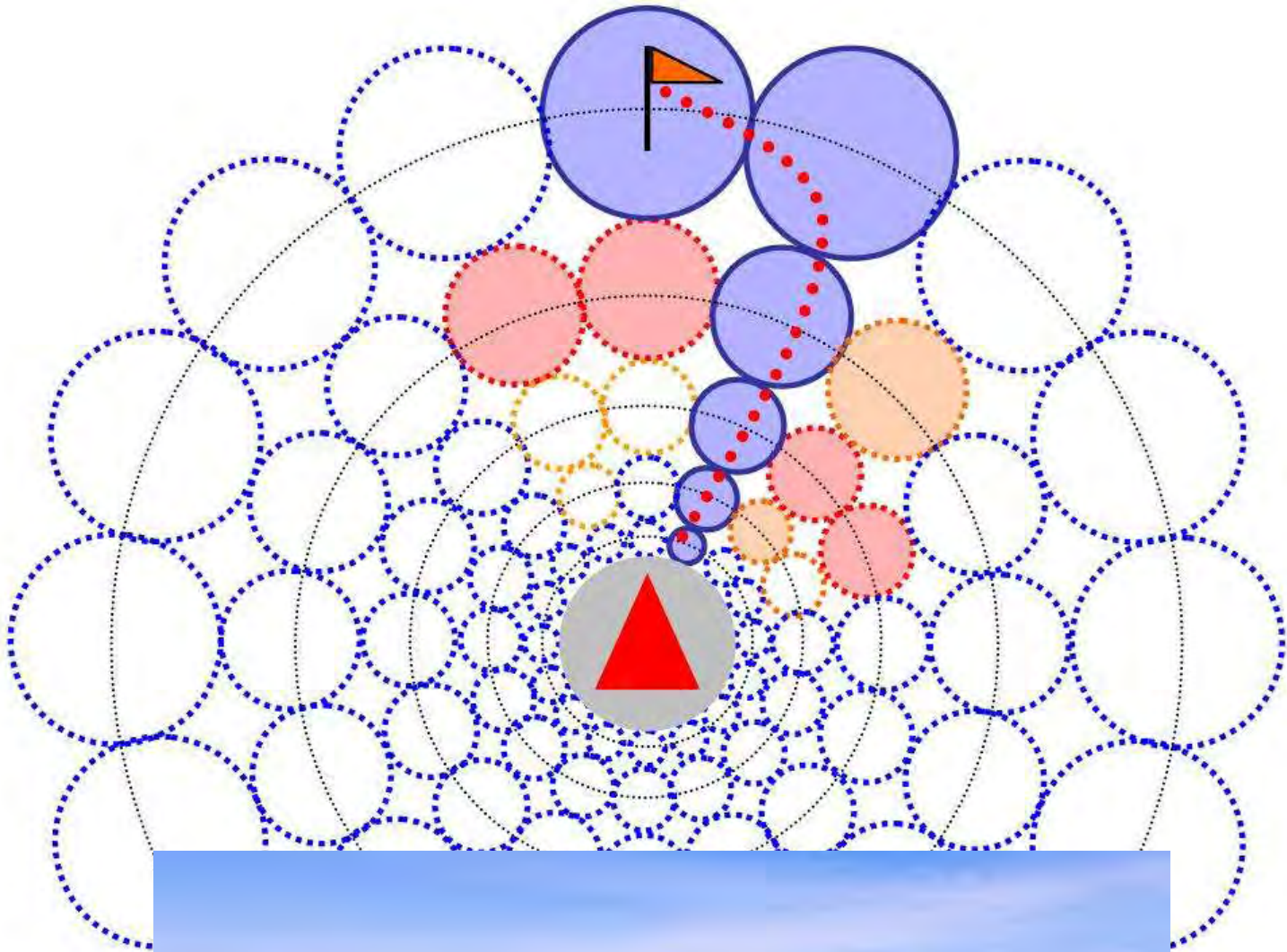












Affordances trigger CUES

Labels trigger CODES

There is a time and a place for both

# Cues

Cues are the label for the emergent meaning which results from an intersection of attendance to environment, situation, history, and cognition such that semiotic affordance and/or effectivities are perceived to allow for action, assignment of cognition, label, or code, or for boundary breaking.

In symbolic representation, "the symbolic does not simply point toward a meaning, but rather allows that meaning to present itself." In other words, "what is represented is itself present in the only way available to it.

Hans-Georg Gadamer





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"Are you smoking or jumping?"

We know now that a text is not a line of words releasing a single 'theological' meaning (the "message" of the Author-God) but a multidimensional space in which a variety of writings, none of them original, blend and clash. The text is a tissue of quotations drawn from the innumerable centres...

Roland Barthes

In applying a code to the text, we may find that it undergoes revision and transformation in the reading process; continuing to read with this same code, we discover that it now produces a 'different' text, which in turn modifies the code by which we are reading it, and so on. This dialectical process is in principle infinite; and if this is so then it undermines any assumption that once we have identified the proper codes for the text our task is finished. Texts are 'code-productive' and 'code-transgressive' as well as 'code-confirming'.

Terry Eagleton

Every sign, linguistic or non-linguistic...can...break with every given context, engendering [and inscribing itself in] an infinity of new contexts in a manner which is absolutely illimitable.

Jacques Derrida

Outside the licensed domains of literature and jokes, the uncontrollable manifestations of parapraxes and dreams, the possibilities of meaning in a word are stringently limited by its context. The more that context bears down upon the word, the less the word will quiver with signification; until we reach a fully determining context, under whose pressure the word will lie inert, pinned down, proffering its single meaning... But at this point something else will have happened to it: it will have become completely redundant. The context will now allow only one meaning to be perceived in the gap which it occupies and anything — or nothing at all — will be interpreted as providing that meaning.

Derek Attridge

- Seconds to Apply!
- Bad Credit Accepted!
- Fast Approvals!
- No Obligation!



**Click for CASH!**  
**APPLY NOW!**

Semiotic affordance are “cued” when an observer pays attention to some “cue” and has a cognitive experience. These experiences will then be processed for later attention and action.

[One] does not have to restructure separately all of his earlier concepts. . . . Once a new structure has been incorporated in thinking . . . it gradually spreads to the older concepts as they are drawn into the intellectual operations of the higher type.

Lev Vygotsky





SO WHAT'S YOUR COSTUME?

I'M THE BLUE SCREEN OF DEATH. YOU?

I'M A WIREFRAME. GET IT? HEH ...

OK/Cancel



OH SHEESH, WHAT IS THAT??

www.ok-cancel.com dd.mm.06



FITT'S LAW MATE!

YES- AND A GREAT BIG AFFORDANCE... FOR KICKING...

halloweener : copyright 2006 tom chi and kevin cheng -

Everything should be made as simple as possible.

...

But not simpler.

Albert Einstein

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search ID: rhan437

**FOR YOUR INFORMATION, I AM ENGAGING THE ENERGY OF  
CHANGE AND COMPLEXITY TO CREATE THE FUTURE I DESIRE.**

# Homologies

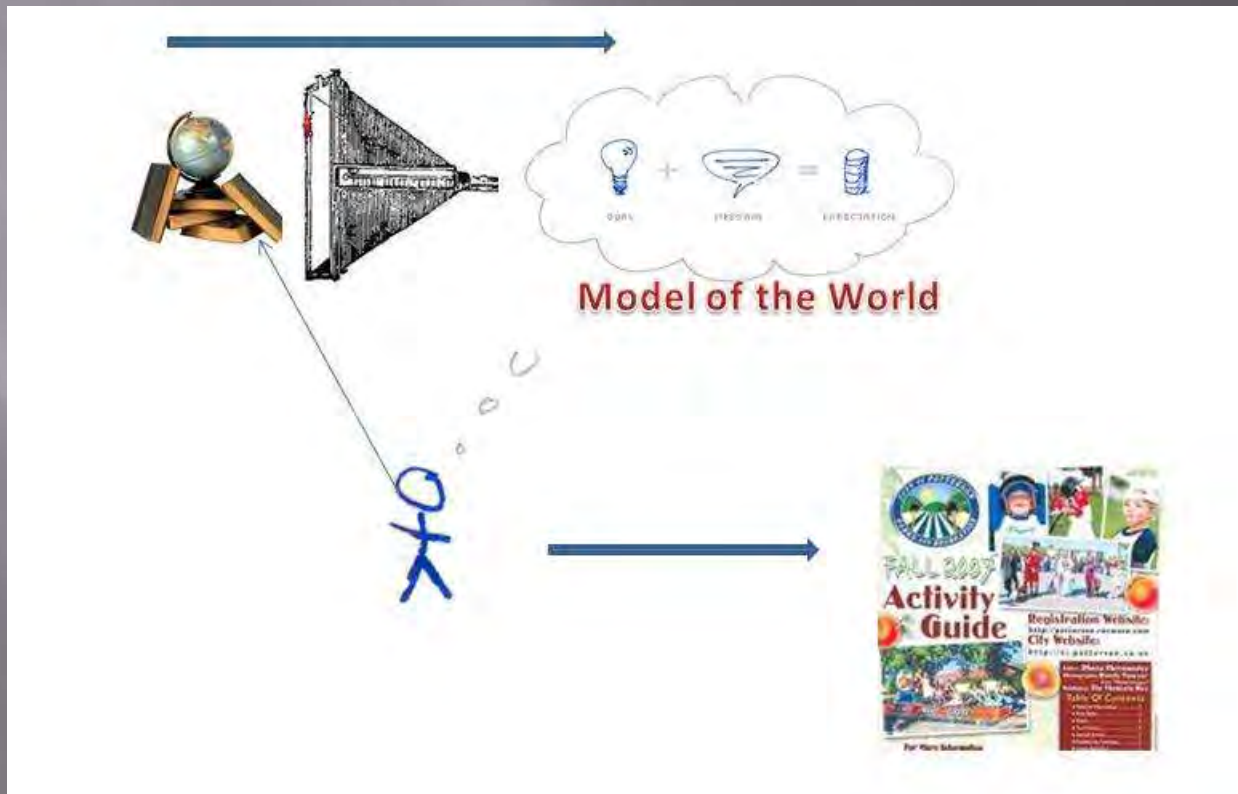
Homologies are shared models – usually mental models

Homologies allow for simulation and prediction

Homologies allow us to seek alternate affordances

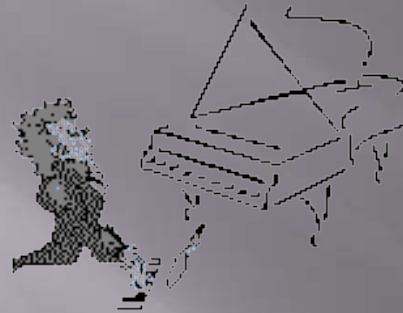
# Models Seek to Reduce Complexity

To reduce the world to something we can deal with -- in order to feel able to act.





*real world*



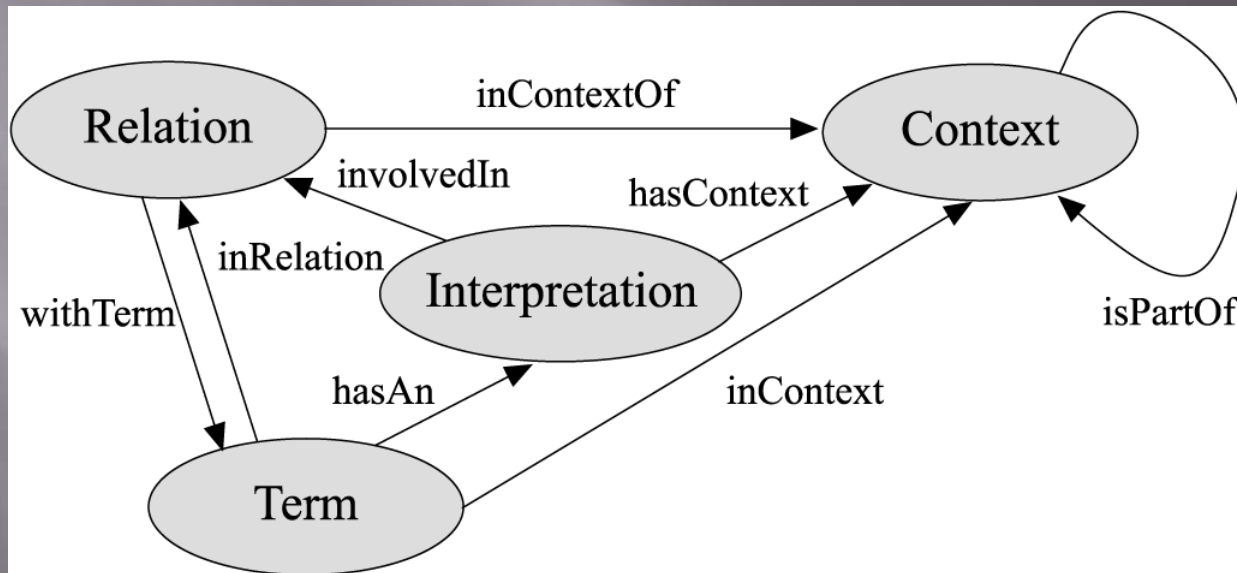
*conceptual world*



*symbolic world*



*interpretation*





We also use labels to reduce complexity.

Labels are like codes – context insensitive.

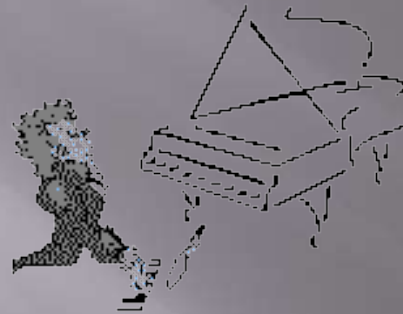
Some models are like labels.

These models are used to stand for the thing they model.

Labels and models like them are “indexical”



*real world*



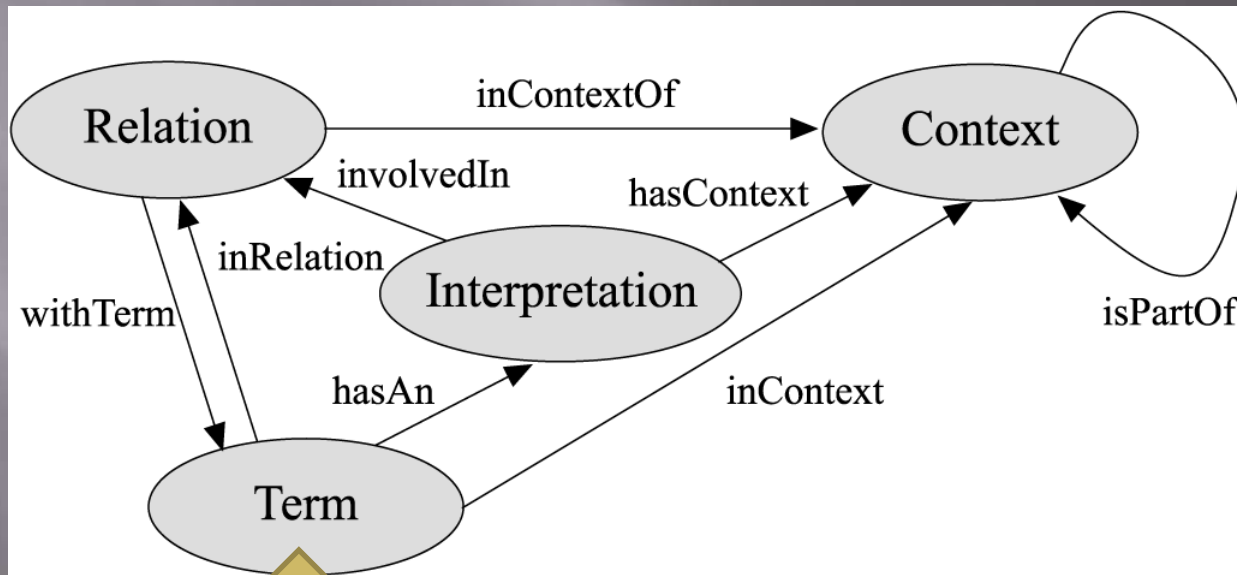
*conceptual world*



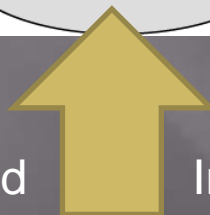
*symbolic world*



*interpretation*



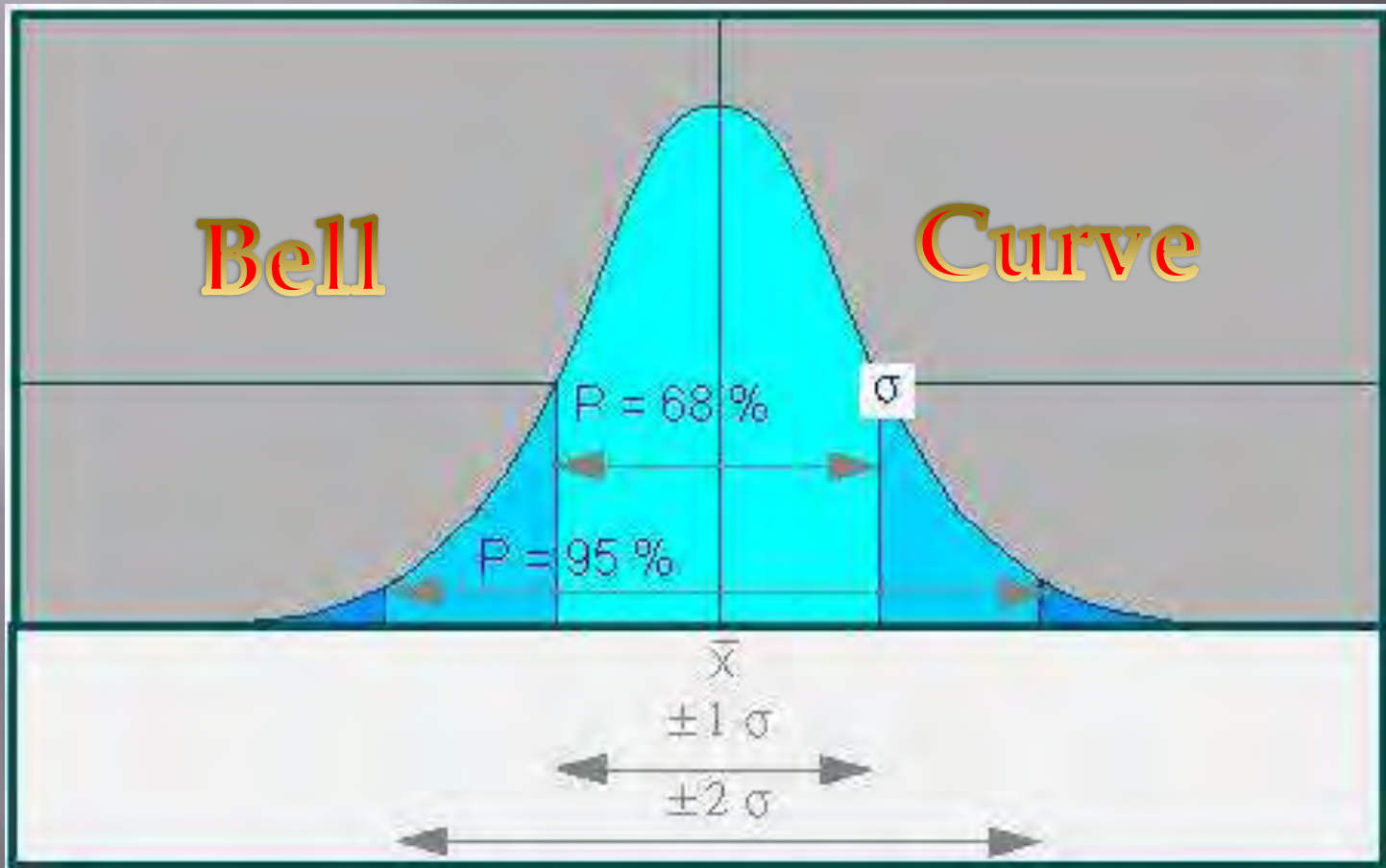
Labels and



Indexical Models

# Management's Indexical Model

## Gaussian Distribution



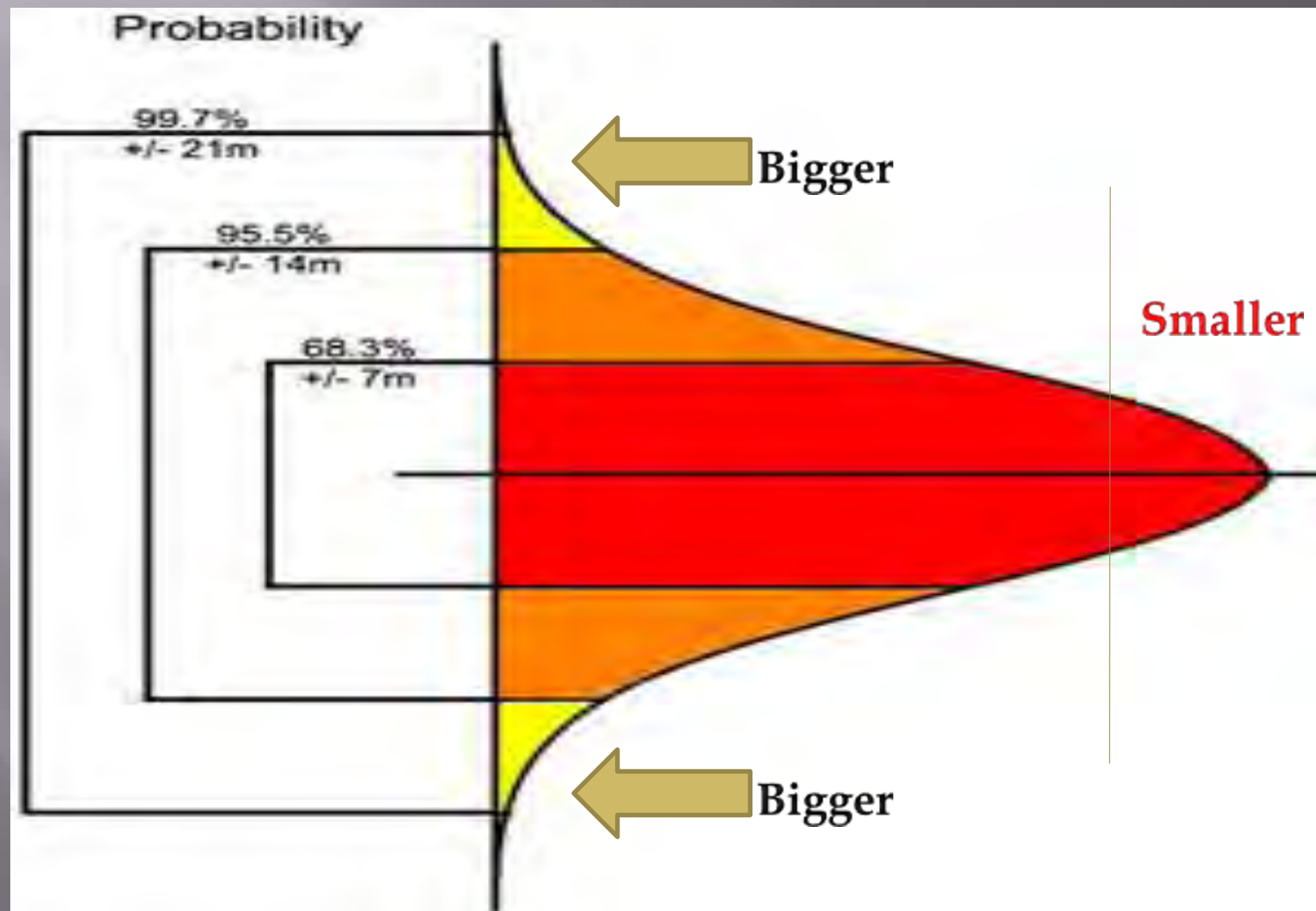
# Assumptions

- ▣ Ascribed labels matter
- ▣ Law of large numbers
  - ▣ Independent events
- ▣ Random Distribution

# Quick Check

- ▣ Events are partially correlated and usually are not independent
- ▣ As a result random is not really random
- ▣ The law of large numbers suggests that weak signals are noise
- ▣ Ascribed labels have no room for emergence

# Gauss's Distribution May Be False



# If Gauss is Inappropriate

- ▣ Is it Noise? Emergence? Or a Weak Signal?
- ▣ Is it a sign of partial dependence or partial correlation?
- ▣ Is there contextual information which is important?
- ▣ Is the message one of control (Demming) or one of semiotics?
- ▣ The indexical quality has broken
- ▣ “Bad” Gauss is a Strong Cue of an Impending Change

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**"I've got an idea for a great opening for you."**



# Management's Second Indexical Model

Meyers Briggs



Rational (NT):  
 ENTJ - General  
 INTJ - Mastermind  
 ENTP - Inventor  
 INTP - Architect

Idealistic (NF):  
 ENFJ - Teacher  
 INFJ - Counselor  
 ENFP - Champion  
 INFP - Healer

Traditional (SJ):  
 ESTJ - Supervisor  
 ISTJ - Inspector  
 ESFJ - Provider  
 ISFJ - Protector

Artistic (SP):  
 ESTP - Promoter  
 ISTP - Crafter  
 ESFP - Performer  
 ISFP - Composer

Dave's Personality:  
 1993 - eNTj  
 2003 - iNTj  
 2004 - eNFP  
 2005 - ENFP

<p><b>ISTJ</b></p> <p>Doing what should be done</p>	<p><b>ISFJ</b></p> <p>A high sense of duty</p>	<p><b>INFJ</b></p> <p>An inspiration to others</p>	<p><b>INTJ</b></p> <p>Everything has room for improvement</p>
<p><b>ISTP</b></p> <p>Ready to try anything once</p>	<p><b>ISFP</b></p> <p>Sees much but shares little</p>	<p><b>INFP</b></p> <p>Performing noble service to aid society</p>	<p><b>INTP</b></p> <p>A love of problem solving</p>
<p><b>ESTP</b></p> <p>The ultimate realists</p>	<p><b>ESFP</b></p> <p>You only go around once in life</p>	<p><b>ENFP</b></p> <p>Giving life an extra squeeze</p>	<p><b>ENTP</b></p> <p>One exciting challenge after another</p>
<p><b>ESTJ</b></p> <p>Life's administrators</p>	<p><b>ESFJ</b></p> <p>Hosts and hostesses of the world</p>	<p><b>ENFJ</b></p> <p>Smooth talking persuader</p>	<p><b>ENTJ</b></p> <p>Life's natural leaders</p>



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# The MBTI does not measure...

Stress

Psychiatric disturbance

Emotions

Suitability for the job

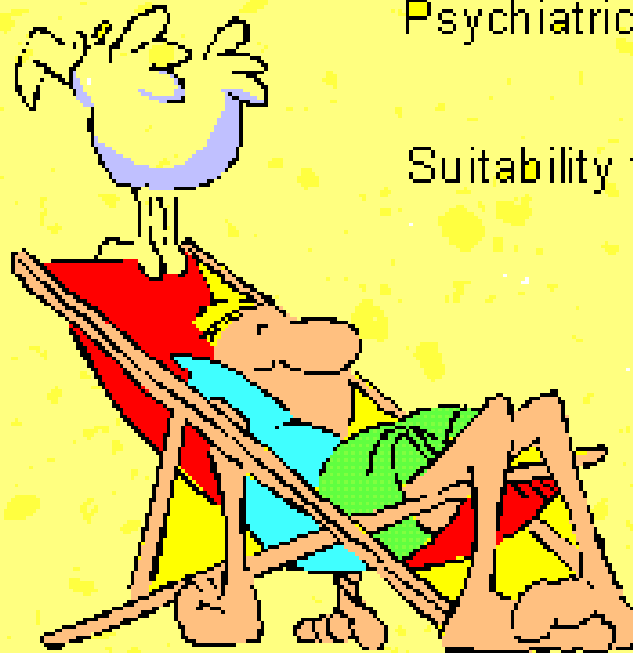
Maturity

Career potential

Intelligence

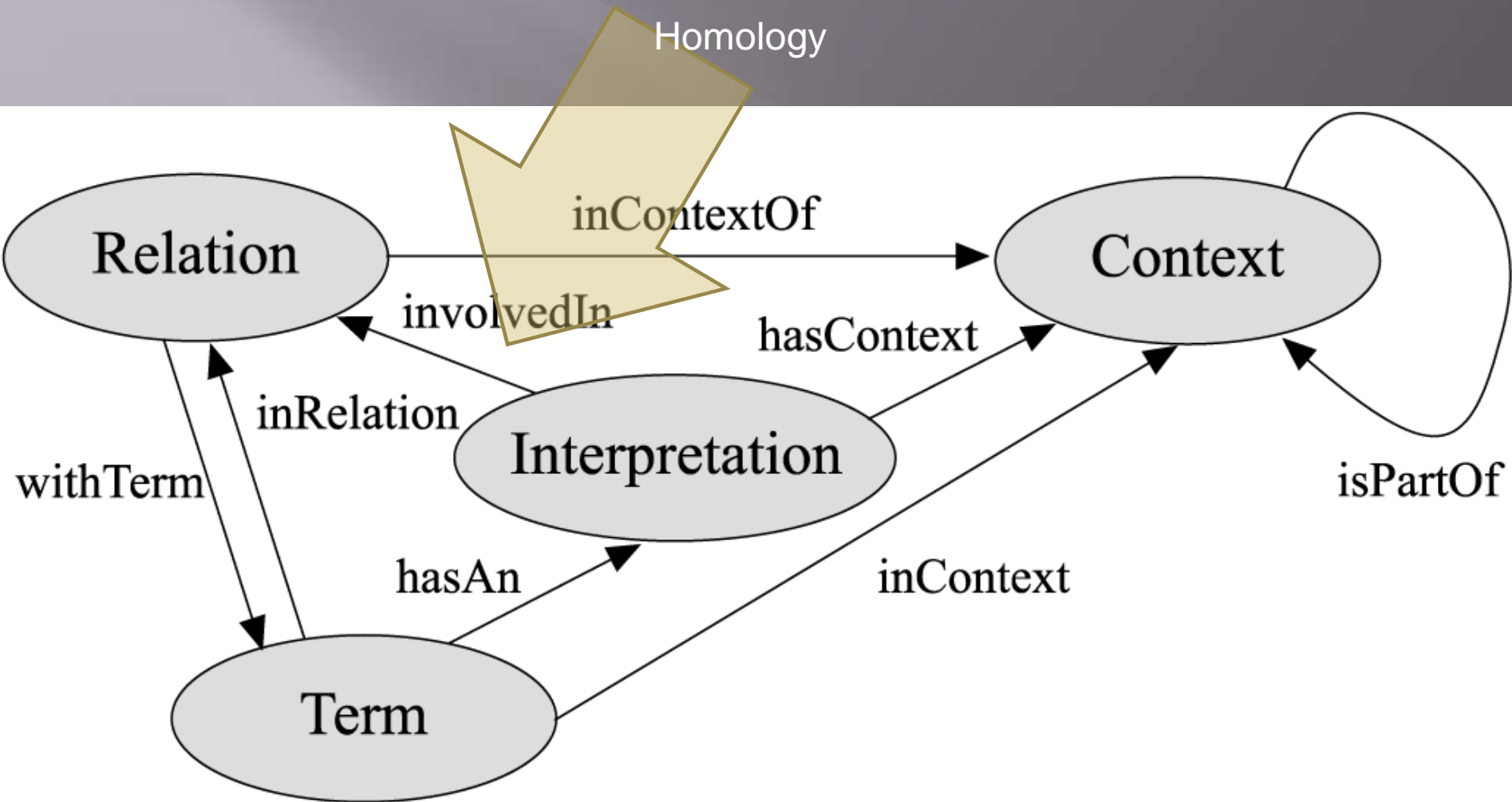
Trauma

Level of skill



© 1997 Team Technology







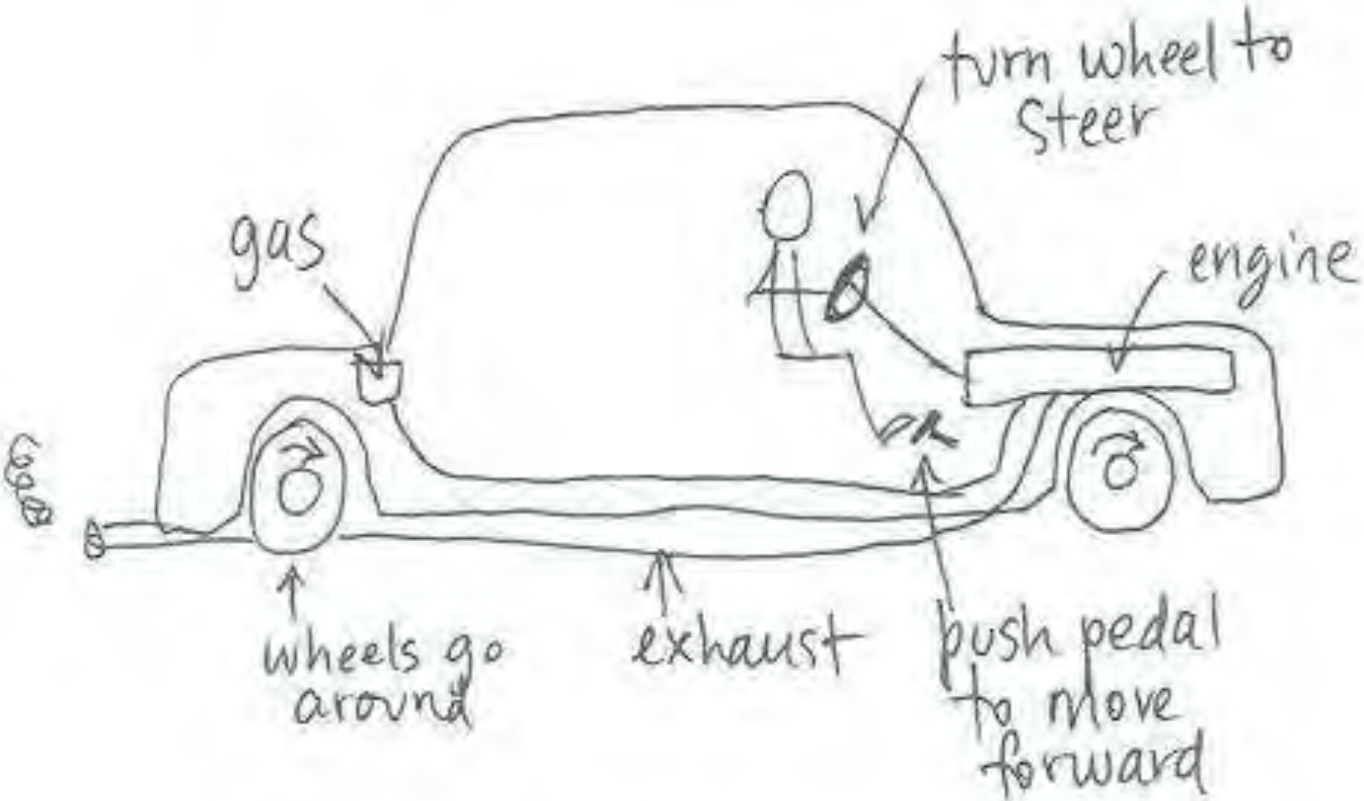


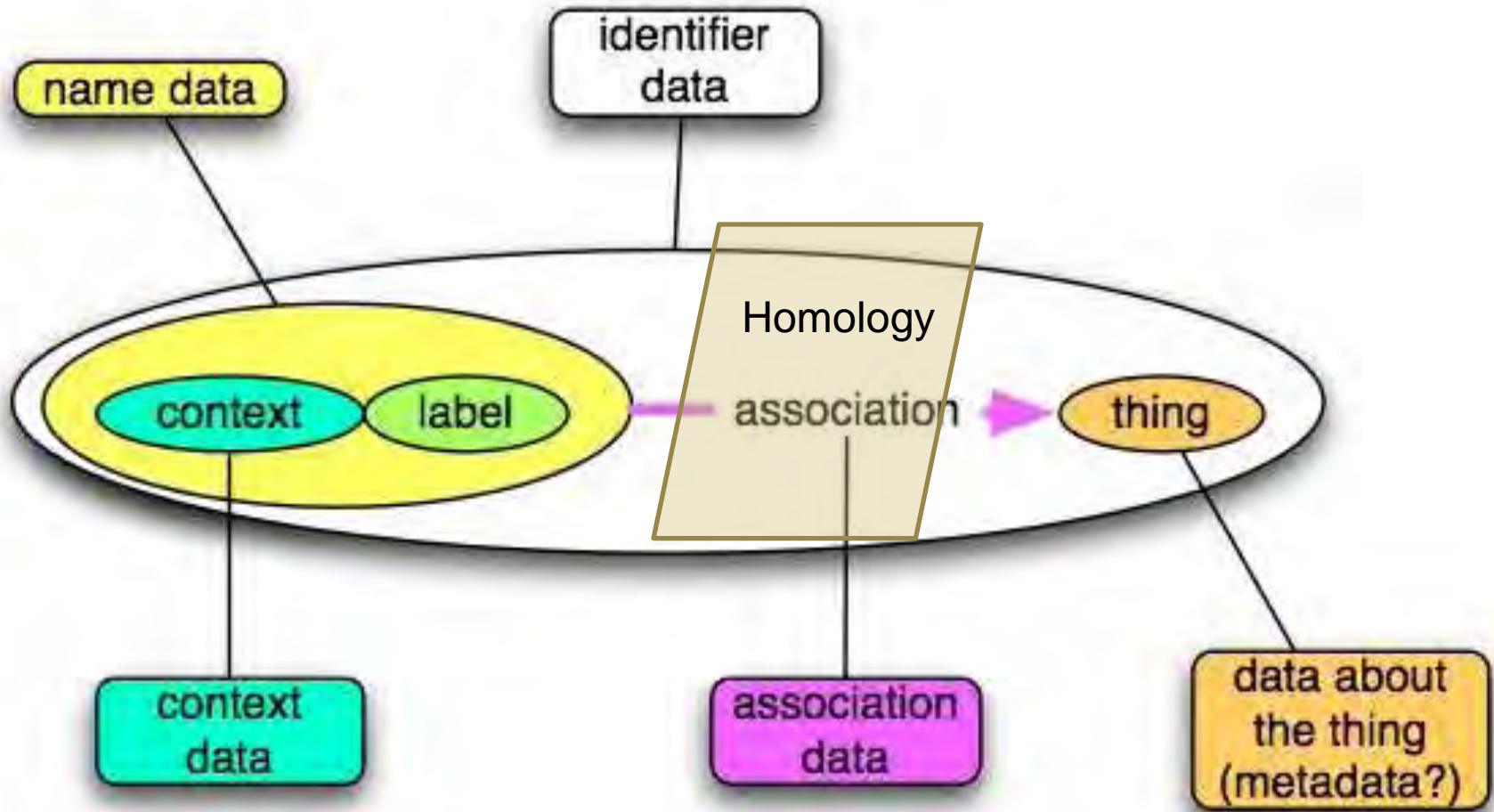
**Figure 1. Toyota Prius.** The dashboard of the Toyota Prius is an example of a valuable conceptual model.

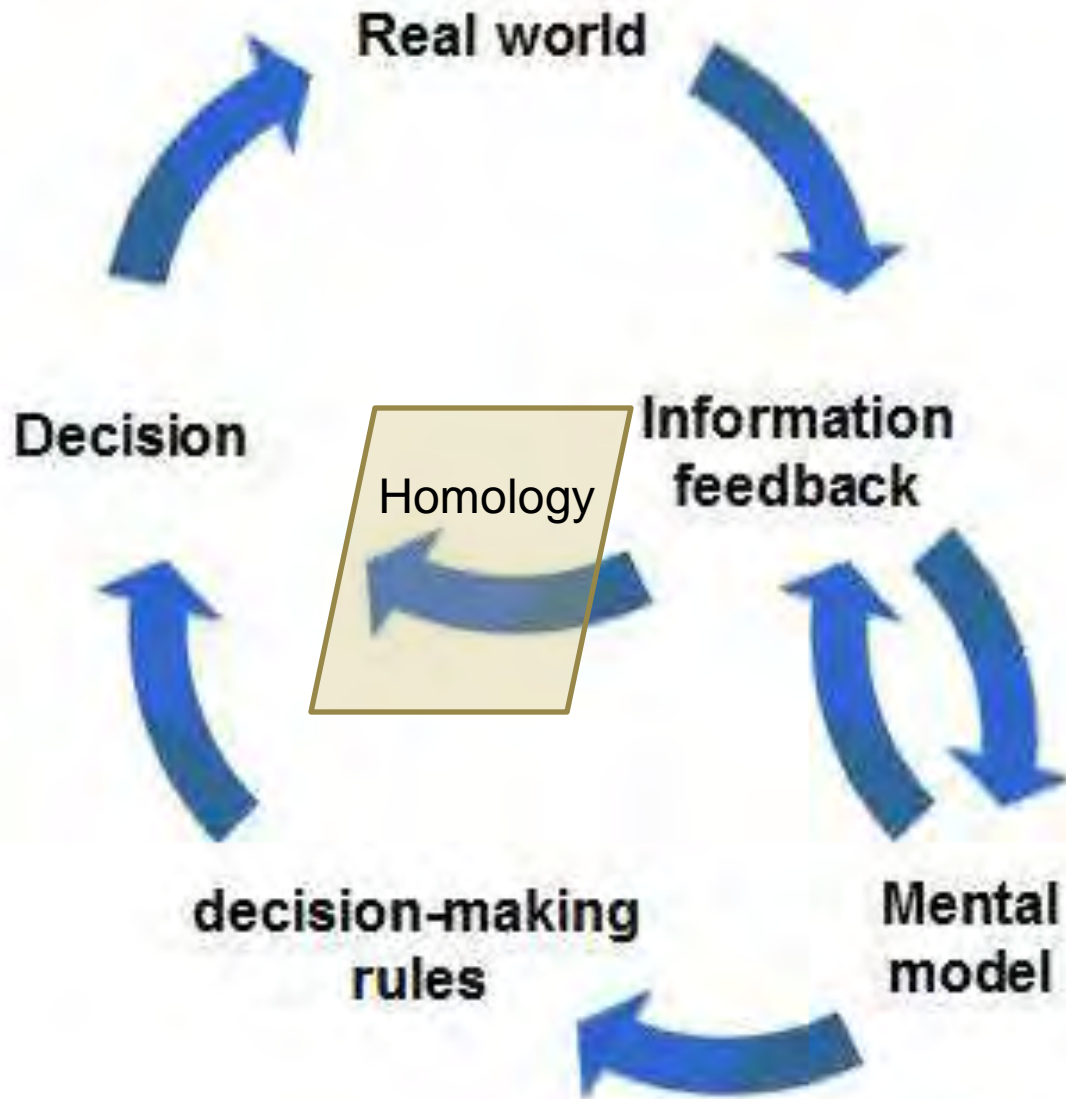
*(image: Toyota.com, downloaded 7/11/2008)*

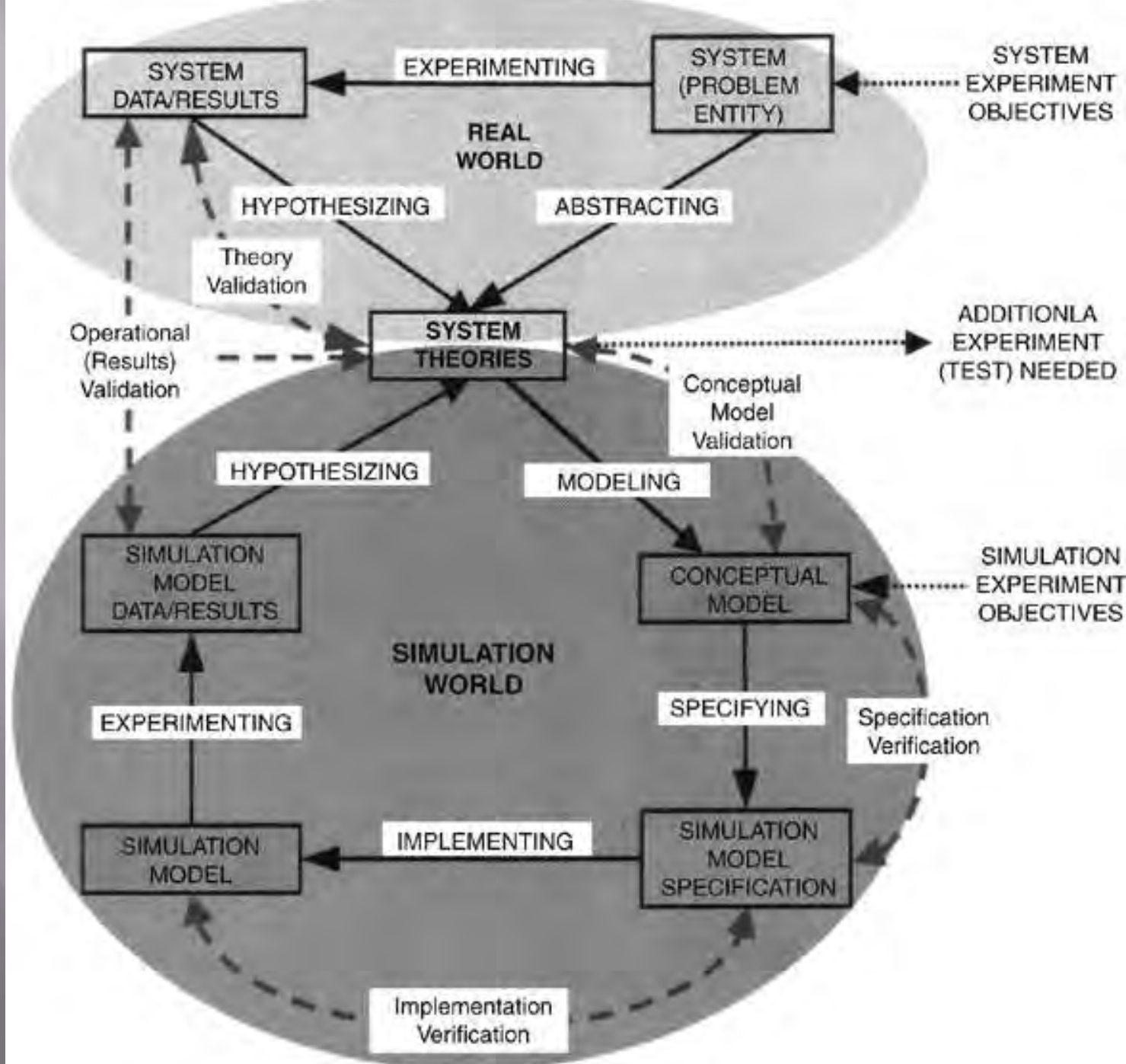


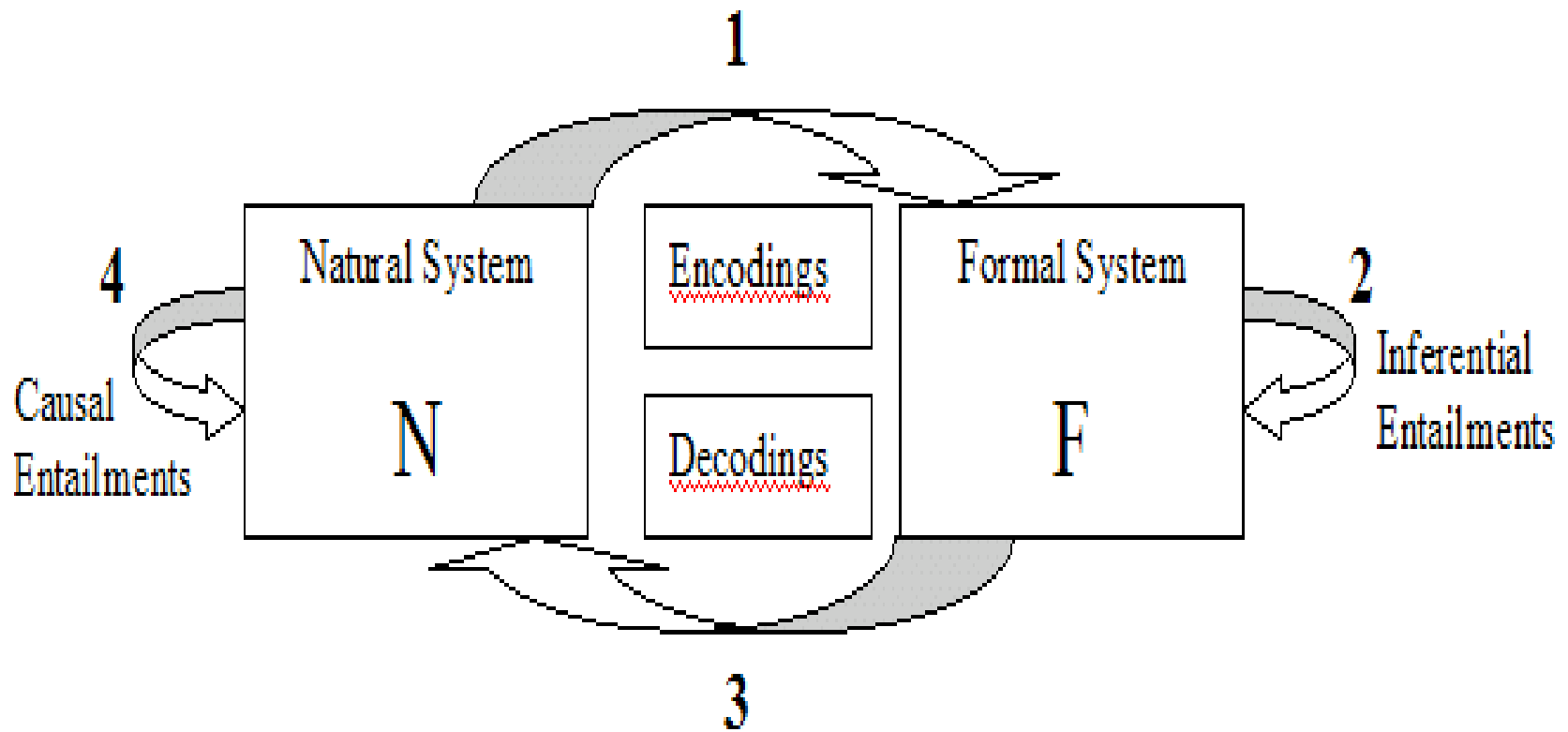
# Mental model of how a car works









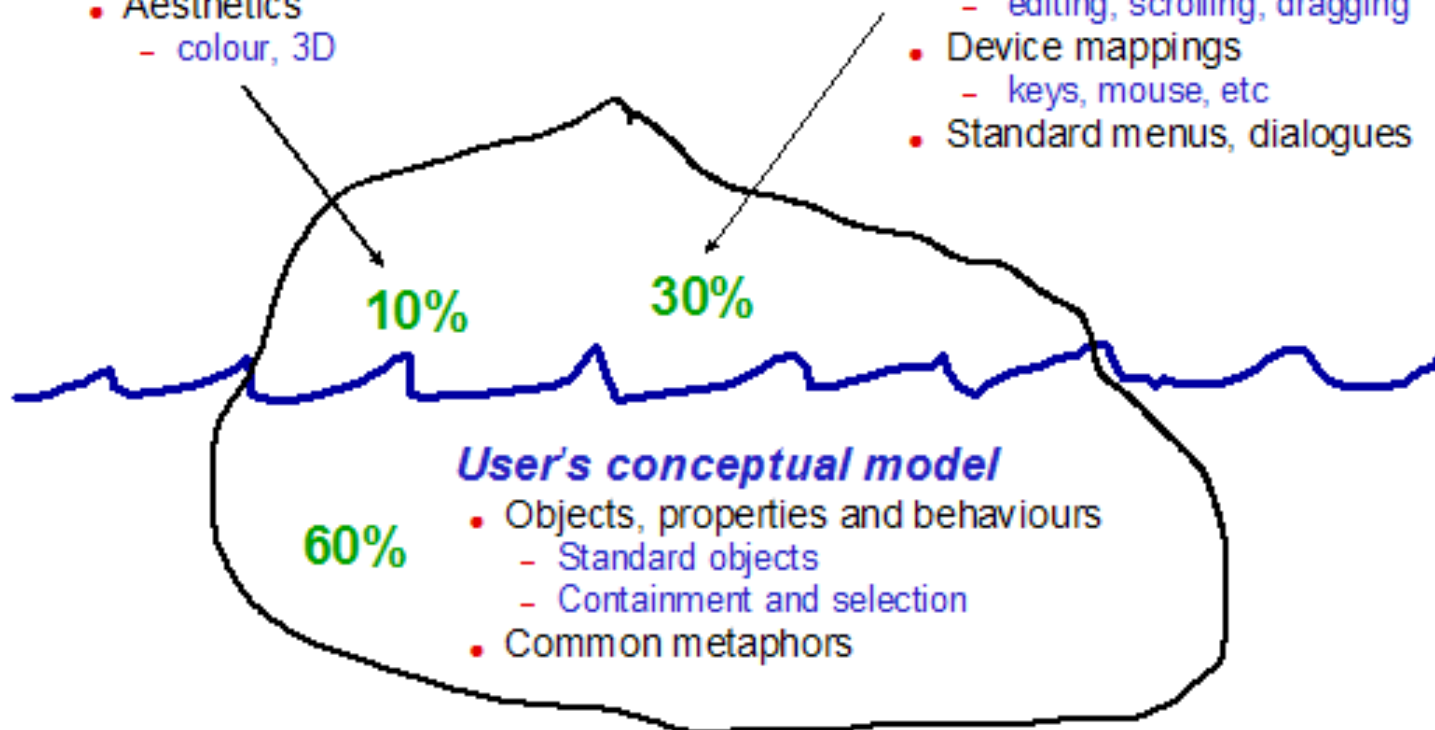


### **Presentation**

- How things appear
- Operational feedback
- Aesthetics
  - colour, 3D

### **Interaction**

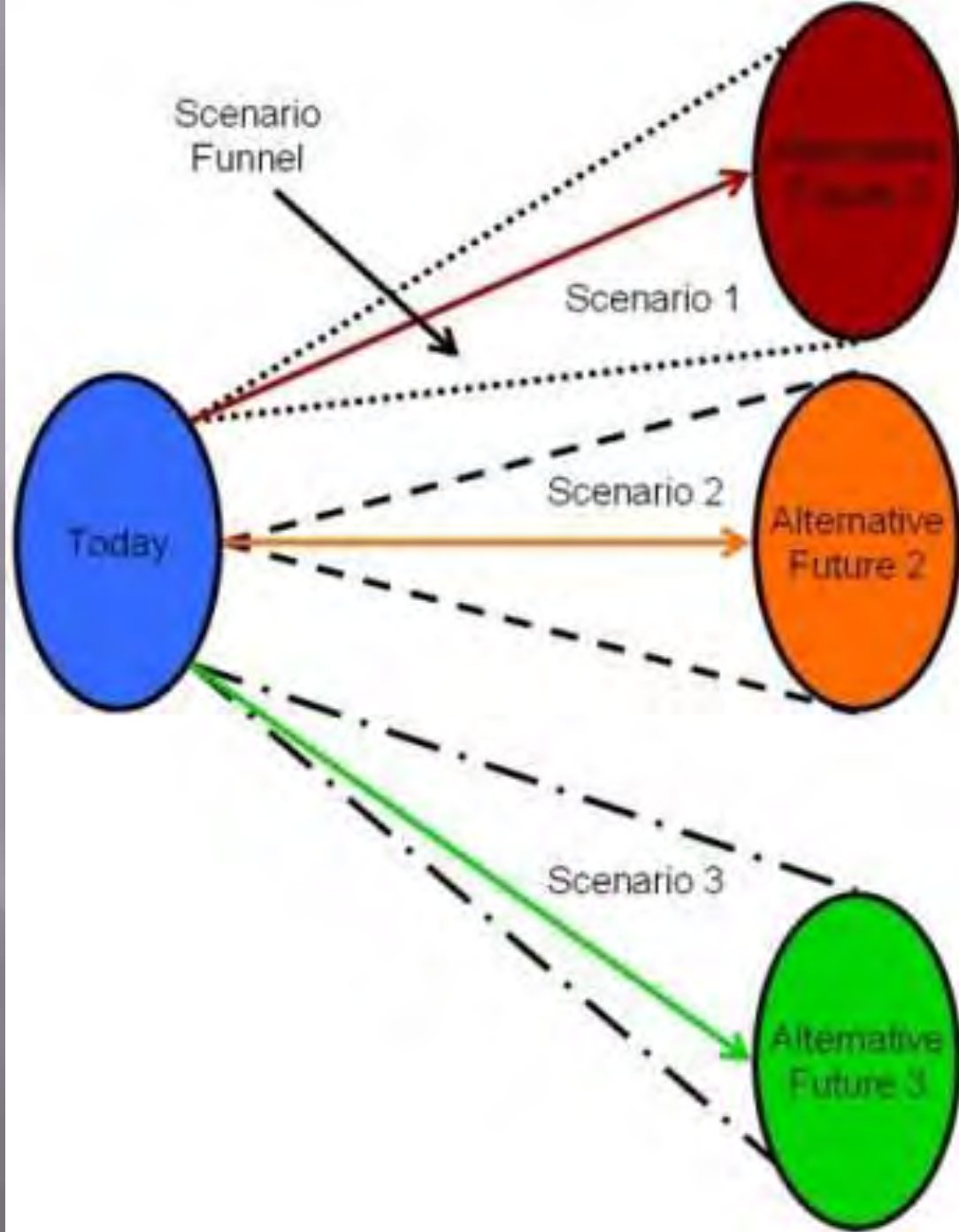
- How users make requests
- Ways of interacting
  - editing, scrolling, dragging
- Device mappings
  - keys, mouse, etc
- Standard menus, dialogues




Source: D Liddle, *Metaphor Computer*

Situations represent the most complete way of understanding our experience of the surrounding world and the human qualities of the world. They also endow experience with durability in relation to which other experiences can acquire meaning and can form our memory and history. The persistence of primary symbols contributes decisively to the formation of secondary symbols and finally to the formation of paradigmatic situations. Paradigmatic situations are similar in nature to institutions, deep structures, and archetypes.

Dalibor Vesely





A photograph of an elevator control panel on a wall. The panel is a dark, rectangular metal plate with two buttons: a silver one on top and a red one on the bottom. To the right of the panel is a white rectangular sign with black text. The background is a light-colored, marbled wall.

There is a possibility  
that a hand and a leg is  
pinched by the elevator.  
Please do not rush into  
the elevator, when the  
door is closing.

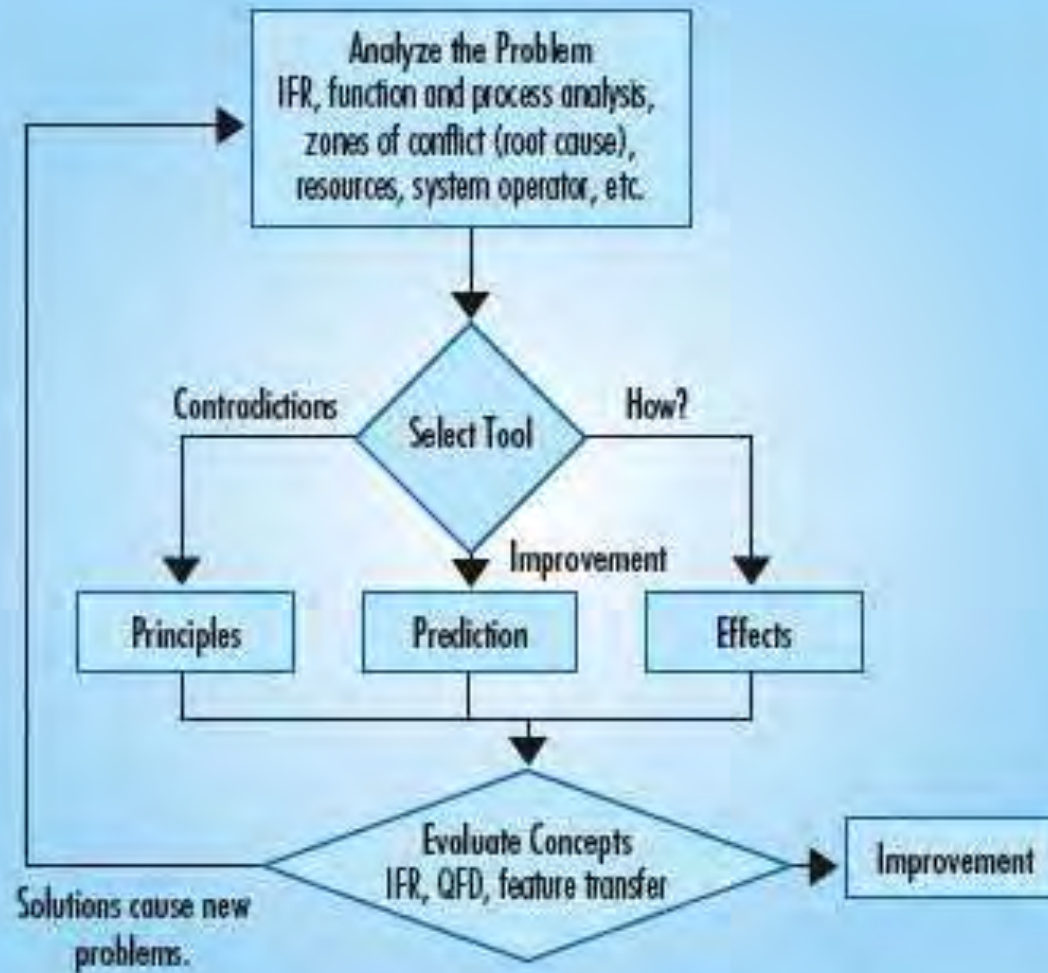


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## Flowchart of Select TRIZ Techniques



Homologies allow us to seek alternate affordances

Cues are not codes. They require different analysis and different tolerances.

Stories often work because of cues.

Communication often fails because of cues.

Much of the current crisis emanates from a managerial and regulatory framework which professes to believe only in codes.

The 21<sup>st</sup> century – the century in which we will learn to embrace complexity rather than try to control it -- is the century of cues.

We need to spend less time “learning” the rules of so-called Indexical models, labels, and codes

We need to spend more time becoming attuned to affordances  
And recognizing homologies

Codes are not a source of serendipity

Neither are cues

But serendipity is afforded by cues

If the appropriate homology can be recognized





search ID: mm00107

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# calvin and hobbes

by WILSON



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**“Do you know where the papers are on the Babcock contract or did you file them?”**



