Asides

Asides on Curious and Interesting Things

Complex Networks CSYS/MATH 303, Spring, 2011

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Department of Mathematics & Statistics Center for Complex Systems Vermont Advanced Computing Center University of Vermont











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Words People Probability Random Videos Good science References





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Outline

Words

People

Probability

Random

Videos

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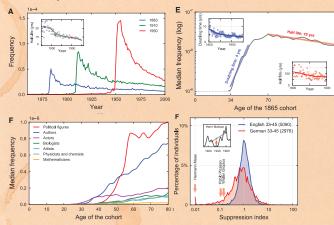




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Culturomics:

"Quantitative analysis of culture using millions of digitized books" by Michel et al., Science, 2011^[1]



http://www.culturomics.org/ (⊞) Google Books ngram viewer (⊞)







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Selflessness

Radiolab Podcast: "An Equation for Good" (⊞)



- Natural selection,
- the 'mystery of altrusim',
- George Price,
- madness.

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The Invention of Money



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 "This American Life" Podcast on money and belief (⊞)
 (1) Brazil and (2) the Fed...

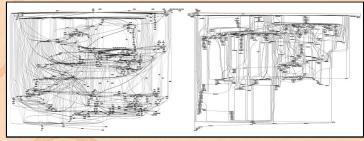




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Dynamic networks: Server security

Serving one html page with an image:



Map of system calls made by a Linux server running Apache and Windows server running IIS. Which is which?

Taken from http://www.visualcomplexity.com (⊞)

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The set up:

A parent has two children.

Simple probability question

What is the probability that both children are boys?



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▶ 1/4...

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The next set up:

A parent has two children.
 We know one of them is a boy

The next probabilistic poser

• What is the probability that both children are boys?

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The next probabilistic poser:

What is the probability that both children are boys?
1/3...

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One more set up:

We know one of them is a boy born on a Tuesday

One more probabilistic poser:

• What is the probability that both children are boys?

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One more set up:

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Words





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- A parent has two children.
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What is the probability that both children are boys?

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One more set up:

- A parent has two children.
- We know one of them is a boy born on a Tuesday.

One more probabilistic poser:

What is the probability that both children are boys?

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One more set up:

We know one of them is a boy born on December 3

One more probabilistic poser:

• What is the probability that both children are boys?

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One more set up:

A parent has two children.

We know one of them is a boy born on December 3.

One more probabilistic poser

What is the probability that both children are boys?

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One more set up:

- A parent has two children.
- We know one of them is a boy born on December 31.

One more probabilistic poser

What is the probability that both children are boys?

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One more set up:

- A parent has two children.
- We know one of them is a boy born on December 31.

One more probabilistic poser:

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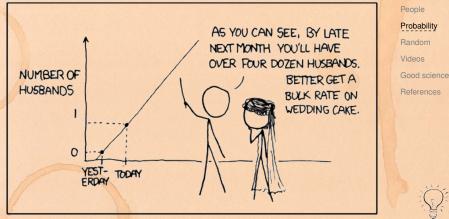


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Prediction:

MY HOBBY: EXTRAPOLATING



http://xkcd.com/605/ (⊞)

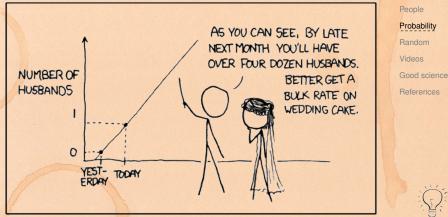
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http://xkcd.com/605/ (III)

By the third trimester, there will be hundreds of babies inside you...

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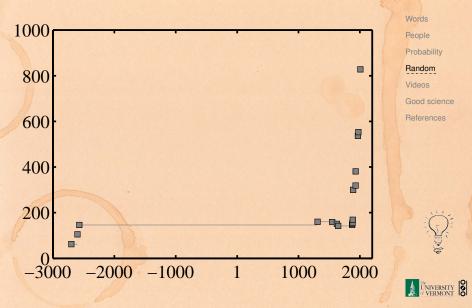
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What's this?

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Mimicry—the lying lyrebird





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Whimsical but great example of real science:

"How Cats Lap: Water Uptake by *Felis catus*" (⊞) Reis et al., *Science*, 2010.

A Study of Cat Lapping

Adult cats and dogs are unable to create suction in their mouths and must use their tongues to drink. A dog will scoop up liquid with the back of its tongue, but a cat will only touch the surface with the smooth tip of its tongue and pull a column of liquid into its mouth.







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Source: Science

THE NEW YORK TIMES; IMAGES FROM VIDEO BY ROMAN STOCKER, SUNGHWAN JUNG, JEFFREY M. ARISTOFF AND PEDRO M. REIS

Amusing interview here (⊞)

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Universal numbers

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Accidents of evolution give us 5 + 5
 = 10 fingers and hence base 10.

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Universal numbers

Accidents of evolution give us 5 + 5 = 10 fingers and hence base 10.

We could be happy about 6, 8, or 12. Words People Probability Random

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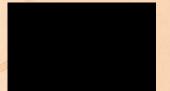




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► Beep.

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Great moments in Universality

Phyllotaxis Add pictures Asides

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Richard Wiseman's research:

Quirkology

HOW WE DISCOVER THE BIG TRUTHS IN SMALL THINGS



Author of The Lack Factor

http://www.quirkology.com (⊞)

Letter writing exercise

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Richard Wiseman's research:

Quirkology

HOW WE DISCOVER THE BIG TRUTHS IN SMALL THINGS



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- http://www.quirkology.com (⊞)
- Letter writing exercise...





People who draw letters so others can read them tend to:

- be concerned with how others see them
- skilled at altering how others see the
- be more adept at lying.

People how draw letters so they can read them tend

- be low 'self-monitors'
- follow their inner values
- remain the same across social settings
- be less adept at lying...

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People who draw letters so others can read them tend to:

- be high 'self-monitors'
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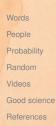


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And those who convince themselves they drew their letters the opposite way to what they really did... Words People Probability Random Videos Good science References





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And those who convince themselves they drew their letters the opposite way to what they really did...

are good at deceiving themselves.

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References I

[1] J.-B. Michel, Y. K. Shen, A. P. Aiden, A. Veres, M. K. Gray, The Google Books Team, J. P. Pickett, D. Hoiberg, D. Clancy, P. Norvig, J. Orwant, S. Pinker, M. A. Nowak, and E. L. Aiden.
Quantitative analysis of culture using millions of digitized books.
Science Magazine, 331:176–182, 2011. pdf (⊞)

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