

# TRUEPOINT

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## Annual Client Meeting

September 25, 2008  
Cincinnati Art Museum

# The Psychology of Money: Investing Meets Neuroscience

Jason Zweig  
Columnist, *The Wall Street Journal*

- The Man with Two Brains
- Greed
- Confidence
- Surprise
- Risk
- Fear
- Regret
- Happiness

*Answer as fast as you can:*

A piece of candy and a stick of gum together cost \$1.10.

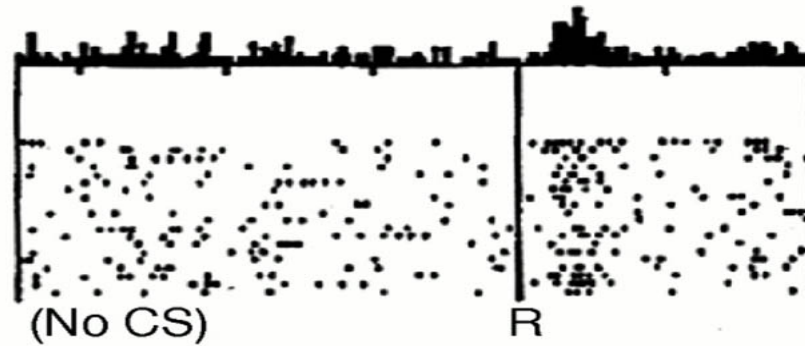
The candy costs \$1.00 more than the gum.

*How much does the gum cost?*

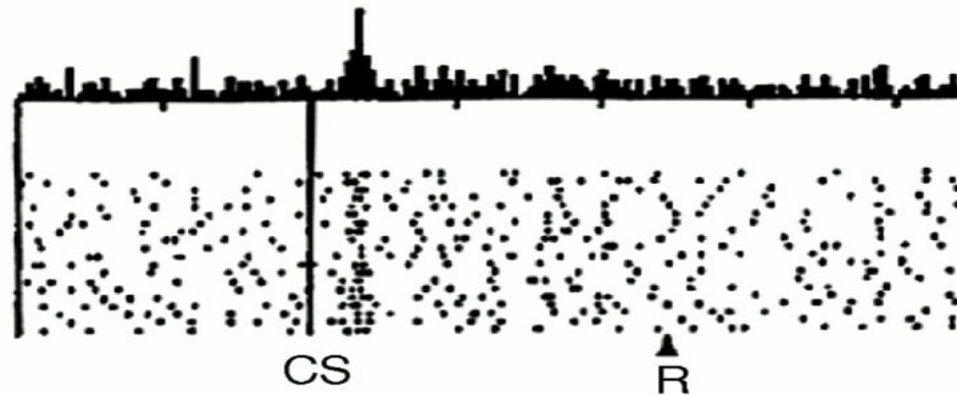
- And woman!
- The reflexive brain is fast, automatic, emotional, intuitive, evolutionarily ancient
- The reflective brain is slow, controlled, empirical, rational, evolutionarily recent
- Intuitions and emotions are *involuntary*
- Rational analysis must be *switched on*
- Cortex: from the Latin for...

# Greed

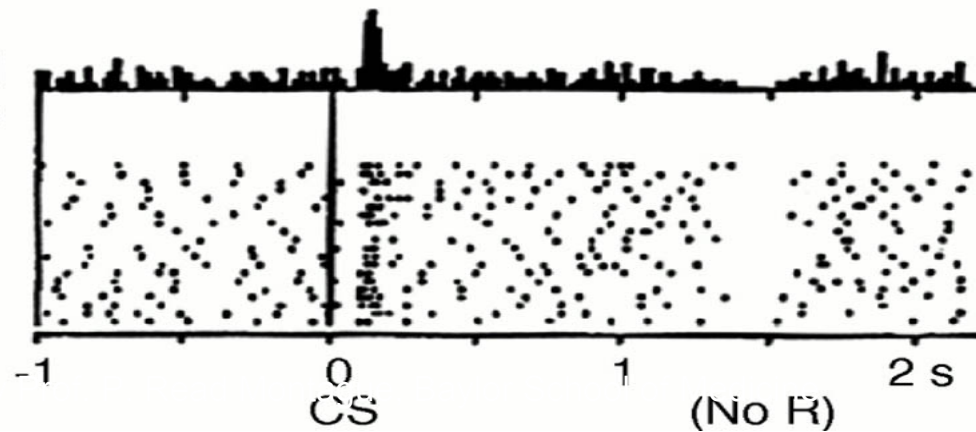
No prediction  
Reward occurs



Reward predicted  
Reward occurs

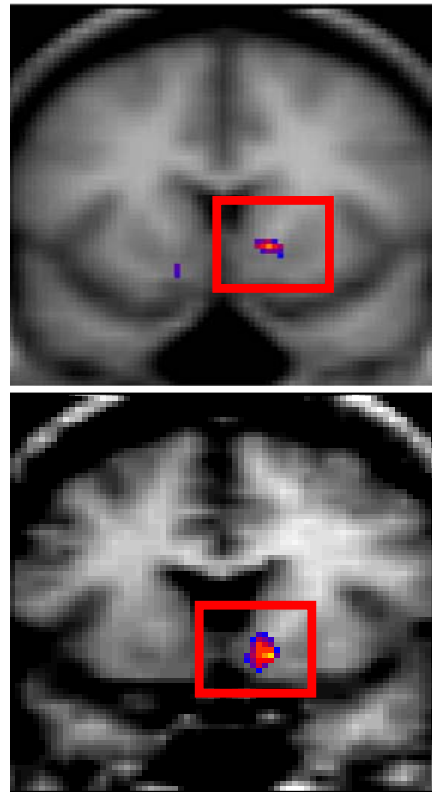


Reward predicted  
No reward occurs

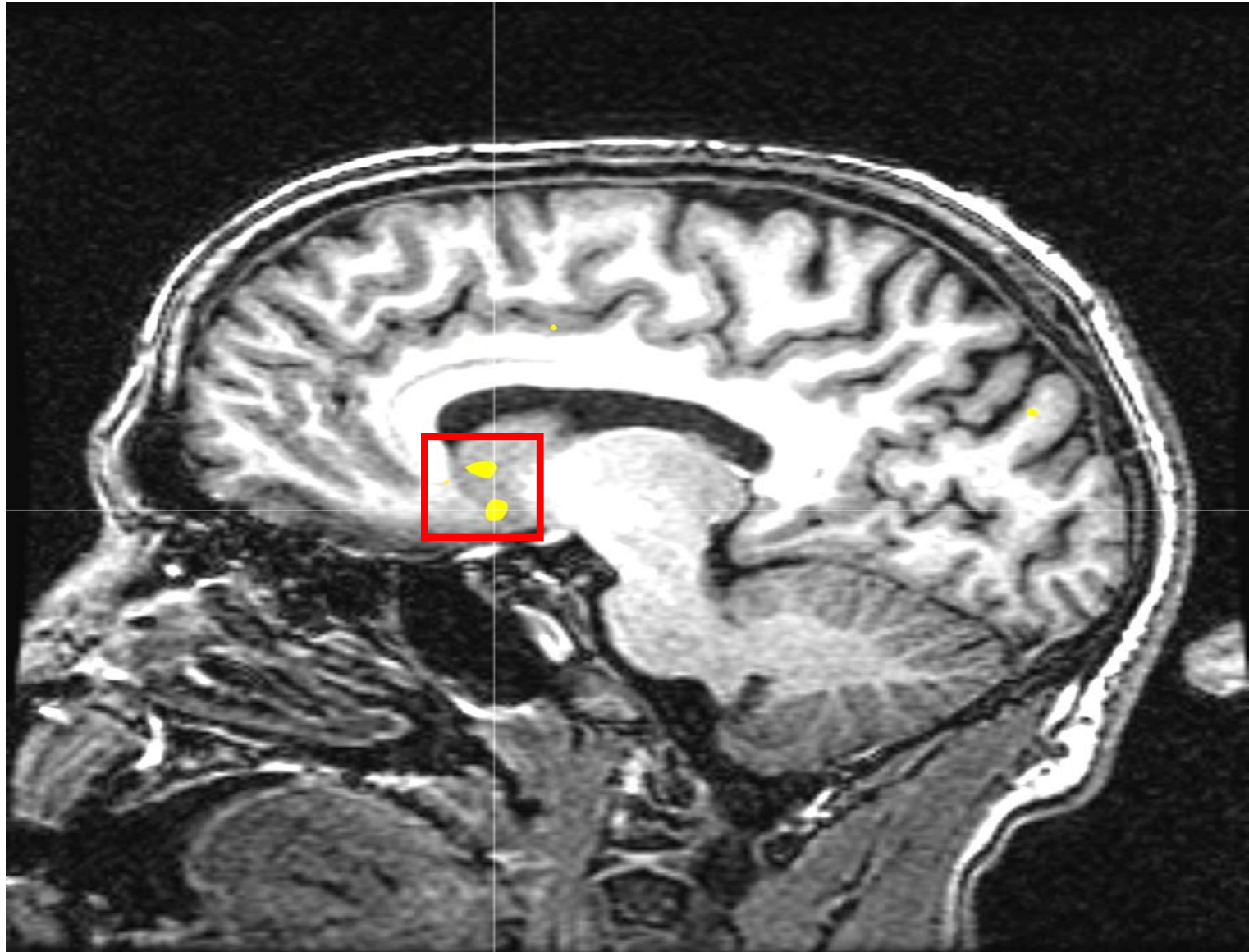


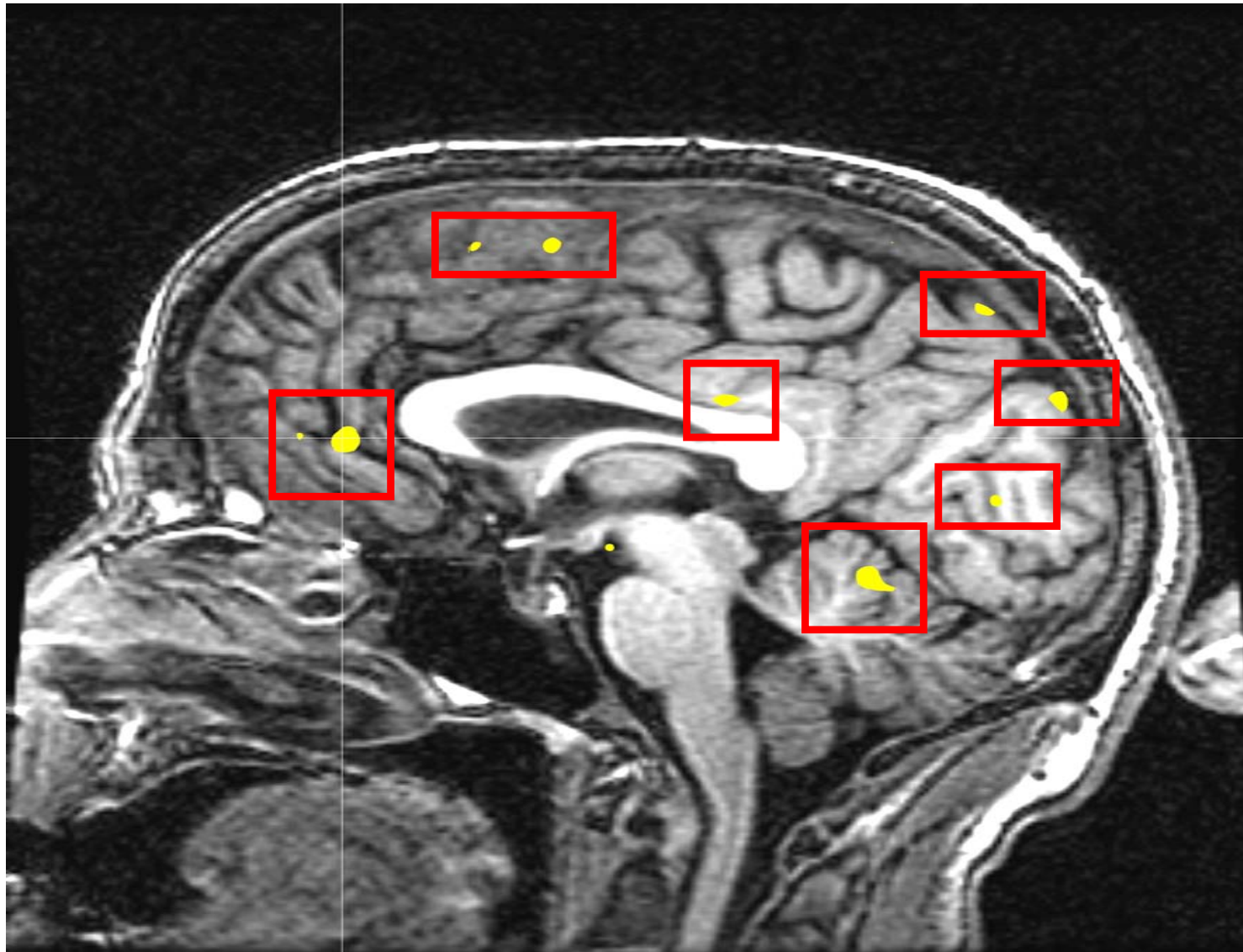
-1 0 1 2 s  
CS (No R)

## Anticipating a financial gain

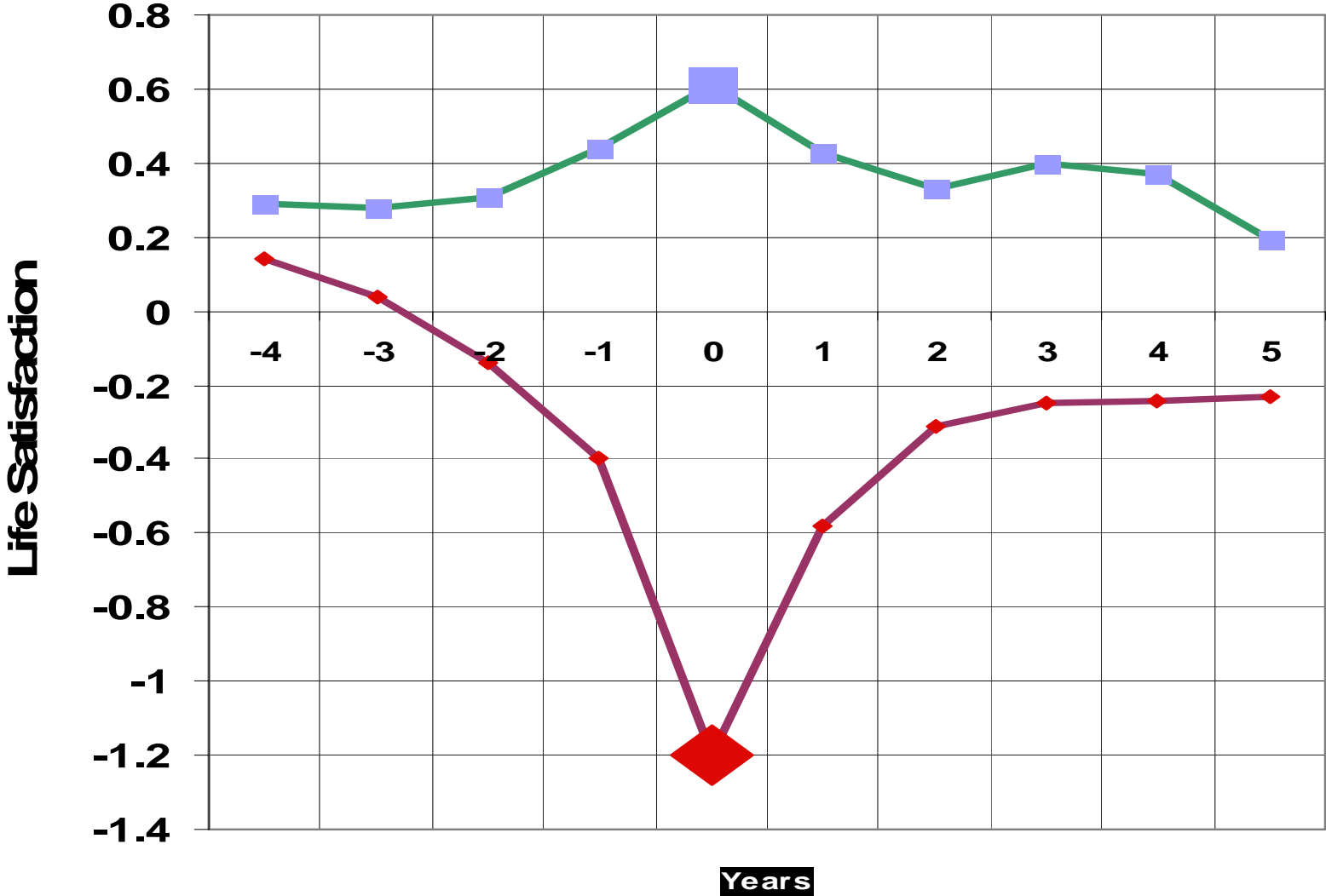


## Anticipating a hit of cocaine





## Marriage



# Confidence

- Drivers in Seattle: How would you rate your “skill, ability & alertness” the last time you drove?
- 63%: high (as usual)
- Where were the interviews conducted?
- 68% were found responsible by SPD
- 58% had  $\geq 2$  past violations
- 44% ended up facing criminal charges
- 6% of them involved in fatalities

- At least 70% chance of success for “any business like yours”: 39%
- At least 70% chance of success for **your** business: 81% (one in three: zero chance of failure)
- I will go to Heaven after I die: 64%
- I will go to Hell after I die: 0.5%

- My mutual funds will “consistently beat the S&P 500 every year”: 74%
- Proportion of investors who exaggerated the past returns of their portfolios: 75% to 88%
- Proportion of investors who had no idea how much their portfolios had gone up: 4%
- Proportion of those investors who were certain their portfolios had beaten the market: 100%
- Proportion of 401(k) participants who think their company stock is riskier than the market: 16%

- Dec. 2001: Enron bankruptcy
- Mar. 2002: Boston
- Diversify: because “any company could be the next Enron.”
- “Why should I move my money from the one stock I know everything about to hundreds of stocks I don’t know **anything** about?”
- “Diversification doesn’t protect me from the next Enron, it exposes me to **every** next Enron!”

- Intriguing correlations!
- The feeling that your prediction will be right activates the nucleus accumbens (also: sexual desire)
- The feeling that you are in control activates the caudate nucleus (also: altruism, trust, romantic love)
- The feeling that you are “on a roll” activates the subgenual cingulate (also: clinical mania)
  - grandiosity, sleeplessness, hyperactivity, logorrhea

- On sunny days, college admissions officers 12% more likely to admit athletes than scholars
- Hubert & Bertha
- Mutual fund managers
  - typical holding 99 mis. closer
- Individual investors
  - much more in local phone company
- Dennis & Denise the dentists, Larry & Laura the lawyers
- Virginia lives in VA, Georgia lives in GA

- Baseball players whose names begin with K strike out > often
- Students whose names begin with A or B earn higher GPAs than those whose names begin with C or D
- People *almost 65% > likely* to marry someone whose surname begins with the same letter as their own
- Edinburgh
- **Your mind has a mind of its own, and you may be *feeling* when you think you are *thinking***

- Which word do you like better: *dilikli* or *afworbu*?
  - the more often repeated, the more likely to believe stands for something positive
- Americans exposed to Chinese ideographs for only 5 milliseconds apiece, five times each or just once
  - rated ~ 15% more favorably
  - put the observers into a measurably better mood overall!
- Which prescription medicine would you rather take:
  - 1-[[[3-(6,7-dihydro-1-methyl-7-oxo-3-propyl-1H-pyrazolo[4,3-d]pyrimidin-5-yl)-4-ethoxyphenyl]sulfonyl]-4-methylpiperazine citrate,
  - $C_{22}H_{30}N_6O_4S$ ,
  - sildenafil citrate,
  - or Viagra?

- Which stocks would you rather invest in:
  - BUD, KAR and LUV – or CINF, L XK and PXG?
  - Comet and Emmi – or Geberit and Ypsomed?
- “Familiarity breeds contempt.”
- No: familiarity breeds comfort
  - and sows the seeds of surprise.

# Surprise

I'm about to show you a series of words printed in different colors.

Your task is to name the color in which each word is printed.

What are we trying to do again?

Name the color in which each  
word is printed

red

**blue**

**yellow**

green

red

**blue**

**yellow**

green

red

# Risk

- The amygdala: “hot” responses like fear & anger
- Responds to scary things in 12 msec (.04 X blink of human eye)
- Keeps us alive:
  - rat & cat
- Automatic, uncontrollable -- does not do cost-benefit analysis

- Puts our bodies on instinctive **red alert**
- Around things like...
  - snakes!
  - other natural dangers (lions, spiders, fire, heights)
  - social / cultural dangers (losing money!)
- Triggers release of adrenaline & other stress hormones, “fusing” memories of unpleasant emotion

- investors roughly sense their own comfort levels
- ascertainable in advance
  - can be elicited with questions like “If the Dow drops 10% tomorrow, would you hold, sell, or buy more?”
- predictable over time
  - varying ( $>$  or  $<$ ) inversely with age
- a function of background, income, personality
- determined by disposition, not situation
  - “I’m a risk-taker”
  - “I’m a conservative person”
- overwhelming evidence that all these propositions are incomplete & several are flat-out wrong

- Source
  - inheritance, bonus, Lotto
- Space
  - insurance, Lotto
- Time
  - 12/1999 vs. 10/2002 (or 9/2008!)
- Social context (career & reputational risk)
  - herding, “ticking together”
- Descriptive context
  - 85/15
- Mood
  - 22
- “Fluency”
  - 3 vs. 8 reasons

- Reframe
  - “90% chance of failure”  $\neq$  “10% chance of success”  $\neq$  “one in ten people who try this will succeed”
- Neuter your information
- Where did this money *come from*?
- Track your feelings
  - can’t turn emotions off, but can turn them inside-out
- Track your forecasts
  - not just right, but right for the right reason
  - treatment for hindsight bias

- Track not just the *hold portfolio* but the *sold portfolio*
- The riskiest moment is when you are right
- Try to underweight the familiar, overweight the unfamiliar
- Financial fire drills: be prepared!
  - heat
  - crying, clanging, Cramer, CO<sub>2</sub>
  - red
  - disgust

Jason Zweig, *Your Money and Your Brain* (Simon and Schuster, 2007)

[www.jasonzweig.com](http://www.jasonzweig.com)

Excerpts, reviews, interviews, corrections

[www.neuroeconomics.org](http://www.neuroeconomics.org)

Society for Neuroeconomics