

AGORA FINANCIAL PRESENTS

# INNOVATE or DIE

**This is Your Brain on Stocks:  
Behavioral Economics, Neuro-Finance,  
& Faulty Financial Decision-Making**

*An overview of the cognitive shortcomings of Investors & Traders*

2012 AGORA FINANCIAL INVESTMENT SYMPOSIUM

*Presentation by Barry Ritholtz*

This is Your Brain.  
*This is Your Brain on Drugs*  
1987 PSA

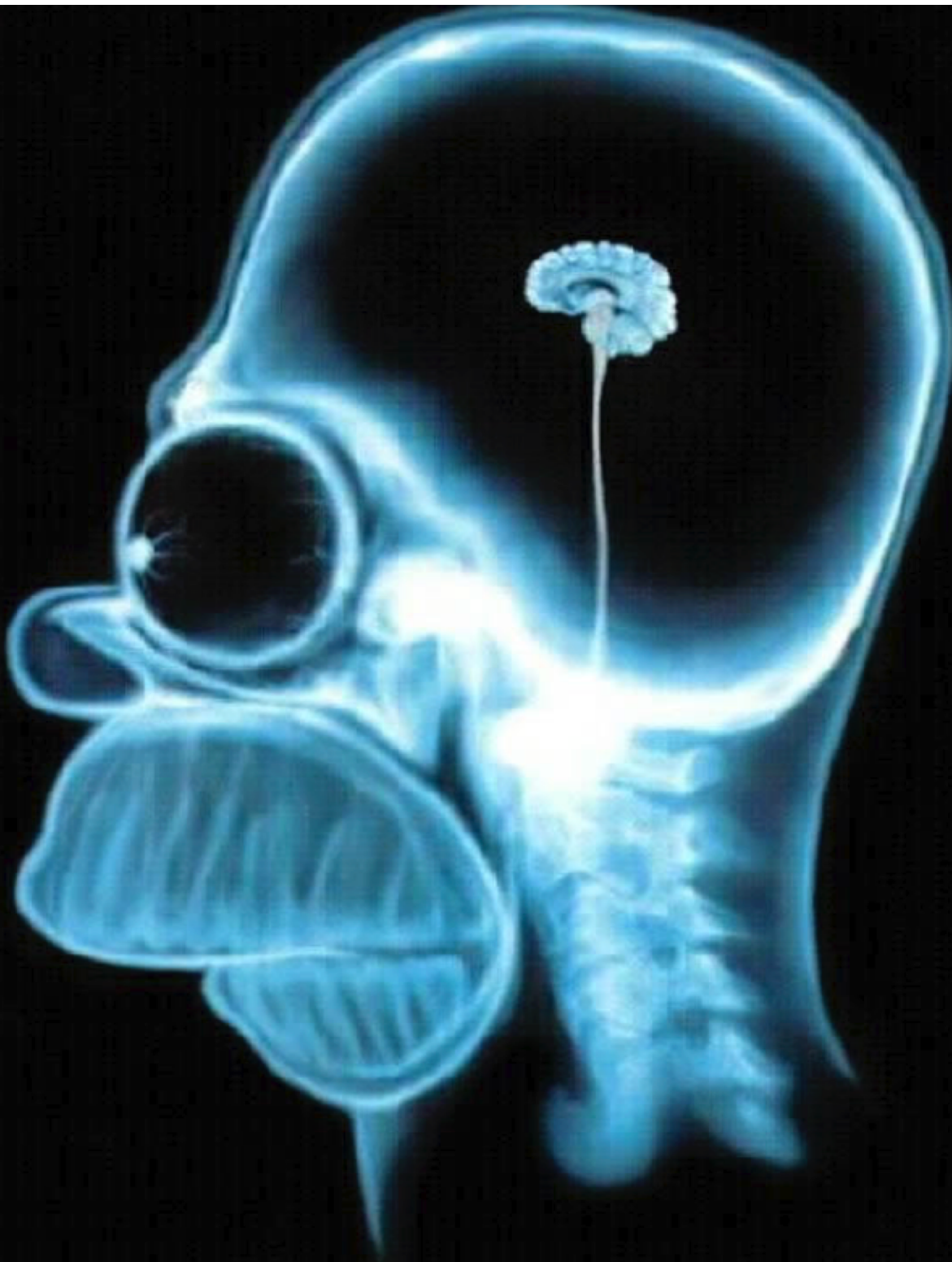




**This  
is  
your  
brain**

Your brain weighs 3 pounds, and is 100,000 years old. It is a “*dynamic, opportunistic, self-organizing system of systems.*” MRIs have revealed to Neurologists what our brains looks like when making decisions . We can observe it 1) in real time; 2) under actual conditions, and 3) in reaction to financial risk/reward stimuli.

Once we begin trading stocks, however, our brains begin to undergo subtle physical change that we can actually see in the MRIs of Traders . . .



**This  
is  
your  
brain  
on  
stocks**

# How Does Your Brain Interfere With Your Investing?

## Behavioral Economics

1. Herding, Groupthink
2. Experts: Articulate Incompetents
3. Optimism Bias
4. Confirmation Bias
5. Recency Effect
6. Emotions change the way we perceive events (e.g., Sports, Politics)

## Neuro-Finance

7. Anticipation vs. Rewards
8. Selective Perception & Retention
9. A Species of Dopamine Addicts
10. Endowment Effect of Ownership
11. Monkeys Love a Narrative
12. Cognitive Errors Impact Processes

*A brief intro to*  
**Behavioral  
Economics**



JUST A NORMAL DAY AT THE NATION'S MOST IMPORTANT FINANCIAL INSTITUTION...

# Herding

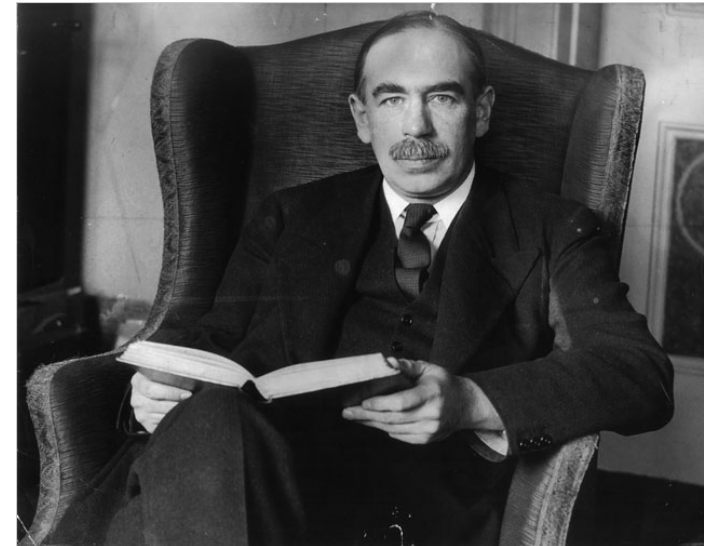


Mutual of Omaha

“Lone Gazelle”

# Wall St. Groupthink: *Buy Buy Buy!*

1. Only 5% of Wall Street Recommendations Are “SELLS”  
-NYT, May 15, 2008
2. Why Analysts Keep Telling Investors to Buy  
-NYT, February 8, 2009
3. Equity Analysts Too Bullish and Bearish at the Exact Wrong Times  
-McKinsey, June 2nd, 2010
4. None of the S&P 1500 have a Wall St. Consensus “Sell” on them  
-Robert Powell, Editor, Retirement Weekly, August 2011



*It is better for one's reputation to fail conventionally than to succeed unconventionally.*

*-John Maynard Keynes*



# Optimism Bias



**Dunning Kruger Effect:** DK is a cognitive bias in which unskilled people make poor decisions and reach erroneous conclusions, but their incompetence denies them the *metacognitive* ability to recognize these mistakes.

**Metacognition:** The less competent you are at a task, the more likely you are to over-estimate your ability to accomplish it well. *Competence* in a given field actually weakens *self-confidence*.

This has devastating consequences in the investment world.

# “Expert” Forecasting versus Ambiguous Uncertainty

Bennett Goodspeed, *The Tao Jones* (1984) discussed  
“The articulate incompetents:”

- Expert forecasters do no better than the average member of the public;
- The more confident an expert sounds, the more likely he is to be believed by TV viewers
- Experts who acknowledge that the future is inherently unknowable are perceived as being uncertain – and therefore less trustworthy. (Isaiah Berlin: Hedgehog vs Fox)
- The more self-confident an expert appears, *the worse their track record is likely to be.*
- Forecasters who get a single big outlier correct are more likely to underperform the rest of the time.



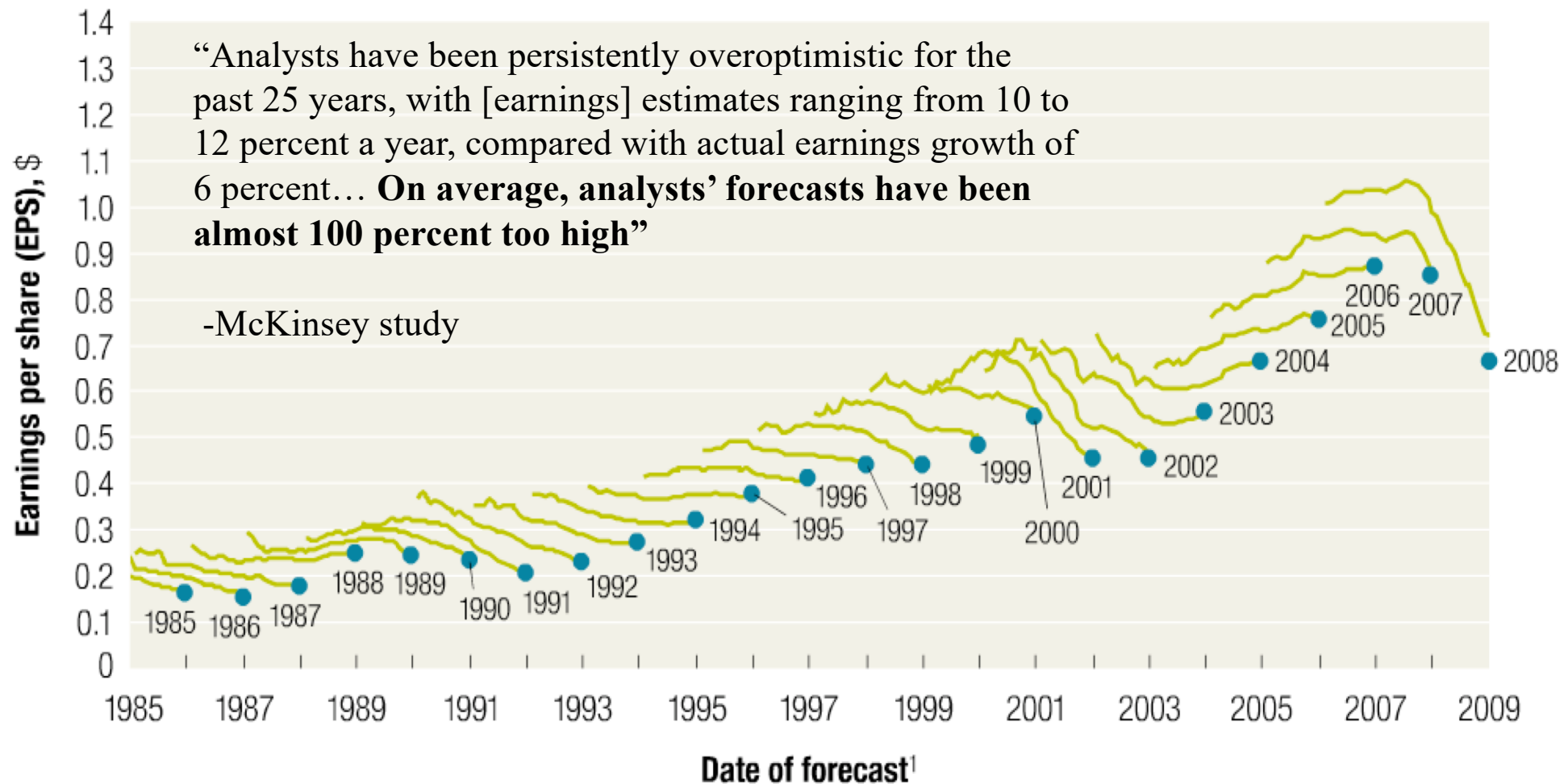
*with apologies to Robt. Day  
& the New Yorker* HB08

*“The bottom’s in. . . The bottom’s in  
. . . The bottom’s in. . .”*

# Analysts: Over-Optimistic Group Think

S&P 500 companies

— Analysts' forecasts over time for each year  
● Realized EPS for each year



# Confirmation Bias

## *Selective Perception & Retention*

1. We tend to read that which we agree with; We avoid that which disagrees with our preconceived biases, notions or ideologies;
2. Our biases change the way we perceive objects – literally, the way we see the world.
3. The same biases affect our memories – we retain *less* of what we disagree with . . .
4. *Expectations Affect Perception*



# Beware the Recency Effect

## WSJ: 2007

U.S. STOCKS | OCTOBER 15, 2007

### Exorcising Ghosts of Octobers Past

*Despite Housing Slump, Crashes Such as in 1987 Likely to Stay Memories*

Article

Comments

Email Print Save This Like + More

By E.S. BROWNING

*See Corrections & Amplifications item below.*

With the stock market booming lately, many investors are putting aside worries about the housing slump and the summer's credit crunch.

At the same time, some are thinking about a looming anniversary.



Source: Ritholtz.com, WSJ

## WSJ: 2010

MARKETS | MAY 17, 2010

### How the 'Flash Crash' Echoed Black Monday

*May 6 Selloff Had Parallels to 1987; Electronic Trading Magnified Selling Pressure*

Article

Interactive Graphics

Comments (26)

Email Print Save This Like 16 + More Text

By SCOTT PATTERSON



Agence France-Presse/Getty Images

The Black Monday crash on Oct. 19, 1987, above, sent the Dow industrials down 508 points—or a startling 22.6% in a day.

# What Just Happened vs. What is Going to Happen

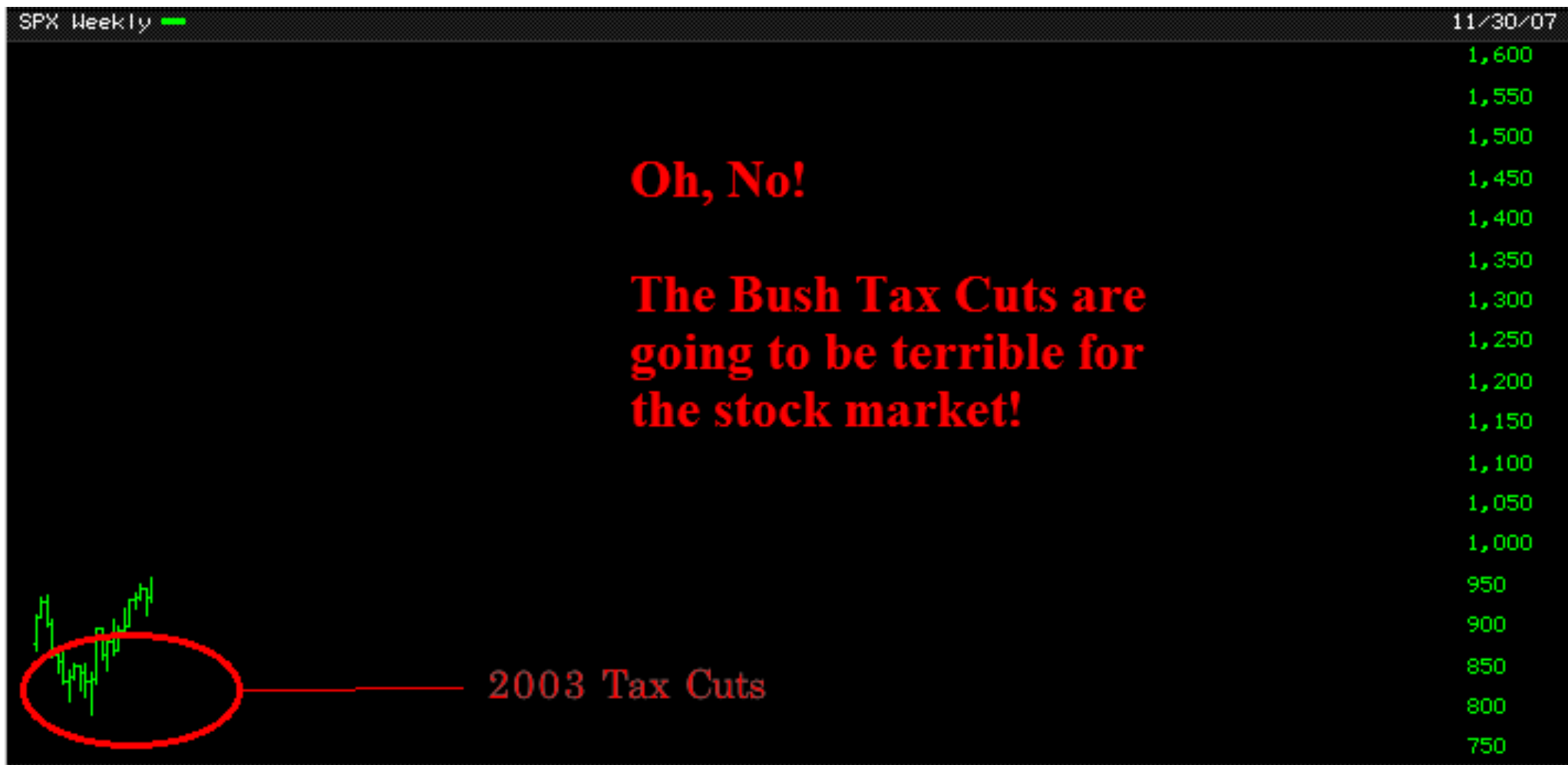
Time, June 2005

Fortune, June 2005



# 2003: Politics and Asset Management Don't Mix

*These are poorly designed tax cuts - Stay Out of Markets!*



# 2003: Politics and Asset Management Don't Mix

*2003 Tax Cuts > \$1 Trillion*

*How did that political trade – up over 90% over 4 years –  
work out for you . . . ?*





# 2009: Political Investing

*Obama is a Socialist! Stay Out of Markets!*



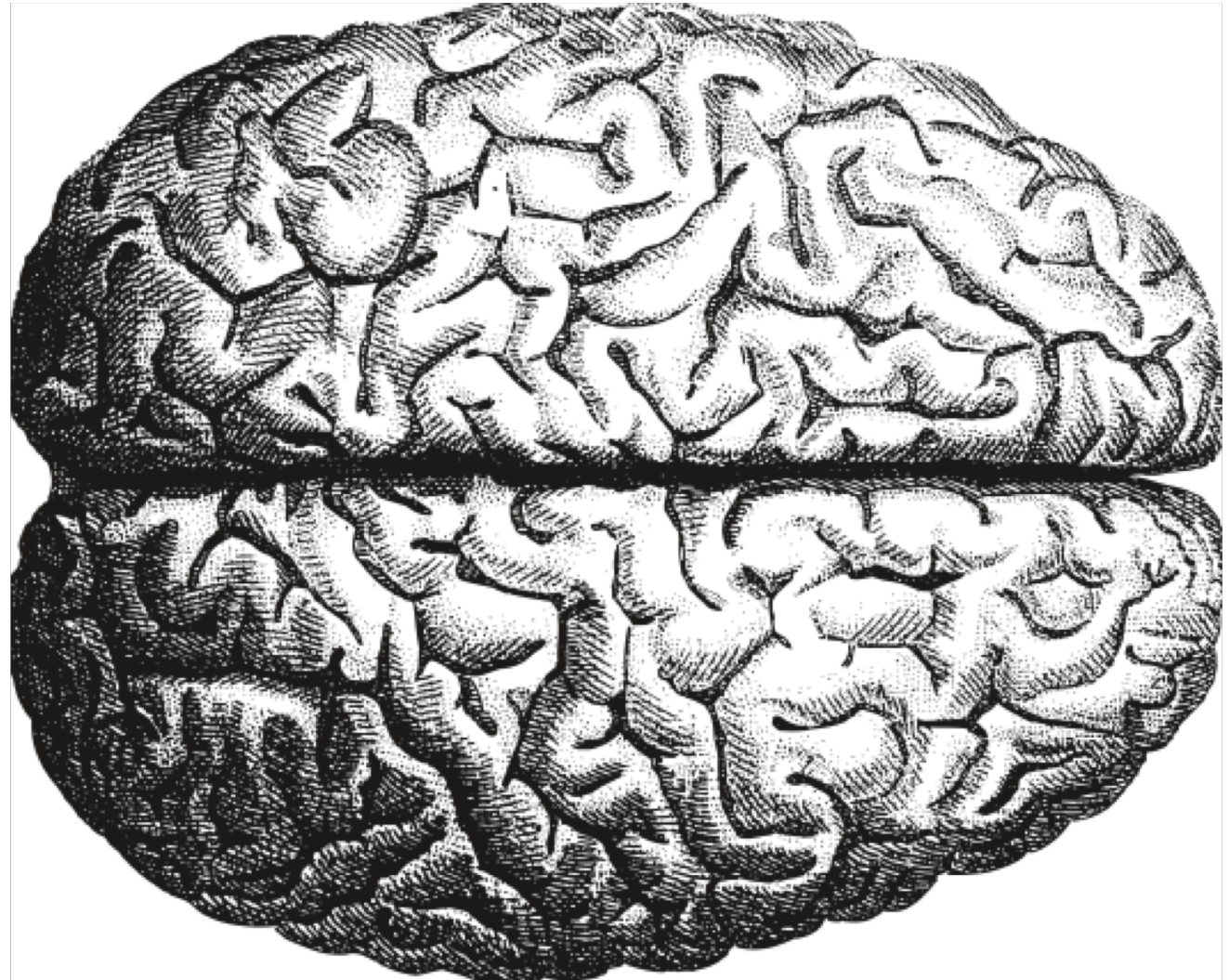
# 2009: Politics and Asset Management Don't Mix

*FASB 157, ZIRP, QE + VERY Oversold Markets*

*The political trader missed the best rally in a generation –  
Up 108% over 36 months*



*A brief intro to*  
**Neuro**  
**Finance**



# If u cn rd ths

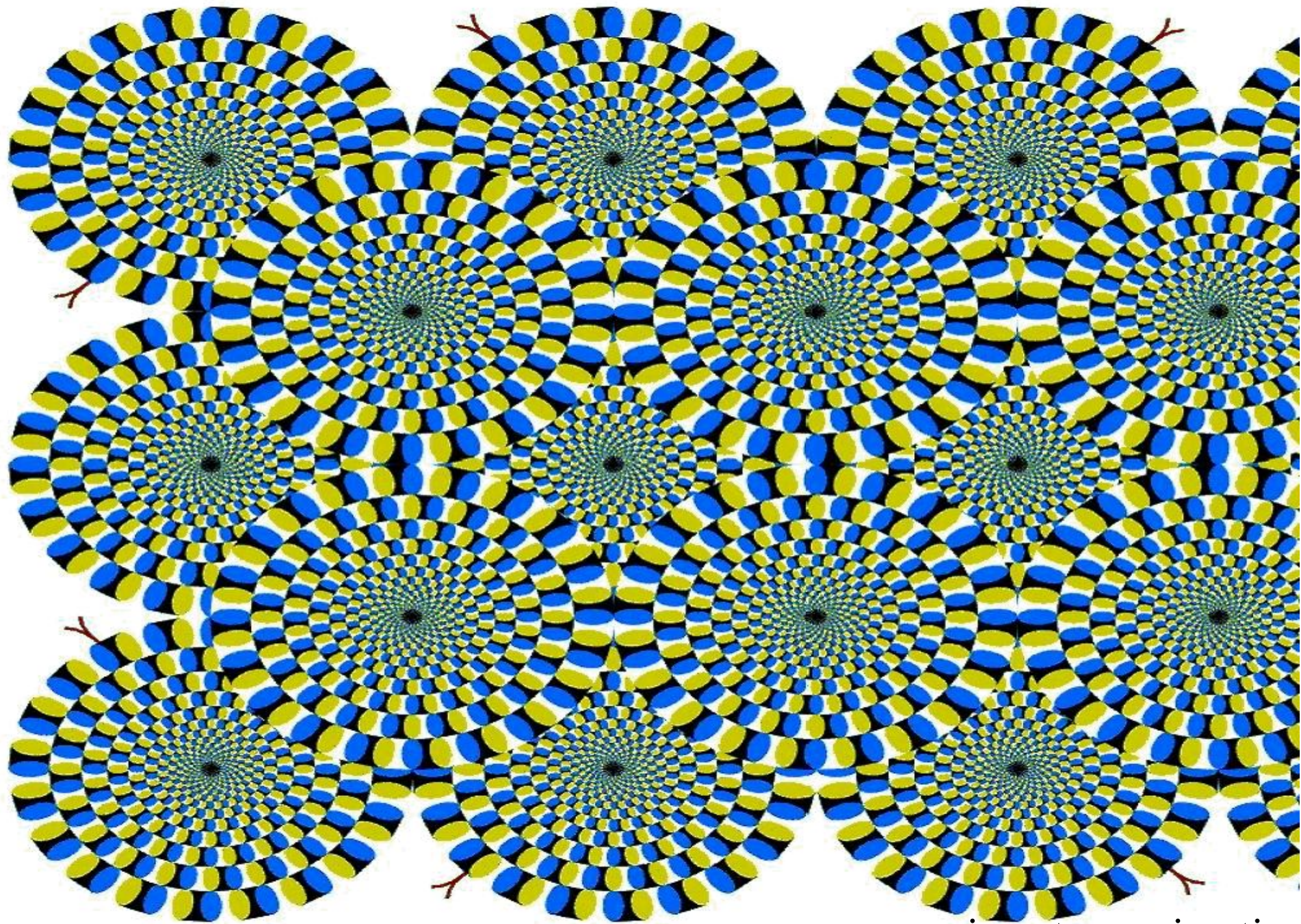
Olny srmat poelpe can raed tihs.

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you can raed tihs psas it  
on !!

IF YOU CAN READ THIS  
WITH EASE THEN YOU ARE  
INCREDIBLY TALENTED AT  
READING BACKWARDS,  
WHICH IS AN INCREDIBLY  
POINTLESS TALENT  
TO HAVE.

This animation . . .



. . . is not an animation

# A Species of Dopamine Addicts



The Dawn of Boredom

*What does this mean for investors/traders?*

- We have an Optimism bias (helps our survival).
- Our brains are better at processing good news about the future than bad.
- *Anticipation of financial reward* > than actual benefits (Buy Rumor, Sell News)
- Gamblers, Alcoholics, Sex Addicts, Junkies, OA, Hyper-Traders = *Dopamine High*.

# Monkeys Love a Narrative

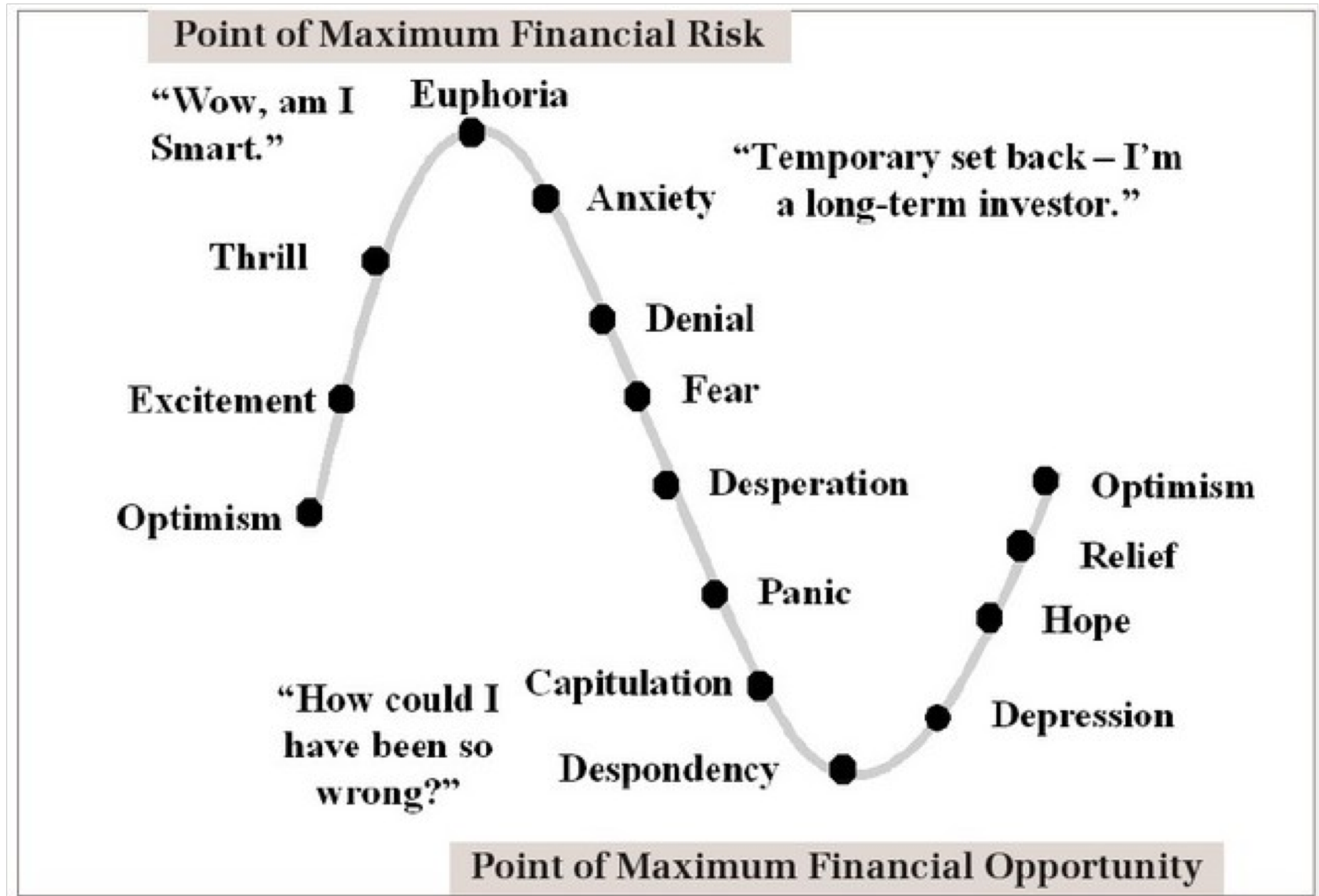


We prefer stories to data –

Pre-writing, story-telling is how  
Humans evolved to share information

We are vulnerable to anecdotes that  
mislead or present false conclusions  
unsupported by data

# Sentiment Cycle





*Now I understand these  
cognitive issues, what can I  
do about them?*

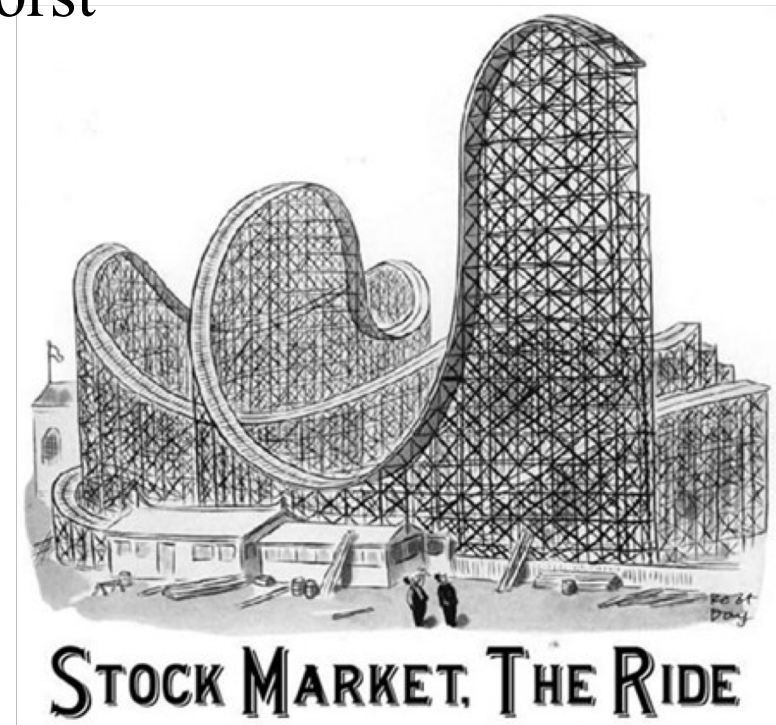
*Come to this afternoon's  
presentation:*

**The 10 Biggest  
Errors All Investors Make  
& How to Avoid Them. . .**



## Top 10 Investor Errors

1. High Fees Are A Drag on Returns
2. Reaching for Yield
3. You (and your Behavior) Are Your Own Worst Enemy
4. Asset Allocation Matters More than Stock Picking
5. Passive vs. Active Management
6. Mutual Fund vs. ETFs
7. Not Understanding the Long Cycle
8. Cognitive Errors
9. Confusing Past Performance With Future Potential
10. When Paying Fees, Get What You Pay For



*for more information, please contact*

Barry L. Ritholtz

CEO, Director of Equity Research

Fusion IQ

535 Fifth Avenue, 25<sup>th</sup> floor

New York, NY 10017

212-661-2022 x7104

RitholtzCapital@Optonline.net

The Big Picture

<http://www.ritholtz.com/blog>



*My favorite books on these subjects can be found at*

<http://www.ritholtz.com/blog/behavioral-books>