



# **Irrational decisions and the limits of free market medicine**

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# Rational consumers and the wonders of the marketplace

## ■ *Wall Street Journal*

- 1999: laser surgery for nearsightedness
  - ▶ \$2,100
- 2005: same surgery
  - ▶ \$1,700

## ■ No reason to be surprised

- iPods – plasma screen TVs
- laptops – soccer balls

# Given the wonders of the free market

## ■ *WSJ*:

- “If so many people are willing to ante-up for optional procedures like Lasik...
- “...surely they’ll be able to get used to more direct spending on urgent medical needs as well.”

# Consumerism and Health Care

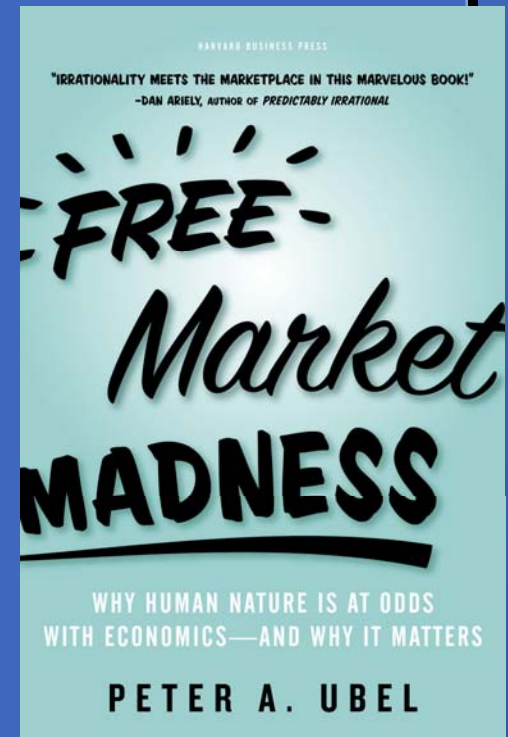
- G.W. Bush complained that
  - “people are able to shop based upon price and quality in almost every aspect of our life...”
  - “...with the exception of healthcare.”

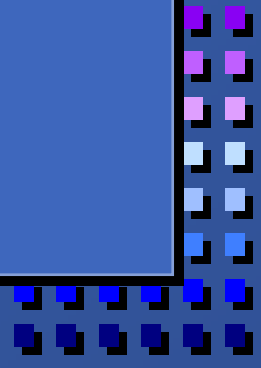
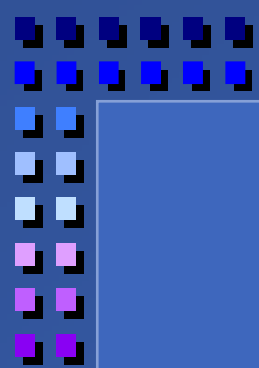
# Cost and Quality

- Ideally
  - Medical decision makers will make
    - ▶ Rational tradeoffs between
      - Cost and Quality
      - Risk and Benefit
- Can patients do this?

# Thesis of my talk

- Because humans are flawed decision makers
  - Prone to poor judgments
  - Susceptible to irrational forces
  - Plagued by limited willpower
- Markets are flawed too
- To “fix” health care
  - We can't rely solely on the free market





**2 minute history of  
economic theory  
and rational  
choice**

# Rational Decisions: Weighing the pros and cons

- Expert view: rational decisions should be based on
  - Risks vs. benefits
  - Conscious weighing of
    - ▶ cost\$ vs
    - ▶ Quality
- Economists among others equate
  - Rational decision making
  - With utility maximization

# Utility? What's that?

- Leading utility theorist: Jeremy Bentham
  - Philosopher
  - Political reformer
  - Father of utilitarianism
- To Bentham
  - Utility = Happiness
  - Goal of social policy = maximize happiness

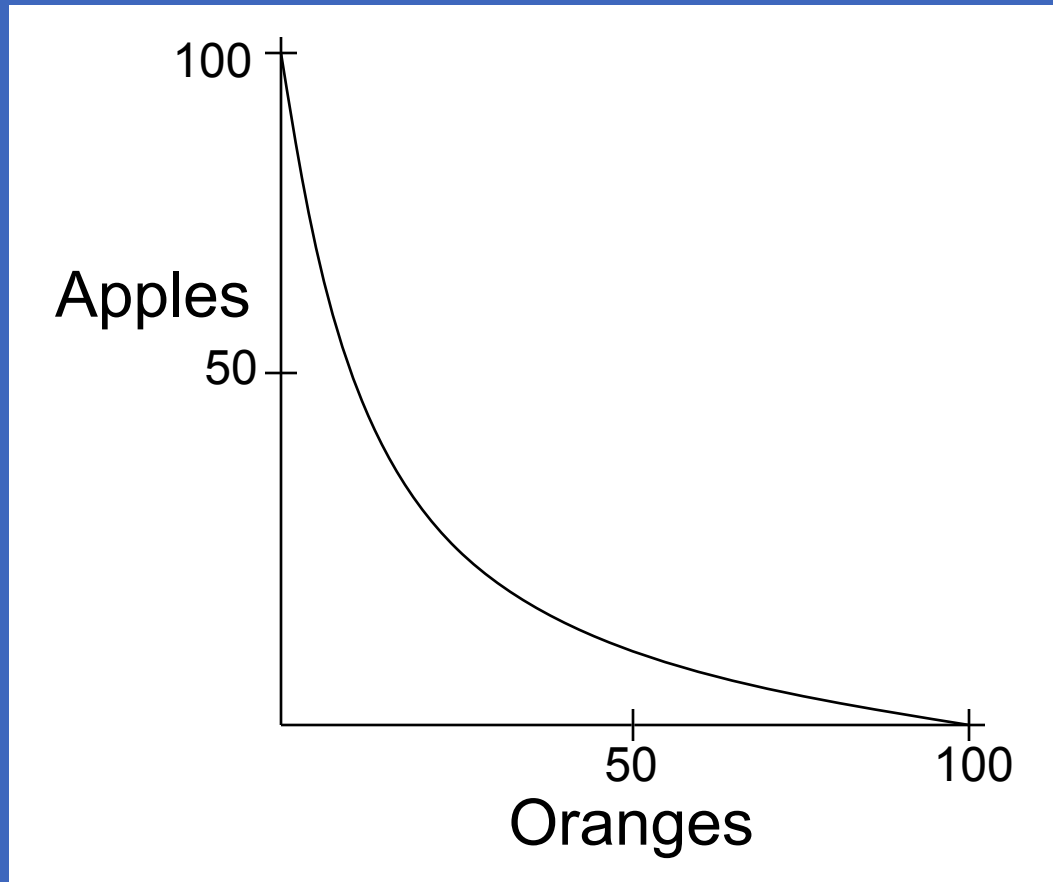
# Jeremy Bentham



# William Stanley Jevons



# Utility: Revealed by People's Choices



# Taking Rationality to its Limits: Gary Becker and Kevin Murphy



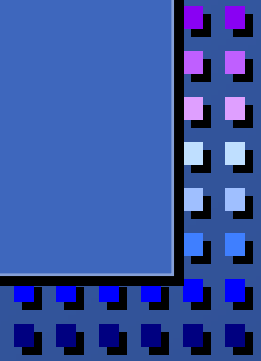
(Photo by Dan Dry)

# Rational addiction

- “People often become addicted precisely because they are unhappy.”
- “However, they would be even more unhappy if they were prevented from consuming the addictive goods.”



# Rationality and Health Care Decision Making

- Let's look more closely at how decisions are made by
    - Patients
    - Doctors
- 



# A Preference Sensitive Decision

# Imagine you have Colon Cancer

## Surgery A

- 80% cure without complications
- 16% die of disease
- 1% colostomy
- 1% intermittent bowel obstruction
- 1% wound infection
- 1% diarrhea

## ■ Surgery B

- 80% cure without complications
- 20% die

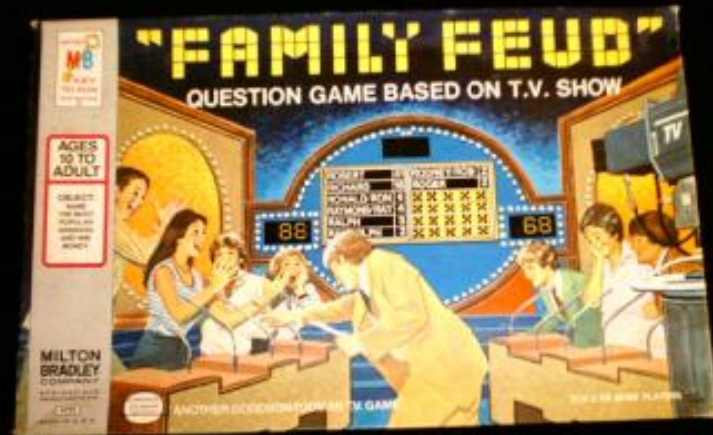
## ■ Which surgery would you choose?

# Give me colostomy or give me death!

- When we ask people to choose between being dead or having one of these four complications
  - >90% prefer each of the four complications to death
- To be consistent with these preferences
  - <10% should choose the uncomplicated surgery

# Our Survey says . . .

- 50-60% of people choose surgery B, the uncomplicated surgery





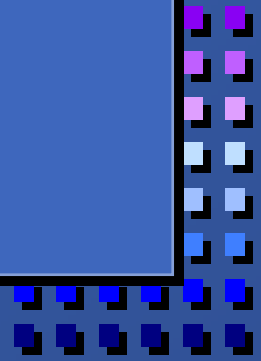
**Risky  
Feelings:**

**13% > 13%**





# An unpleasant assignment

- Take a moment to estimate your lifetime risk of developing
    - breast cancer
    - prostate cancer
- 

# The hazards of education

- Average life time risk of breast cancer is about 13%
- Yet most woman think that their risk is much higher
- Consequently, risk counseling has been simultaneously shown to:
  - Improve risk perception
  - Reduce interest in preventive behavior
    - ↗ e.g. mammography

# Testing the Pre-test

- We asked some women to estimate the average woman's life time risk of breast cancer
  - Mean estimate = 41%
  - A common guess was 50%, often shorthand for "I have no idea"
- We did not ask the remaining women to guess
- After either guessing or not guessing, we presented women with the 13% figure
  - and asked them what they thought about it

# Hindsight bias among the non-guessers

- When asked whether that figure was higher, lower, or about the same as they predicted
  - 1/3 higher
  - 1/3 lower
  - 1/3 same
- The 41% figure was not already in their heads!

# How does guessing influence risk perceptions?

	Guess	Don't Guess
How does this risk make you feel?		
How does this risk strike you?		

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How does this risk make you feel?	40% relieved 12% anxious	
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# How does guessing influence risk perceptions?

	Guess	Don't Guess
How does this risk make you feel?	40% relieved 12% anxious	19% relieved 24% anxious
How does this risk strike you?	43% low risk 22% high risk	16% low risk 32% high risk



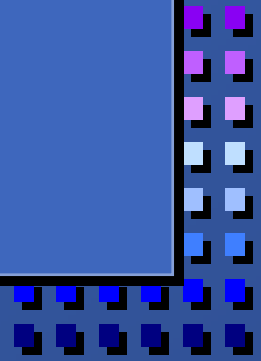
# Evaluability



# Choosing an Eye Surgeon

Imagine that you have decided to have laser eye surgery.

You contact some of the local eye surgery clinics and ask for information about the doctors who perform the surgeries.

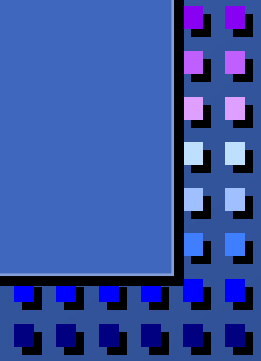




# Option 1: Dr. Bettereyes

Dr. Bettereyes was educated at Harvard Medical School and uses a next-generation excimer laser which he purchased last year.

He reports that he has performed this type of eye surgery about 80 times, with generally excellent results.



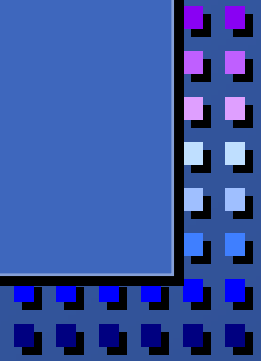


## Option 2: Dr. Seebetter

Dr. Seebetter was educated at The University of Iowa.

His clinic uses the latest type of excimer laser, purchased one year ago.

He reports that has performed this type of eye surgery about 300 times, with generally excellent results.



# Preference Reversal in Quality Ratings of Eye Surgeons

	<u>Separate Versions</u>		<u>Joint Version</u>
	B	S	
<u>Dr. Bettereyes</u> (Harvard, 80 procedures)	6.4	—	5.7
<u>Dr. Seebetter</u> (U. Iowa, 300 procedures)	—	5.9	8.2

Note: Rating scale 0-10.



**What have we  
learned so far?**

# Can't expect patients to be rational

- Use of risk information
  - Influenced by subtle contextual factors
- Emotionally powerful outcomes can sway choice
  - e.g. colostomy
- Some information difficult to evaluate
  - In isolation

# Why does patient irrationality matter?

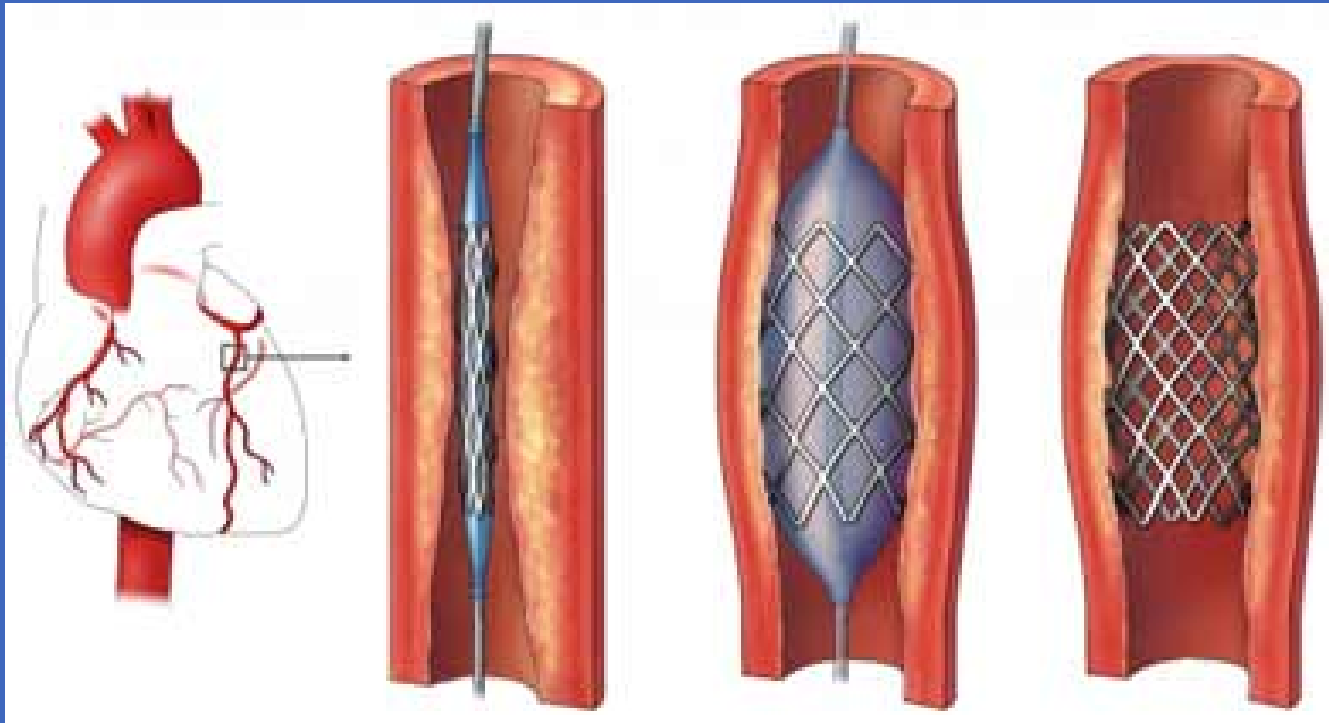
- The more health care = free market
  - With patients empowered
    - ▶ To make decisions
  - With patients responsible
    - ▶ For health care costs
- The more opportunities for patients
  - To make bad decisions
  - And thereby harm themselves

# Possible solution?

- Could we improve matters by having Doctors make decisions?
  - Weighing costs/benefits
  - Including attention to financial costs!



**Doctors'  
Decisions: Dr.  
Holmes' Heart  
Attack**



# Cost of stents

- Old-fashioned stents
  - \$ 1,200
- New, drug eluting stents
  - \$ 2,500

# Why so adamant about new stents?

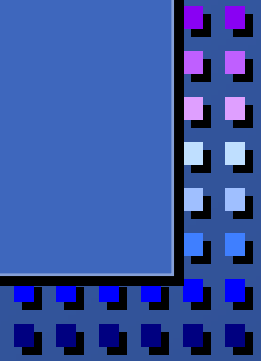
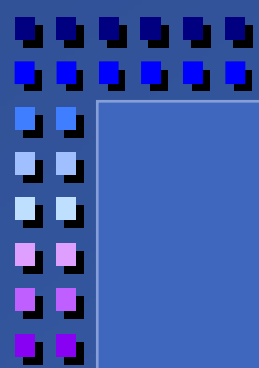
- Reason #1: because they are new
- Consumer research shows
  - “new” → Increase sales
  - “new” → Must be improved

# Why so adamant: Reason #2

- Stents were scarce
- Make something scarce → Increase demand
  - Tickle me Elmo
  - Only first 500 allowed to fill out my survey

# Why so adamant: Reason #3

- Stents were expensive
- Consider: clothing store with new line of sweaters
  - Weren't selling well
  - Law of supply and demand says: reduce price
  - Instead: increased price → Increased sales
- Consider: Tagamet versus Zantac



**More mundane  
decisions:**

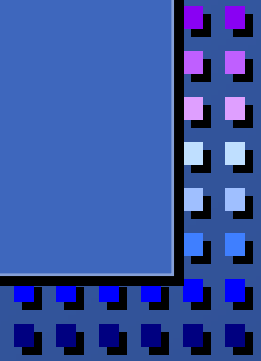
**Rationality and  
consumer appetites**

# Health related decisions

- Many of these decisions are
  - Complicated
  - Rare
  - Unfamiliar
  - Scary
- What about decisions people make every day?
  - Case in point: eating



# Richard Posner's view of Obesity and Rationality

- People know what makes them gain weight
    - Too much food
    - Too little exercise
  - Thus, the word overweight is
    - “a misnomer”
- 

# My View: Overeating is a Nomer

- Our eating decisions
  - Are often not decisions















# Policy Implications

# Beyond Comprehension



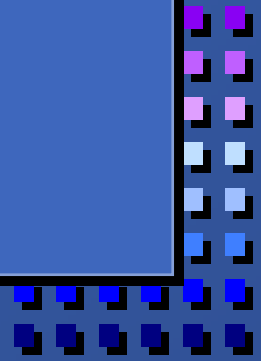
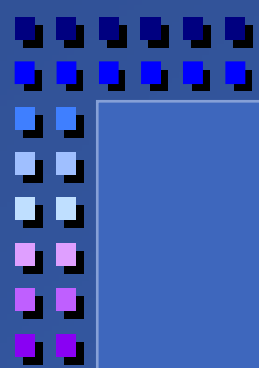
# Persuasion

- Food labeling
  - Information
- Poison labeling
  - Beyond information
- Should consider universal symbols of healthy/unhealthy food
  - Powerful, emotive symbols



# Financial Incentives

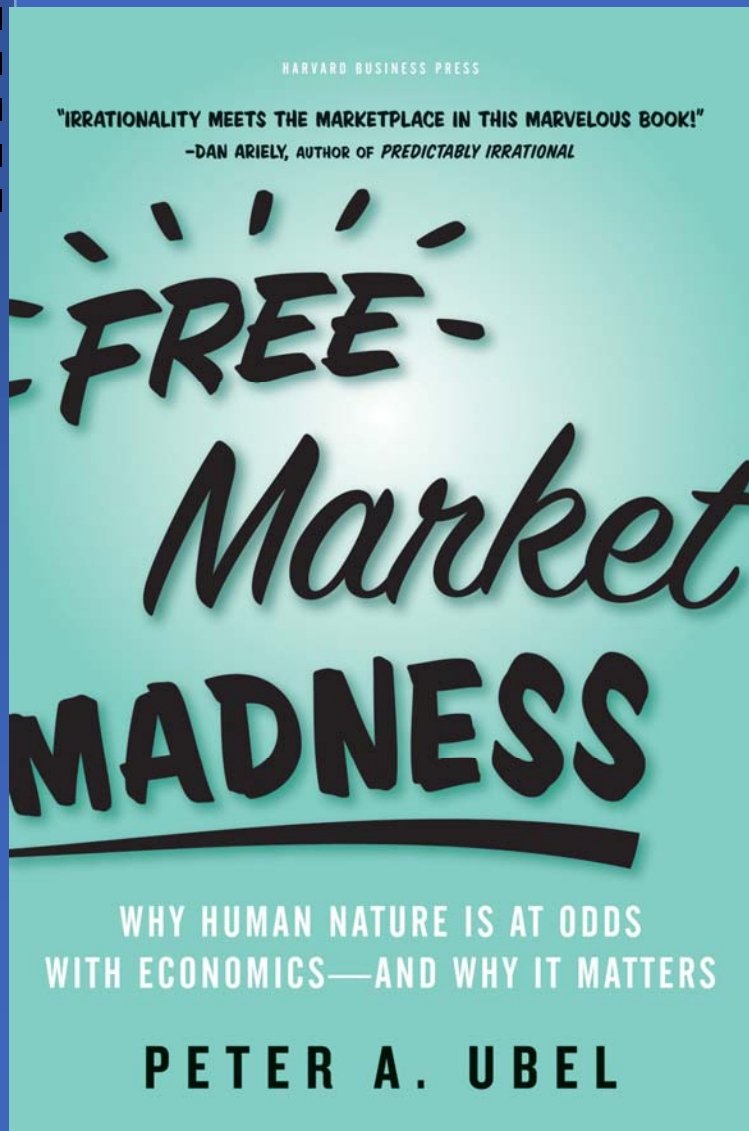
- Tax unhealthy food
- Subsidize healthy food
- Subsidize fitness centers
- Etc...



# Concluding Thoughts

# Balancing Act

- We must continually try to balance
  - Freedom
  - Well-being
- Must help markets do what they do best
  - While restraining them from doing what they do worst



Check out my research and my blog at  
[www.peterubel.com](http://www.peterubel.com)