Europe will never be like America. Europe is a product of history. America is a product of philosophy.
(Margaret Thatcher)
What the Modern Age knew

New York, September 2001

Afghanistan, November 2001

Iraq, December 2003
What the Modern World knew

• Spread of democracy

(Economist, 2010)
What the Modern World knew

• The world powers
  – Before WWI: Austria, Ottomans, Holland, Germany, France, Britain, Russia, USA
  – After WWI: Holland, Germany, France, Britain, Soviet Union, USA
  – After WWII: USA, Soviet Union
  – After Cold War: USA
What the Modern World knew

- USA Economy of the 2000s

### Leading exporters in the world merchandise trade 2002

<table>
<thead>
<tr>
<th>Position</th>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA</td>
<td>10.7</td>
</tr>
<tr>
<td>2</td>
<td>Germany</td>
<td>9.5</td>
</tr>
<tr>
<td>3</td>
<td>Japan</td>
<td>6.5</td>
</tr>
<tr>
<td>4</td>
<td>France</td>
<td>5.1</td>
</tr>
<tr>
<td>5</td>
<td>China</td>
<td>5.0</td>
</tr>
<tr>
<td>6</td>
<td>United Kingdom</td>
<td>4.3</td>
</tr>
<tr>
<td>7</td>
<td>Canada</td>
<td>3.9</td>
</tr>
<tr>
<td>8</td>
<td>Italy</td>
<td>3.9</td>
</tr>
<tr>
<td>9</td>
<td>Netherlands</td>
<td>3.8</td>
</tr>
<tr>
<td>10</td>
<td>Belgium</td>
<td>3.3</td>
</tr>
<tr>
<td>21</td>
<td>Sweden</td>
<td>1.3</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>42.7</td>
</tr>
<tr>
<td>World</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>


### Leading importers in the world merchandise trade 2002

<table>
<thead>
<tr>
<th>Position</th>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>USA</td>
<td>18.0</td>
</tr>
<tr>
<td>2</td>
<td>Germany</td>
<td>7.4</td>
</tr>
<tr>
<td>3</td>
<td>United Kingdom</td>
<td>5.2</td>
</tr>
<tr>
<td>4</td>
<td>Japan</td>
<td>5.0</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>4.9</td>
</tr>
<tr>
<td>6</td>
<td>China</td>
<td>4.4</td>
</tr>
<tr>
<td>7</td>
<td>Italy</td>
<td>3.6</td>
</tr>
<tr>
<td>8</td>
<td>Canada</td>
<td>3.4</td>
</tr>
<tr>
<td>9</td>
<td>Netherlands</td>
<td>3.3</td>
</tr>
<tr>
<td>10</td>
<td>Hong Kong, China</td>
<td>3.1</td>
</tr>
<tr>
<td>21</td>
<td>Sweden</td>
<td>1.0</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td>40.7</td>
</tr>
<tr>
<td>World</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

What the Modern World knew

- USA Economy of the 2000s
  - 1948-68: The incomes of both the 10% richest people and the rest increase by 80% (“Bretton Woods age”, average GDP growth 4%)
  - 1969-82: Income stagnation (4% real income decline across the board, 2.5% GDP growth and 6.8% inflation)
  - 1983-99: Rapidly widening income inequality with the 10% getting 106% richer and the rest stagnating at 17% richer (Ronald Reagan’s tax cuts + Paul Volcker’s high interest rates, 3.67% average GDP growth)
What the Modern World knew

• USA Economy of the 2000s
  – 2000-12: Income stagnation (Alan Greenspan’s stock market bubble and housing bubble, 1.6% average GDP growth, gold prices rising dramatically from Bretton Woods’ $35/oz to $1600/oz)
  – The income gains of the 10% richest between 1948 and 2012 outpace those of the rest by 205% to 72%
What the Modern World knew

- USA Economy of the 2000s

U.S. Trade in Goods and Services
1991-2005
(Balance of Payments Basis)

In US$Billions

Data Source: US Census Bureau Foreign Trade Division
http://www.census.gov/foreign-trade/statistics/historical/gands.txt
What the Modern World knew

- USA Economy of the 2000s
What the Modern World knew

- USA Economy of the 2000s

2005
Red = debtors
Blue = creditors
What the Modern World knew

- USA Economy of the 2000s

[Diagram showing Crude Oil Prices from 1947 to May 2008 with key events and price spikes marked.

- OPEC 10% Quota Increase
- Asian Econ Crisis
- PDVSA Strike
- Iraq War
- Asian Growth
- Weaker Dollar
- Iranian Revolution
- Series of OPEC Cuts 4.2 Million Barrels
- Suez Crisis
- Yom Kippur War Oil Embargo
- Gulf War
- U.S. Price Controls
- 9/11

Sources:
- WTRG Economics
- http://www.wtrg.com
What the Modern World knew

CRUDE OIL PRICES
2006 DOLLARS

$100
$80
$60
$40
$20
$0


U.S. FIRST PURCHASE (Wellhead)  World Price*

http://www.wtrg.com
What the Modern World knew

• USA Economy of the 2000s
  – Oil consumption
What the Modern World knew

- USA Economy of the 2000s
  - Gas prices adjusted for inflation (1999 dollars)
    - 1950 $0.37/gallon
    - 1955 $0.53
    - 1960 $0.63
    - 1965 $0.76
    - 1970 $0.65
    - 1975 $1.05
    - 1980 $3.21
    - 1985 $3.72
    - 1990 $1.98
    - 1995 $1.50
What the Modern World knew

- USA Economy of the 2000s

Gas prices adjusted for inflation (2008)

http://www.inflationdata.com

Note: Prices are Average Annual prices not Peak Prices so peaks are smoothed out considerably

Source of Data: US Energy Information Administration
CPI-U Inflation index- www.bls.gov

http://www.inflationdata.com
What the Modern World knew

• USA Economy of the 2000s
  – Deflationary pressures
  – Information Technology leading to ever higher productivity
    • ERP, SCM, CRM, eCommerce
  – Soaring energy prices
  – Worldwide distribution of labor ("offsourcing")
  – Concentration of wealth at the top
  – Downward pressure on wages
What the Modern World knew

• USA Economy of the 2000s
  – Mechanization of agriculture yielded cheap agricultural products that ordinary folks could afford
  – Globalization of manufacturing yields cheap manufacturing goods that ordinary folks can afford
  – Emphasis on the ordinary person: mechanization and globalization are steps in the continuing process of making goods affordable for the ordinary person
What the Modern World knew

• USA Economy of the 2000s
  – USA population increased by 250% in the 20th century (Britain’s rose by less than 60%)
  – USA population grows faster than in China
What the Modern World knew

- Post Cold-War World

- Trade surplus
- Rising standards of living
- Increasing stability

- Huge trade deficit
- Collapsing currency
- Decline standards of living

Materials and goods

$$$

Capitals

Military protection
What the Modern World knew

**Persons on Payroll: 1980 to 2002**

<table>
<thead>
<tr>
<th>Company</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reynolds Tobacco</td>
<td>-90.2%</td>
</tr>
<tr>
<td>Exxon + Mobil*</td>
<td>-72.2%</td>
</tr>
<tr>
<td>General Motors</td>
<td>-53.1%</td>
</tr>
<tr>
<td>Chevron + Texaco*</td>
<td>-50.5%</td>
</tr>
<tr>
<td>Kodak</td>
<td>-46.0%</td>
</tr>
<tr>
<td>Xerox</td>
<td>-44.3%</td>
</tr>
<tr>
<td>Bristol-Myers + Squibb*</td>
<td>-43.9%</td>
</tr>
<tr>
<td>CSX Railroad</td>
<td>-43.0%</td>
</tr>
<tr>
<td>DuPont</td>
<td>-41.9%</td>
</tr>
<tr>
<td>Goodyear</td>
<td>-36.3%</td>
</tr>
<tr>
<td>Campbell Soups</td>
<td>-34.2%</td>
</tr>
<tr>
<td>Sears</td>
<td>-25.9%</td>
</tr>
<tr>
<td>Boeing</td>
<td>+55.3%</td>
</tr>
<tr>
<td>Procter &amp; Gamble</td>
<td>+67.2%</td>
</tr>
<tr>
<td>Pfizer</td>
<td>+137.9%</td>
</tr>
<tr>
<td>American Airlines</td>
<td>+144.2%</td>
</tr>
<tr>
<td>Hewlett-Packard</td>
<td>+147.4%</td>
</tr>
<tr>
<td>United Parcel Service</td>
<td>+224.3%</td>
</tr>
<tr>
<td>McDonald’s</td>
<td>+253.0%</td>
</tr>
<tr>
<td>Intel</td>
<td>+395.0%</td>
</tr>
<tr>
<td>Federal Express</td>
<td>+2,620.6%</td>
</tr>
<tr>
<td>Wal-Mart</td>
<td>+4,714.8%</td>
</tr>
</tbody>
</table>

What the Modern World knew

- USA Federal budget 2003

![Pie chart showing budget allocations.](image)

- Outlays $2.0 trillion
- Social Security: 23%
- National Defense: 16%
- Medicare: 12%
- Medicaid: 7%
- Net interest: 10%
- Non-Defense Discretionary: 19%
- Other Discretionary: 19%
- Other Means-Tested Entitlements: 7%
- Other Mandatory: 6%
What the Modern World knew

Chart 8-1. U.S. R&D Expenditures Exceed Those of the Rest of the G-7 Nations Combined

In billions of dollars (1999)

United States

Canada

Italy

United Kingdom

France

Germany

Japan

Source: National Science Foundation
What the Modern World knew

- USA debt (2003): $6.8 debt
- Debt per person: $24,000

Composition of Federal Spending

1963
- 48% All other spending
- 14% Social Security
- 11% Net Interest
- 7% Defense
- 31% Medicare & Medicaid

1983
- 26% All other spending
- 21% Social Security
- 9% Net Interest
- 11% Defense
- 33% Medicare & Medicaid

2003 est.
- 19% All other spending
- 22% Social Security
- 9% Net Interest
- 7% Defense
- 33% Medicare & Medicaid

What the Modern World knew

- USA dollar
What the Modern World knew

Household debt in G7

as % of personal disposable income, 2001

Source: OECD
What the Modern World knew

• USA in 2004: the world’s undisputed military and economic superpower
  – Global presence: maintains 700 military installations abroad
  – Military superpower: spends as much on defense as the next 20 nations combined
  – (but this is only 4% of its gross domestic product)
  – USA share of total world product is 30%, up from 20% in the 1980s
  – The American stock markets account for 36% of global market value
  – Power of Knowledge: 75% of all Nobel laureates in the sciences, economics, and medicine do research in the USA
What the Modern World knew

- USA - military spending

### How modest
Military spending, 2013, $bn

<table>
<thead>
<tr>
<th>Country</th>
<th>Military Spending ($bn)</th>
<th>As % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>618.7</td>
<td>3.8</td>
</tr>
<tr>
<td>China</td>
<td></td>
<td>2.0</td>
</tr>
<tr>
<td>Russia</td>
<td></td>
<td>4.1</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td></td>
<td>9.3</td>
</tr>
<tr>
<td>France</td>
<td></td>
<td>2.2</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td>1.0</td>
</tr>
<tr>
<td>Britain</td>
<td>238.0</td>
<td>2.3</td>
</tr>
<tr>
<td>India</td>
<td>130.0</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Source: SIPRI
What the Modern World knew

• Great Recession (2008-10)
  – Low interest rates
    • The “dot-com” crash (2000): ~70% drop in the NASDAQ
    • The Federal Reserve lowers interest rates to 1%
    • The speculative frenzy shifts from the stock market to real estate
What the Modern World knew

• Great Recession (2008-10)
  – Affordable housing
    • The Community Reinvestment Act (1977) encourages banks to lend money to the poor
    • The Housing and Community Development Act (1992) requires government agencies Fannie Mae and Freddie Mac to provide affordable housing loans
    • Fannie Mae makes a “trillion-dollar commitment” (1993) to increase financing for affordable housing
What the Modern World knew

• Great Recession (2008-10)
  – Affordable housing
    • Loans to higher-risk borrowers
    • Subprime mortgages grow from 5% of total originations in 1994 to 20% ($600 billion) in 2006
    • Subprime lending in minority neighborhoods
    • 2007: The value of US subprime mortgages hits $1.3 trillion
What the Modern World knew

• Great Recession (2008-10)
  – Household debt
    • Housing bubble of the 2000s: housing prices nearly double between 2000 and 2006
    • However, between 2000 to 2007 the median household income stays flat
    • U.S. households become increasingly indebted: the ratio of debt to disposable personal income rises from 77% in 1990 to 127% at the end of 2007
What the Modern World knew

- Great Recession (2008-10)
  - Financial deregulation
    - Anti-regulatory crusader Phil Gramm's banking deregulation bill (1995) removes Depression-era barriers between commercial banks, investment banks, insurance companies, and securities firms
    - Phil Gramm's "Commodity Futures Modernization Act" (2000) deregulates "credit default swaps" (CDS)
    - Total investment by financial institutions in CDS by 2008: $65 trillion
    - Wall Street's financial innovations: mortgage-backed security (MBS) and collateralized debt obligation (CDO)
What the Modern World knew

• Great Recession (2008-10)
  – Crash and bailout
    • Sep 2008: Stock market crash and bank failures due to the vulnerability of CDS to troubled mortgages
    • Oct 2008: Lehman Brothers liquidated
    • Dec 2008: Treasury secretary Henry Paulson's "Emergency Economic Stabilization Act" rescues his former Wall Street colleagues
What the Modern World knew

- Great Recession (2008-10)
  - Crash and bailout
    - 2009-11: More than one million families lose their foreclosed homes (8% of all homes in the USA) and millions of people lose their jobs
    - 2006-12: US households lose over $7 trillion in home equity
    - 2005-09: Median wealth falls by 66% among Hispanic households, 53% among Black households, 16% among White households
    - 2009: Unemployment peaks at 10%
What the Modern World knew

Top companies by market capitalization in 2001

1. General Electric (USA) 455
2. Microsoft (USA) 316
3. Exxon Mobil (USA) 298
4. Pfizer (USA) 265
5. Citigroup (USA) 255
6. Wal-Mart Stores (USA) 231
7. Intel (USA) 224
8. BP Amoco (Britain) 198
9. American International Group (USA) 194
10. AOL Time Warner (USA) 190
11. IBM (USA) 187
12. Vodafone Group (Britain) 180
13. Royal Dutch Petroleum (Holland) 130
20. Coca-Cola (USA) 128
21. Toyota (Japan) 127
23. Nokia Oyj (Finland) 118
25. Philip Morris Companies (USA) 113
What the Modern World knew

- The largest companies of 2003 by revenues
  - Walmart $260b
  - British Petroleum $230b
  - Exxon Mobil $220b
  - Royal Dutch Shell $200b
  - General Motors $190b
  - Ford $160b
  - Daimler Chrysler $150b
  - Toyota $150b
  - General Electric $130b
What the Modern World knew

- The largest companies of 2007 by revenues

![Bar chart showing the world's biggest companies by revenue in 2007. The chart includes companies like Wal-Mart Stores (US), Exxon Mobil (US), Royal Dutch Shell (Netherlands), BP (Britain), Toyota Motor (Japan), and others. The chart also shows the profit/loss in billions of dollars. Source: Fortune.](chart.png)
What the Modern World knew

- The World’s top car manufacturers in 2003
  - General Motors: 8.59 million
  - Toyota: 6.78 million
  - Ford: 6.54
  - Volkswagen: 5.02
  - Daimler-Chrysler: 4.36
  - PSA/Peugeot/Citroen: 3.29
  - Hyundai: 3.05
  - Nissan: 2.97
  - Honda: 2.91
  - Renault: 2.39
What the Modern World knew

• The World’s top car manufacturers in 2008
  – Toyota (Japan)
  – General Motors (USA)
  – Volkswagen (Germany)
  – Hyundai (Korea)
  – Ford
  – Honda
What the Modern World knew

- USA auto market (2008)

AUTOMAKERS' U.S. MARKET SHARE
Full-year figures: 2009 is Jan. through Aug.

Source: MotorIntelligence.com

THE NEW YORK TIMES
What the Modern World knew

Unequal shares

World defence spending
% of total, 2006

- US 45.7
- Britain 5.1
- France 4.6
- China 4.3
- Japan 3.8
- Germany 3.2
- Russia 3.0
- India 2.1
- Rest of world 28.3

Total: $1.2trn*

Sources: SIPRI; IMF WEO; UN World Population Prospects

World GDP
% of total, 2006

- Total: $48.2trn
- 38.6
- 4.6
- 4.9
- 6.0
- 7.1
- 9.1
- 10.6
- 12.0

World population
% of total, 2005

- Total: 6.5bn
- 50.5
- 20.2
- 17.4
- 12.0
- 2.2
- 2.0
- 1.3
- 0.9
- 0.9

*2005 prices
What the Modern World knew

Government debt in the West

Debt grew in most mature economies

Domestic private and public sector debt by country

% of GDP

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan</td>
<td>1.2</td>
<td>0.5</td>
<td>19</td>
</tr>
<tr>
<td>UK</td>
<td>3.3</td>
<td>5.2</td>
<td>157</td>
</tr>
<tr>
<td>Spain</td>
<td>4.1</td>
<td>7.4</td>
<td>150</td>
</tr>
<tr>
<td>S. Korea</td>
<td>4.3</td>
<td>4.2</td>
<td>93</td>
</tr>
<tr>
<td>France</td>
<td>1.2</td>
<td>3.9</td>
<td>83</td>
</tr>
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<td>Italy</td>
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<td>3.1</td>
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<tr>
<td>Switzerland</td>
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<tr>
<td>US</td>
<td>0.6</td>
<td>3.5</td>
<td>70</td>
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<tr>
<td>Germany</td>
<td>5.6</td>
<td>0.3</td>
<td>7</td>
</tr>
<tr>
<td>Canada</td>
<td>0.3</td>
<td>1.5</td>
<td>28</td>
</tr>
</tbody>
</table>

1 “Debt” is defined as all credit market borrowing including loans and fixed-income securities.

2 Compound annual growth rate. Where data are unavailable, the longest possible period is used.

3 Even after removing foreign lending by UK banks, UK debt/GDP remains higher than every country except Japan.

SOURCE: Central banks; Haver Analytics; McKinsey Global Institute
What the Modern Age knew

• Flattening of the world
  – The fall of the European empires after World War II creates dozens of independent countries
  – The new countries experiment with fascism and communism, the two systems promoted by the two superpowers USA and Soviet Union, both fearful of democracy during the Cold War
  – Both systems create a lot of poverty around the world
  – The fall of communism (1989) turns most poor countries into democratic capitalist countries
What the Modern Age knew

• Flattening of the world
  – Because they are poor, these countries offer a very cheap labor force
  – Because labor is cheaper there, Western multinationals offsource jobs to the developing world
  – Progress in computers (personal computers) and telecommunications (the Internet) speeds up this process
  – Fundamentally, communism was a blessing to capitalism because it created so much poverty worldwide for capitalists to exploit
What the Modern Age knew

• Flattening of the world
  – Collapse of communism turns the whole world into one giant capitalist economy
  – Lower cost of computers and of telecommunications turn every household into a consumer and producer of digital content
  – Internet and World-wide Web vastly increase the ability to communicate digital information
  – Low wages in the developing world foster outsourcing of Western jobs
  – It is not only capitalism that spreads worldwide but also high-tech and lifestyle
What the Modern Age knew

• The Asian century
  – 1945: A former European colony (USA) wins the world war
  – The old order (Europe ruling the world) makes no more sense
  – Asian and African colonies gain independence from Europe
  – Japan, Taiwan, Korea, former European colonies and eventually China abandon the European model and adopt the USA model
  – The new Asian nations begin to outperform Europe
What the Modern Age knew

• The Asian century
  – 1970: Japan overtakes all European countries and becomes the third economic power after USA and USSR
  – 2007: China overtakes all European countries and becomes the third economic power after USA and Japan
What the Modern Age knew

• The Asian century

Source: International Monetary Fund

THE NEW YORK TIMES
What the Modern Age knew

• GDP per capite

- Singapore: $38,972
- Japan: $38,559
- Brunei: $37,053
- Hong Kong: $30,755
- South Korea: $19,505
- Taiwan: $17,040
- Kazakhstan: $8,502
- Malaysia: $8,141
- Thailand: $4,115
- China: $3,315
- Indonesia: $2,246
What the Modern Age knew

- The Asian century
  - The Age of the Pacific
    - Japan, China, Asean, Australia, India
    - The combined gross product of Asian-Pacific countries increases from 7.8% of world GDP in 1960 to 16.4% in 1982 and to over 20% in 2000
    - USA trade shifts from Europe to Asian-Pacific


What the Modern Age knew

• The Asian century
  – The Age of the Pacific

The Asia-Pacific region is now the engine room of world economic growth. By 2015, it is forecast that Asia’s economies will account for 45 per cent of world GDP (PPP*), significantly more than the United States and Europe combined.

(Economist, May 2006)
What the Modern Age knew

- The Asian century
  - The Age of the Pacific

Steel production (tonnes 2005)
What the Modern Age knew

• The Asian century
  – The Age of the Pacific
    • USA, China, India in 2007

<table>
<thead>
<tr>
<th>POPULATION</th>
<th>NATIONAL EXPRESSWAYS</th>
<th>MAJOR AIRPORTS</th>
<th>ELECTRICITY PRODUCTION</th>
<th>INTERNET PENETRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>BILLIONS</td>
<td>THOUSANDS OF MILES</td>
<td></td>
<td>BILLIONS OF KWH</td>
<td></td>
</tr>
<tr>
<td>1.1</td>
<td>3.7</td>
<td>47</td>
<td>4,000</td>
<td>69.3%</td>
</tr>
<tr>
<td>1.3</td>
<td>25*</td>
<td>189</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INDIAN</td>
<td>CHINA</td>
<td>U.S.</td>
<td>INDIAN</td>
</tr>
<tr>
<td></td>
<td>EXPRESSWAYS</td>
<td>MAJOR AIRPORTS</td>
<td>ELECTRICITY PRODUCTION</td>
<td>PENETRATION</td>
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<td>BILLIONS OF KWH</td>
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<tr>
<td></td>
<td>652</td>
<td>2,500*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>INDIAN</td>
<td>CHINA</td>
<td>U.S.</td>
<td>INDIAN</td>
</tr>
<tr>
<td></td>
<td>PENETRATION</td>
<td></td>
<td>PENETRATION</td>
<td>PENETRATION</td>
</tr>
<tr>
<td></td>
<td>3.6%</td>
<td>10.1%</td>
<td>3.6%</td>
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<td>INDIAN</td>
<td>CHINA</td>
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<td></td>
<td>PENETRATION</td>
<td>PENETRATION</td>
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<td>3.6%</td>
<td>10.1%</td>
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<td>PENETRATION</td>
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<td></td>
<td></td>
<td></td>
<td>PENETRATION</td>
<td>PENETRATION</td>
</tr>
</tbody>
</table>
What the Modern Age knew

• The Asian century
What the Modern Age knew

• The Asian century
  – China:
    • Socialist market economy: free-market economic reforms are overseen by the communist one-party state
    • 11% yearly GDP growth rate in the 2000s
• The Asian century
  - China: the largest dictatorship in the world is providing its citizens with the best education in the world.
What the Modern Age knew

- The Asian century
  - China vs Japan

<table>
<thead>
<tr>
<th>Armed forces</th>
<th>Japan</th>
<th>China</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submarines</td>
<td>18</td>
<td>9</td>
</tr>
<tr>
<td>Destroyers</td>
<td>41</td>
<td>27</td>
</tr>
<tr>
<td>Fighters</td>
<td>310</td>
<td>1,320</td>
</tr>
<tr>
<td>Battle tanks</td>
<td>876</td>
<td>9,840</td>
</tr>
<tr>
<td>Active personnel</td>
<td>237,000</td>
<td>2,255,000</td>
</tr>
</tbody>
</table>

Military expenditure

- Japan: $46.3bn (0.9% of GDP)
- China: $86.2bn (2% of GDP)

Expenditure is for 2008, in constant US$. Source: SIPRI

Source: IHS Jane's
What the Modern Age knew

• The Asian century

Source: Foreign Affairs
What the Modern Age knew

• The Asian century
  – Middle East

Sources: Energy Information Administration; Bureau of Economic Analysis; Haver Analytics
What the Modern Age knew

• The Asian century
  – Middle East
What the Modern Age knew

- The Asian century

**Investment in Parts of Asia Is Growing Fast**

Factory investment continues to pour into China, but foreign investment is rising even faster in neighboring Vietnam and India. Nearby Thailand has attracted somewhat less investment because of worries about its political stability.

**Foreign direct investment**

- China: $80 billion, +14%
- India: +72%
- Vietnam: +136%
- Thailand: -25%

**Change from '06**

Note: Data is for mainly manufacturing investments and seldom includes investments to buy securities, real estate or service sector businesses.

Sources: China Ministry of Commerce; India Secretariat for Industrial Assistance; Vietnam General Administration of Customs; Thailand Board of Investment.
What the Modern Age knew

• The Asian century
  – Revival of the city-state: Singapore, Dubai
  – Revival of the multi-ethnic state: USA, Western Europe, Russia, China, India (exceptions: Islamic world, Japan, South Korea, Latin America)
What the Modern Age knew

• Exporting the American dream/ Part3
  – 2002: Japan and South Korea combined deliver 75% of the world's shipbuilding
  – 2002: South Korea's Samsung is the second semiconductor manufacturer in the world after Intel and Japan's Toshiba is third, passing Texas Instruments
  – 2004: "Taipei 101" in Taiwan becomes the tallest building in the world
  – 2005: The Ambani brothers of India split their business empire
  – 2005: China's Lenovo acquires IBM's personal computer business
  – 2006: Lakshmi Mittal's Luxembourg-based ArcelorMittal is world's largest steel-maker
What the Modern Age knew

- Exporting the American dream/ Part3
  - 2007: The world's largest vendors of personal computers are HP, Dell, Taiwan's Acer, China's Lenovo and Japan's Toshiba
  - 2008: India’s Tata acquires Jaguar
  - 2009: Anil Ambani and Mukesh Ambani of India are the 6th and 7th richest persons in the world, having built Reliance into a business conglomerate
  - 2009: India's Infosys sets up the largest corporate university in the world at Mysore
  - 2009: Japan's Toyota overtakes General Motors to become the largest car maker in the world
  - Nov 2009: Mainland China is the largest auto market in the world
What the Modern Age knew

• Exporting the American dream/ Part 3
  – 2010: South Korea's Hyundai-Kia passes Ford to become the fourth automaker in the world after Toyota, General Motors and Volkswagen
  – 2010: India's Bharti Airtel is the 5th largest telecom operator in the world
  – 2010: Lakshmi Mittal is the richest person in Europe
  – 2010: Taiwan’s Quanta Computer is the largest manufacturer of notebook computers in the world
  – 2011: India’s exports of goods are double the exports of services (textiles and agricultural products account for less than 20%)
What the Modern Age knew

- Russia
What the Modern Age knew

- Russia
  - Loss of member states
  - Loss of allies
  - NATO and EU expansions
What the Modern Age knew

- NATO
What the Modern Age knew

- Russia
  - Chechnya
  - Georgia (South Ossetia and Abkhazia)
  - Moldova (Transdnestr)
  - Ukraine (Crimea and Donbass)
What the Modern Age knew

- **Russia**
  - Former sphere of influence
What the Modern World knew

- Economic boom of the Third World

GDP per-capita 2006

GDP growth 2006
What the Modern World knew

- Economic boom of the Third World
  - For centuries, western European economies had been able to realize bigger profits than the economies of Asia, Africa, Latin America
  - During the Cold War, the regimes of developing countries were pawns in the war, more interested in power than in economics
  - With the end of the Cold War, the more democratic new regimes of developing countries focused on the economy and profit
  - At the same time, western Europe focused less on economics and more on social welfare
What the Modern World knew

• Economic boom of the Third World
  – The profits of developing countries started rising faster than the profits of western Europe
  – For the first time in centuries, the economies of developing countries grew faster than the western European economies
  – Exception: Latin America
What the Modern World knew

- Economic boom of the Third World
  - Exports
What the Modern World knew

- Economic boom of the Third World
  - Poverty

**Graph:**
- **Poverty**
  - People living on less than $1 a day, % of total
  - 1990
  - 2004

- **Regions:**
  - Sub-Saharan Africa
  - South Asia
  - East Asia and Pacific
  - Latin America and Caribbean
  - Middle East and North Africa
  - Europe and Central Asia
  - World

**Source:** World Bank, World Development Indicators
What the Modern World knew

• Latin America
  – Spared the two world wars and the Islamic war
  – but a casualty of the Cold War
  – Fragile democracies and frequent military coups
  – The army as the ethical protector of the state
  – Anti-American sentiment (Mexico, Argentina)
  – Constantly flirting with communism (Cardenas, Castro, Allende, Chavez)
What the Modern World knew

- Latin America: Free-trade treaties
The Modern Age

• Latin America
  – 2000: Latin America's population is 513 million, Brazil's is 170 million, Mexico's 100 million
  – 2004: Latin America posts the biggest economic growth since the 1980s thanks to exports of raw materials to China
  – 2009: Latin America is the only region in the world where murder rates increased in the first decade of the 21st century
  – 2012: Latin America suffers 134,519 homicides, about 31% of the world's total
  – 2010: Latin American economies recover from the Great Recession and grow faster than any region except China
  – 2015: China passes the USA to become South America's main trading partner
  – 2017: Latin America has the highest murder rate of any continent, accounting for 38% of all criminal killings
The Modern Age

• Latin America
  – 2020: Covid kills 180,000 Brazilians, 123,000 Mexicans, 41,000 Argentinians, 39,000 Colombians and 37,000 Peruvians, almost half a million people in the whole of Latin America (Peru has the highest death rate in the world)
The Modern Age

• Latin America
  – Mexico:
    • 2006: Felipe Calderon becomes president of Mexico after narrowly winning elections and orders a military assault on drug cartels
    • 2006: More than 2,000 Mexicans die in drug-related gangland-style killings
    • 2008: More than 6,000 people die in violence related to organized crime in Mexico (a 48% jump over the previous year)
    • 2009: More than 7,000 people die in Mexico of drug-related violence in just one year
    • 2011: The Mexican Zetas drug cartel sets fire on a Monterrey casino killing 52 people and carries out mass executions in Durango killing at least 249 people
The Modern Age

• Latin America
  – Mexico:
    • 2011: Carlos Slim is the world's richest man
    • 2012: The USA calls Mexico's Joaquin "El Chapo" Guzman the world's most powerful drug trafficker
    • 2013: Mexico is the world's fourth exporter of cars after Germany, South Korea and Japan
    • 2014: Mexico arrests the world's most wanted drug lord, Joaquin "Shorty" Guzman
    • 2017: More than 23,000 murders are committed in Mexico in 2017, the all-time record
    • 2018: The leftist Andres Manuel Lopez Obrador is elected president of Mexico after more than 130 candidates and activists have been killed during the campaign
The Modern Age

• Latin America
  – Mexico:
    • 2018: Mexico records 33,241 murders nationwide in 2018, a 30% increase on the previous year
    • 2021: Almost 100,000 people have disappeared in Mexico, mostly victims of the drug cartels
The Modern Age

• Latin America
  – Cuba
    • 2006: An ailing Fidel Castro is succeeded by his brother Raul as the helm of Cuba
  – Haiti
    • 2004: Following widespread riots, Aristide flees Haiti
    • 2021: Haiti's president Jovenel Moise is assassinated leading to chaos
    • 2022: Hundreds are killed in gang warfare
    • 2022: Violent anti-government protests against the government
The Modern Age

• Latin America
  – Guatemala
    • 2008: The socialist Alvaro Colom wins elections and becomes the first left-wing president ever
    • 2015: Former television comedian Jimmy Morales wins presidential elections
    • 2013: Former Guatemala's dictator Efrain Rios Montt is convicted of genocide
    • 2019: Morales expels the CICIG that was investigating corruption
    • 2020: Right-wing candidate Alejandro Giammattei, who spent time in prison for his connection with the death squad Riveritas, wins presidential elections after the front-runner candidate, anti-corruption jurist Thelma Aldana, is disqualified by the Constitutional Court
The Modern Age

• Latin America
  – Nicaragua
    • 2007: Former Sandinista leader Daniel Ortega becomes president of Nicaragua after winning election
The Modern Age

• Latin America
  – Colombia:
    • 2006: 22,000 people have been kidnapped in Colombia in a decade
    • 2015: Colombia's economy grows for the 15th consecutive year
    • 2016: Colombia and FARC reach a peace agreement after a 50-year war that has killed more than 200,000 people
    • 2022: Gustavo Petro, a former M19 rebel, wins election, becoming Colombia’s first leftist president
The Modern Age

• Latin America
  – Venezuela
    • 1999: Hugo Chavez ‘s semi-dictatorship
    • 2002: Millions of Venezuelans go on strike for months, demanding Chavez's resignations
    • 2007: Chavez de facto nationalizes all foreign oil projects
    • 2009: Inflation hits 27%, the highest in Latin America
    • 2011: 19,000 murders, the highest murder rate in South America and four times that of Mexico
    • 2013: Chavez dies and is succeeded by Nicolas Maduro
    • 2016: Venezuela's bolivar falls 71% against the dollar
    • 2019: Anti-Maduro protests erupt in Venezuela, opposition leader Juan Guaido declares himself interim president and is recognized by most European and American nations
    • 2022: 7 million people have left Venezuela since 2015
The Modern Age

• Latin America
  – Ecuador
    • 1997: president Abdala Bucaram is ousted by Congress for corruption, beginning a period of political instability (six presidents in 8 years)
    • 2007: Leftist candidate Rafael Correa wins elections
    • 2022: State of emergency in two provinces after a series of attacks by drug cartels
  – Bolivia
    • 2005: President Carlos Mesa resigns after mass protests
    • 2006: Leftist candidate Evo Morales wins elections and becomes the first indigenous president of a South American nation, and the 5th Bolivian president in 4 years
    • 2019: Following mass protests, Evo Morales resigns
The Modern Age

• Latin America
  – Brazil
    • 1995-2002: Fernando Henrique Cardoso of the centrist Partido da Social Democracia Brasileira (PSDB) stabilizes the economy and inflation
    • 2003: Luiz Inacio Lula of the leftist Partido dos Trabalhadores with a program of income distribution
    • 2005: Brazil's is the fifth most populous country in the world with 188 million people
    • 2009: The first BRIC meeting (Brazil, Russia, India and China)
    • 1980-2010 Brazil has registered more than one million homicides in 30 years
    • 2010: Dilma Rousseff is elected to become Brazil's first woman president
The Modern Age

• Latin America
  – Brazil
    • 2010: Brazil posts its fastest growth in 24 years and becomes the seventh largest economy in the world
    • 2011: China becomes Brazil's main trading partner
    • 2012: 50,108 people are murdered in Brazil
    • 2014: Corruption scandal tied to Brazil's company Odebrecht, spreads to Ecuador, Peru, Argentina
    • 2015: 42,000 people are killed in Brazil, a 35-year record
    • 2016: Brazil's economy shrinks by 3.6% (its worst-ever recession), and 10% in three years
    • 2016: President impeached
    • 2017: Gang violence and prison riots (63,880 people murdered)
The Modern Age

• Latin America
  – Brazil
    • 2018: Lula arrested, Rousseff impeached, and right-wing populist Jair Bolsonaro elected president
    • 2022: Lula returned to power
The Modern Age

• Latin America
  – Uruguay
    • 2005: The socialist candidate Tabare Vazquez becomes president, the fifth socialist leader to be elected in a few years in Latin America (after Chile, Argentina, Brazil, Venezuela)
    • 2009: Former guerrilla Jose Mujica is elected president
  – Paraguay
    • 2008: Leftist former priest Fernando Lugo wins presidential elections in Paraguay and ends the rule of the Partido Colorado that lasted since 1947
The Modern Age

- Latin America
  - Peru
    - 2003-2011: The economy grows an average of 7% yearly
    - 2009: Peru's former president Alberto Fujimori is sentenced to 25 years in prison for political homicides committed during his presidency
    - 2011: Leftist candidate Ollanta Humala wins presidential elections in Peru
    - 2019: Congress, dominated by Keiko Fujimori's right-wing party Fuerza Popular, impeaches president Martin Vizcarra
    - 2022: Dina Boluarte becomes the first female president of Peru after Congress removes another president
    - 2011-22: Eight presidents in 11 years, 4 of them tried for corruption
The Modern Age

• Latin America
  – Argentina
    • 2000: The Argentinian economy collapses
    • 2001: Riots due to economic crisis lead to the resignation of president La Rua and two years of political chaos
    • 2003: The socialist candidate Nestor Kirchner is elected president of Argentina, the sixth in 18 months
    • 2007: Cristina Fernandez, the wife of outgoing president Nestor Kirchner, becomes president
    • 2014: Argentina defaults on its debt for the second time in 13 years
    • 2022: Argentina's inflation peaks at 94.8%
The Modern Age

- Latin America
  - Chile
    - 2006: Michelle Bachelet becomes Chile's first woman president
    - 2010: Sebastian Pinera is elected president, the first time since 1958 that a right-wing politician wins a democratic election
    - 2021: Leftist candidate Gabriel Boric, a former student protest leader, is elected president, the youngest ever
What the Modern World knew

• World GDP

Output, trade and population
World GDP*, % world total, 2006

- United States 19.7
- Euro area 14.7
- Japan 6.3
- Other advanced economies 11.3
- Other emerging economies 26.6
- India 6.3
- China 15.1

Exports of goods and services, % of total

- United States 29.0
- Other advanced economies 5.0
- Other emerging economies 4.7
- India 24.2
- China 9.8

Population, % of total

- United States 23.5
- Other advanced economies 46.8
- Other emerging economies 17.4
- India 5.0
- China 10.5

*Based on purchasing-power-parity values of country GDPs
Source: IMF
What the Modern World knew

- World trade

Sources: World Trade Organization; World Bank
What the Modern World knew
What the Modern World knew

The 2012 Legatum Prosperity Index
What the Modern World knew

- From communication technology to world peace

Communication technology → Collapse of distance → Distributed supply chains → Free trade → Peace (you can’t shoot your suppliers/customers)
What the Modern World knew

- World’s population in 2000 (official census):
  - China 1,261,832,482
  - India 1,014,003,817
  - United States 275,562,673
  - Indonesia 224,784,210
  - Brazil 172,860,370
  - Russia 146,001,176
  - Pakistan 141,553,775
  - Bangladesh 129,194,224
  - Japan 126,549,976
  - Nigeria 123,337,822
What the Modern World knew

- World’s population in 2000:
  - 1. China 1,286,975,468
  - 2. India 1,049,700,118
  - 3. USA 290,342,554
  - 4. Indonesia 234,893,453
  - 5. Brazil 182,032,604
  - 6. Pakistan 150,694,740
  - 7. Russia 144,526,278
  - 8. Bangladesh 138,448,210
  - 9. Nigeria 133,881,703
  - 10. Japan 127,214,499
  - 11. Mexico 104,907,991
  - 12. Philippines 84,619,974
  - 13. Germany 82,398,326
  - 14. Vietnam 81,624,716
  - 15. Egypt 74,718,797
  - 16. Iran 68,278,826
  - 17. Turkey 68,109,469
  - 18. Ethiopia 66,557,553
  - 19. Thailand 64,265,276
  - 20. France 60,180,529
  - 21. Britain 60,094,648
  - 22. Italy 57,998,353
  - 23. Congo 56,625,039
What the Modern World knew

- **World’s population**
  - 1950  2,555,982,611  Growth rate: 1.47%
  - 1960  3,039,433,944
  - 1970  3,706,601,448  Growth rate: 2%
  - 1980  4,453,863,820
  - 1990  5,277,725,410
  - 2000  6,081,002,937
  - 2050  9,309,051,539  Growth rate: 0.5%

U.S. Census Bureau 2007
What the Modern World knew

- **World’s population**

  - 1 India       1,807,878,574
  - 2 China     1,424,161,948
  - 3 USA          420,080,587
  - 4 Nigeria      356,523,597
  - 5 Indonesia  313,020,847
  - 6 Bangladesh  279,955,405
  - 7 Pakistan    277,554,980
  - 8 Brazil       228,426,737
  - 9 Congo       203,039,557
  - 10 Mexico     147,907,650
  - 11 Philippines 147,630,852
  - 12 Ethiopia    144,716,331
  - 13 Uganda     128,007,514
  - 14 Egypt     127,563,256
  - 15 Russia    109,187,353
  - 16 Vietnam    107,772,641
  - 17 Japan    93,673,826
  - 18 Sudan     88,227,761
  - 19 Turkey    86,473,786
  - 20 Afghanistan 81,933,479
  - 21 Iran      81,490,039
  - 22 Germany  73,607,121
  - 23 Yemen     71,278,172
  - 24 France  69,809,351
  - 25 Thailand  69,268,817
  - 26 Tanzania  66,843,312
  - 27 Kenya    65,175,864
  - 28 Colombia  64,977,344
  - 29 Britain  63,977,435
  - 30 Madagascar 56,513,827
  - 31 Iraq     56,360,779
  - 32 Burma     54,430,334
  - 33 Nepal     53,293,874
  - 34 Morocco   50,871,553
  - 35 Italy    50,389,841
  - 36 Saudi Arabia 49,706,851
What the Modern World knew

• World’s population
  – The Christian world
    • Russia -35 million
    • Germany -9 million
    • France +9 million but mostly ethnic
    • Britain +3 million but mostly ethnic
    • Italy -7 million
    • ...
    • USA +130 million
What the Modern World knew

• World’s population
  – At current GDP and population growth or decrease the Christian world will have a very high GDP per capite, the African and Middle Eastern countries will have a very low GDP per capite and in many cases not enough resources to feed their population
  – Pressure on emigration towards Europe from Africa and the Middle East
  – Bangladesh and Pakistan will have more people than the whole of Europe including Russia
What the Modern World knew

<table>
<thead>
<tr>
<th>Metropolitan areas (in thousands) 2003</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tôkyô</td>
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<tr>
<td>New York-Philadelphia</td>
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<tr>
<td>México</td>
</tr>
<tr>
<td>Seoul</td>
</tr>
<tr>
<td>São Paulo</td>
</tr>
<tr>
<td>Jakarta</td>
</tr>
<tr>
<td>Ósaka-Kôbe-Kyôto</td>
</tr>
<tr>
<td>Dilli</td>
</tr>
<tr>
<td>Mumbai</td>
</tr>
<tr>
<td>Los Angeles</td>
</tr>
<tr>
<td>al-Qahira</td>
</tr>
<tr>
<td>Kolkata</td>
</tr>
<tr>
<td>Manila</td>
</tr>
<tr>
<td>Buenos Aires</td>
</tr>
<tr>
<td>Moskva</td>
</tr>
<tr>
<td>Shanghai</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
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<tr>
<td>Tehrân</td>
</tr>
<tr>
<td>Paris</td>
</tr>
<tr>
<td>Rhein-Ruhr</td>
</tr>
<tr>
<td>London</td>
</tr>
<tr>
<td>Chicago-Milwaukee</td>
</tr>
</tbody>
</table>

http://www.gazetteer.de/st/statn.htm
What the Modern World knew

Where the living is pricey
Average price of flats in city centres
2007 latest, $’000, per sq metre

<table>
<thead>
<tr>
<th>City</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>London</td>
<td>108.2</td>
</tr>
<tr>
<td>New York</td>
<td>66.5</td>
</tr>
<tr>
<td>Paris</td>
<td>46.3</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>44.1</td>
</tr>
<tr>
<td>Tokyo</td>
<td>46.4</td>
</tr>
<tr>
<td>Singapore</td>
<td>27.5</td>
</tr>
<tr>
<td>Mumbai</td>
<td>28.2</td>
</tr>
<tr>
<td>Geneva</td>
<td>30.1</td>
</tr>
<tr>
<td>Zurich</td>
<td>23.2</td>
</tr>
<tr>
<td>Frankfurt</td>
<td>18</td>
</tr>
<tr>
<td>Shanghai</td>
<td>21.5</td>
</tr>
<tr>
<td>Brussels</td>
<td>17.2</td>
</tr>
</tbody>
</table>

Source: Global Property Guide
What the Modern Age knew

• Urbanization
  – 2007: Worldwide urban population passes 50%. The human race has become an urban race.
What the Modern Age knew

- Urbanization and wealth
What the Modern Age knew

• Supranationalism
  – European Union
  – ASEAN
  – Arab League
  – African Union
  – NAFTA

• Foreign aid by Western countries to non-Western countries (that share no linguistic, ethnic or religious bonds with the donors)
What the Modern Age knew

• Age of tourism
  – 2006: Tourism is the biggest industry in the world
    (11% of GDP, almost 9% of employment)
What the Modern Age knew

• Decline of religion
  – Europe: Reformation
    • leads to economic and military boom
  – Russia: Communism
    • leads to military boom and then (after the fall of communism) to economic boom
  – China: Communism
    • leads to military boom and then (after the fall of communism) to economic boom
  – India: 2000s
  – Islamic world: ?
The world’s abortion laws

*Some countries make exception to save the woman’s life

Source: Centre for Reproductive Rights

Note: for more detailed information about additional grounds for abortion, by country, visit reproductiverights.org
What the Modern Age knew

- Condoleezza Rice's transformational diplomacy
  - Crash-program to democratize the world
    - Focus on the Arab world (least democratized region of the world)
    - Stop the spread of weapons of mass destruction
      - Alliance with other powers (EU, Russia, China) to disarm smaller countries (Arabs, Iran, North Korea)
  - Preemptive strike
    - Irrelevance of the United Nations
What the Modern Age knew

• A new world ideology: Anti-Americanism
  – Demonstrations in Europe against US foreign policy
  – Resentment in third-world countries against perceived US/Western imperial behavior
  – Resentment by emerging powers like China
  – Resentment against Western power but at the same time aspiration to become like the West
  – Anti-American demonstrations at the same time that there are long lines at the US embassy to emigrate to the USA
What the Modern Age knew

- **Nuclear powers of the 2000s**

```
<table>
<thead>
<tr>
<th>Country</th>
<th>Warheads</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>2,200</td>
</tr>
<tr>
<td>UK</td>
<td>160</td>
</tr>
<tr>
<td>France</td>
<td>300</td>
</tr>
<tr>
<td>Russia</td>
<td>2,800</td>
</tr>
<tr>
<td>China</td>
<td>180</td>
</tr>
</tbody>
</table>
```

Not members of Nuclear Non-Proliferation Treaty:
- Israel: 80
- Pakistan: 60
- India: 60
- North Korea: <10

**Source:** Federation of American Scientists; Nuclear Threat Initiative
The Century of Women

Doctorate Degrees Awarded to Women in Selected Disciplines, 1966-2004
(Percentage of All Doctorate Degrees Awarded)

- Psychology
- Economics
- Political Science and Public Administration
- Sociology
- Physical Sciences
- Life Sciences
- Social Sciences

- Psychology 26.2%
- Economics 12.4%
- Political Science 11.3%
- Physical Sciences 9.4%
- Sociology 5.2%
- Life Sciences 5.1%
- Social Sciences 6.4%

1966-1969: 21.3%
1970-1974: 23.4%
1975-1979: 35.3%
1980-1984: 45.6%
1985-1989: 53.2%
1990-1994: 60.5%
1995-1998: 65.6%
2000-2004: 66.2%
Gender Gap

More and more men are getting degrees in computer science. The number of women is rising less sharply.

Source: National Science Foundation
What the Modern Age knew

• The agricultural revolution spawned a food revolution
  – Overabundance of food
  – Prepared food
  – Genetically-modified crops
  – Obesity
  – Cardiovascular diseases
  – Diets
  – Gymns
What the Modern

- The food chain
What the Modern Age knew

- Biotech food
What the Modern Age knew

HUNGER HOT SPOTS

The great majority of the world's underfed live in rural areas of developing countries. The highest percentage (see map below) are in Africa, although the Asia-Pacific region has the largest absolute number of poor and food-insecure people. Drought is the leading cause of hunger worldwide; in recent years, however, armed conflicts are precipitating an increasing number of food crises.
What the Modern Age knew

Obesity spreads across the globe

People who are overweight (possessing a body mass index, or BMI, of 25 or higher) or obese (a BMI of 30 or higher) are now just as common in many developing countries as they are in the U.S., Canada and Europe. In large parts of Latin America, North Africa and the Middle East, the problem has triggered an upsurge in diabetes, heart disease and other illnesses. Obesity rates are also rising quickly in China, India and other Asian nations.
What the Modern Age knew

• Ethics of greed
  – 61% of USA Christians believe that God wants people to be wealthy (Time poll, 2006)
  – Prosperity Theology (mostly Pentecostal churches)
  – Megachurches for baby boomers
    • Joel Osteen's Lakewood in Houston
    • T.D. Jakes' Potter's House in south Dallas
    • Creflo Dollar's World Changers in Atlanta
  – Scientology
What the Modern Age knew

• USA crises of the 2000s
  – Afghanistan (Taliban)
  – Iraq (Saddam Hussein)
  – North Korea (nuclear program)
  – Iran (nuclear program)
  – Venezuela (leftist regime supporting other leftist regimes in Latin America)
What the Modern Age knew

- USA crises of the 2000s (as of August 2009)

### Longest Wars

Duration of major conflicts fought by the United States. On Thursday, the war in Afghanistan passes the 8-year mark.

<table>
<thead>
<tr>
<th>War</th>
<th>Number of Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam War</td>
<td>102</td>
</tr>
<tr>
<td>American Revolution</td>
<td>100</td>
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<tr>
<td>Afghanistan War</td>
<td>96</td>
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<tr>
<td>Iraq War</td>
<td>80</td>
</tr>
<tr>
<td>U.S. Civil War</td>
<td>48</td>
</tr>
<tr>
<td>World War II</td>
<td>45</td>
</tr>
<tr>
<td>Korean War</td>
<td>37</td>
</tr>
<tr>
<td>War of 1812</td>
<td>32</td>
</tr>
<tr>
<td>U.S.-Mexican War</td>
<td>21</td>
</tr>
<tr>
<td>World War I</td>
<td>20</td>
</tr>
<tr>
<td>Spanish-American War</td>
<td>3</td>
</tr>
<tr>
<td>Persian Gulf War</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Congressional Research Service
What the Modern Age knew

• Islamic terrorism
  – Afghanistan (1980s, after Soviet Union invasion)
  – Chechnya (1990s, after Russian crackdown on separatists)
  – Pakistan (2002, after being expelled from Afghanistan)
  – Iraq (2003, after USA invasion)
  – Somalia (2007, after Ethiopian invasion)
  – Yemen (2009, after being expelled from Pakistan)
What the Modern Age knew

- Islamic terrorism
What the Modern Age knew

- Islamic terrorism
  - Moscow (Sep 1999)
  - New York & Washington (Sep 2001)
  - Bali (Oct 2002)
  - Russia (2002-04)
  - Casablanca (May 2003)
  - Riyah (May 2003)
  - Istanbul (Nov 2003)
  - Madrid (Mar 2004)
  - Iraq (2004-09)
  - London (Jul 2005)
  - Sharm el-Sheik (Jul 2005)
  - Amman (Nov 2005)
  - Afghanistan (2006-09)
  - Mumbai (Nov 2008)
  - Pakistan (2008-09)
Mars, January 2004

Husband Hill, Mars, September 2005
The first galaxies that developed after the Big Bang
(Hubble Telescope, 2004)
What the Modern Age knew

- **Space Exploration**
  - 2000: First mission to the International Space Station
  - 2001: the Voyager leaves the solar system
  - 2003: several unmanned space-crafts land on Mars
What the Modern World knew
What the Modern World Knew

- Net Economy
  - Amazon
  - Priceline
  - Ebay
  - Yahoo, Google
  - Evite
  - Craigslist
  - Skype
  - Snapfish
  - Travelocity, Priceline
  - Netflix
  - MySpace, Facebook, Twitter
What the Modern World Knew

- Net Economy
  - Death of the salesman
What the Modern World Knew

- Net Economy
  - Losers
    - Bookstores
    - Record stores
    - Travel agencies
    - Newspapers
    - TV News
What the Modern World Knew

• Net Society
  – E-commerce: decline of the brick-and-mortar store
  – E-mail: first innovation in written personal communication since the invention of mail
  – World-wide web: largest knowledge base in history
  – News websites: first major innovation in newscasting since tv news
What the Modern World Knew

• Net Society
  – Ultimate product of the USA’s concept of society
  – Little centralized state control
  – Individual creativity and enterprising spirit
  – Self-organizing Darwinian system
  – The state adapts to technological innovation, not vice versa
What the Modern World Knew

- Net Society
  - Social networking
Facebook in 2010, when it passed 500 million users
What the Modern World Knew

Internet Users in the World
Growth 1995 - 2010

Number of websites (1990 - 2008)
What the Modern World Knew

- New appliances
  - Ipod
  - Cellular phone
  - Blackberry
  - Play Station
What the Modern World Knew

• New appliances
What the Modern World Knew

- New appliances/ Age of the selfie
What the Modern World Knew

- How teenagers spend their time in the USA (2010)

Kaiser Family Foundation
What the Modern World Knew

- Computing
  - Computing spread from the mainframe (IBM world, 1960-70s) to the PC (Microsoft world, 1980-90s) to the Internet (Google world, 2000s), to the wireless mobile devices (? world)
What the Modern Age knew

- Skyscrapers
  - Taipei 101 Taipei 509m 2003
  - World Financial Center Shangai 460m 2005
  - Petronas Towers Kuala Lumpur 452m 1998
  - Asia Plaza Kaoshiung Taipei 431m 2008
  - Jin Mao Tower Shanghai 421m 1998
  - CITIC Plaza Guangzhou 391m 1997
  - Shun Hing Square Shenzhen 384m 1996
  - Central Plaza Hong Kong 374m 1992
  - Bank of China Tower Hong Kong 369m 1989
  - Emirates Office Tower Dubai 355m 2000
  - The Centre Hong Kong 350m 1998
  - Tuntex & Chien-Tai Tower Kaohsiung 348m 1997
What the Modern Age knew

- Skyscrapers
Skyscrapers

Dubai: www.scaruffi.com/monument/arabia/dubai.html
Hong Kong
New York
Shanghai
What the Modern Age knew

- Taipei 101
- Petronas Towers
- Freedom Tower
- Jongno Tower, Seoul
What the Modern Age knew

- Willis (formerly Sears) Tower
  - Chicago, 1974
  - 1,451 feet

- Petronas Towers
  - Malaysia, 1998
  - 1,483 feet

- Shanghai World Financial Center
  - Shanghai, 2008
  - 1,614 feet

- Taipei 101
  - Taiwan, 2004
  - 1,667 feet

- 1 World Trade Center
  - New York City, Under construction
  - 1,776 feet

- Shanghai Tower
  - Shanghai, Under construction
  - 2,073 feet

- Burj Khalifa (formerly Burj Dubai)
  - United Arab Emirates, 2010
  - 2,717 feet
What the Modern Age knew

- Norman Foster’s Millau bridge in southern France (2004)
What the Modern Age knew

- David Fisher’s rotating skyscraper in Dubai
What the Modern Age knew

- AIDS: 39.4 million people have AIDS in the world (UNAIDS, 2003)
  - North America 1
  - Latin America 2.1
  - Western Europe 0.6
  - Eastern Europe 1.4
  - East Asia 1.1
  - South Asia 7.1
  - North Africa/Middle East 0.5
  - Black Africa 25.4
What the Modern Age knew

- Leftists seize power in South America
What the Modern Age knew

• Anti-Americanism
  – Demagogues
    • Fidel Castro of Cuba
    • Hugo Chavez of Venezuela
    • Mahmoud Ahmadinejad of Iran
    • Vladimir Putin of Russia
    • Osama Bin Laden of Al Qaeda
What the Modern Age knew

- Anti-Americanism
  - Axis of evil and affiliates
    - Kim Jong Il of North Korea
    - Sadr of Syria
    - Sudan
    - Burma
    - Belarus
What the Modern Age knew

• Zeitgeist
  – General pessimism about the human mission, despite rising standards of living, spreading democracy, fewer wars
  – Concerns about this planet (climate change, bad government, employment, pollution) prevail over dreams of other planets
2002 Diseases

Influenza
Prone to mutate, influenza viruses continually appear in different forms, requiring the production of a new vaccine each flu season. In some years the symptoms are mild; in others they can be lethal. Three episodes were especially virulent: the influenza pandemic in 1918-19, the Asian flu in 1957-58, and the Hong Kong flu in 1968-69.

HIV / AIDS
Passed on through bodily fluids, human immuno-deficiency virus, or HIV, almost invariably leaves the body defenseless against the infections that define full-blown acquired immunodeficiency syndrome, or AIDS. Sub-Saharan Africa, with one-tenth of the world's population, has more than 70 percent of all HIV cases.

Diarrheal Diseases
Waterborne bacteria, viruses, and parasites produce about four billion cases of diarrhea a year. Those at highest risk include the 1.1 billion people lacking access to safe drinking water and the 2.4 billion without adequate sanitation facilities. Cholera, an acute diarrheal disease, claims more than 5,000 lives a year.

Tuberculosis
Propelled by a cough or sneeze from an infected person, tuberculosis bacteria can begin to grow in the lungs and throat of anyone who breathes them in. Drugs discovered in the 1940s beat back the disease, but the bacteria have recently begun to develop resistance, and tuberculosis has reappeared with a vengeance.

Malaria
Caused by microscopic parasites transmitted by the bites of infected mosquitoes, malaria attacks red blood cells. Global warming has expanded the range of malaria-carrying mosquitoes, putting more than 40 percent of the world's population at risk. In addition, warmer weather makes mosquitoes breed faster and bite more often.

Measles
A highly contagious viral disease that can lead to pneumonia or encephalitis, measles was an inevitable rite of childhood until an effective vaccine became available in 1963. Still striking more than 30 million a year and killing some 900,000, it is the world's leading cause of vaccine-preventable death in children.
What the Modern Age knew

- 2005 Elections in Iraq

Interim prime minister Iyad Allawi congratulating elected prime minister Ibrahim al-Jaafari
What the Modern Age knew

- 2005 Death of Pope Giovanni Paolo II
What the Modern Age knew

• Car bombings in Iraq
What the Modern Age knew

- Suicide bombings in Iraq

**Civilian Casualties in Iraq**

Number Killed

- Al Qaeda bombed the Golden Mosque

<table>
<thead>
<tr>
<th>Month</th>
<th>May-05</th>
<th>Jul-05</th>
<th>Sep-05</th>
<th>Nov-05</th>
<th>Jan-06</th>
<th>Mar-06</th>
<th>May-06</th>
<th>Jul-06</th>
<th>Sep-06</th>
<th>Nov-06</th>
<th>Jan-07</th>
<th>Mar-07</th>
<th>May-07</th>
<th>Jul-07</th>
<th>Sep-07</th>
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</tr>
</tbody>
</table>
What the Modern Age knew

EXECUTIONS AROUND THE WORLD 2006

World total: 1,591
- Also: 3
  Bangladesh: 1
  Botswana: 1
  Equatorial Guinea: 1

“+” indicates figure may be higher

SOURCE: Amnesty International
What the Modern Age knew

- Location of the Cygnus X-1 black hole

(NASA 2004)
What the Modern Age knew

• First photography of a non-solar planet

(NASA 2005)
What the Modern Age knew

• Water on Titan
What the Modern Age knew

• Suicide bombings

(Economist 2008)
What the Modern Age knew

- African democracy

(Economist 2008)
What the Modern Age knew

- Fertility rates

(Economist 2014)
What the Modern Age knew

- Africa/ Congo

Congo’s Conflict Minerals Supply Chain

- Eastern Congo: Armed groups control mines and transit routes, buy weapons, perpetrate violence
- East Asia: Smelting or chemical processing companies process minerals into metals
- East Asia/Europe: Manufacturing companies who make tin solder, capacitors, tinplate
- U.S., Europe: Sold to consumers in cell phones, music players, and digital cameras

- Rwanda/Uganda/Kenya:
  Minerals transported to refiners/smelters. Main actors: European metals traders
- East Asia:
  Circuit board manufacturing companies place metals onto circuit boards
What the Modern Age knew

• Africa/ Congo
What the Modern Age knew

• Frank Gehry’s design for Los Angeles 2009
What the Modern Age knew

• Abu Dhabi’s Saadiyat Cultural Center
• www.scaruffi.com/monument/arabia/saadiyat.htm
Global warming and the Arctic Sea

Drill, Baby, Drill? A U.S. Geological Survey report estimates that the Arctic holds 10 billion barrels of undiscovered oil and 1,670 trillion cubic feet of natural gas. The Sh tolerant Field alone, in Russian waters, contains enough natural gas to power the U.S. electrical grid for six years, and may soon help Gazprom become the world’s largest company.

Polar Express: The fabled Northwest Passage opened this summer for the second time in history—and the second year in a row. The Northeast Passage (also called the Northern Sea Route) over Eurasia first fully opened in 2005; shipping is already extensive within that region, particularly in the Barents Sea. Yet both routes, sought by ancient navigators, are likely to be used for only a few years. By 2025, if not before, most ships in the Arctic will likely sail straight over the pole, avoiding costly state jurisdictions and shaving still more miles off their journeys. Much of the world’s international shipping will reorient itself as a result.

The New Entrepreneurs: Singapore’s location, amid key shipping lanes from East Asia to Europe, has enabled the country to become the richest in Southeast Asia. As sea lanes like the Bering and Davis straits become busier, port towns like tiny Dutch Harbor, Alaska (population 4,000), and Hammerfest, Norway (population 9,000), are likely to grow from out-of-the-way fishing depots into key shipping hubs. Russia recently committed $1 billion to port development in Murmansk. Places like Singapore or Panama (which is currently investing more than $5 billion to expand its canal) may see trade disappear from their doorsteps.

(Spatial focal point) Freedom: Reopening ice is revealing up to 31 billion barrels of oil and natural gas off Greenland’s eastern coast, plus signs of enormous mineral deposits—gold, diamonds, zinc, and more—on land. Keen to establish their rights to these resources, 57,000 Greenlanders (most of them Inuit), whose territory has been protected by Denmark since 1721, will vote this month on a referendum for self-rule. Greenland will probably become the first country born from climate change.

Atlantic Monthly, October 2008
• **Nuclear Energy**
• Renewable Energy

Share of power fueled by renewable energy other than large hydropower, 2009

Can you see the sources of renewable energy in the image? They include wind, solar, biomass and waste, geothermal, ocean and small-scale hydropower. Large-scale hydropower is sometimes excluded from tallies of renewable energy because of its environmental impact.
What the Modern Age knew

• Financial crisis of October 2008

A Primer on the Financial Crisis

The boom

1 INTEREST RATES FALL
   In the aftermath of the bursting of the technology bubble in 2001, the Federal
   Reserve lowers its benchmark interest rate to 1.5 percent, from 6.5 percent, over
   two years. Strong foreign demand for American securities pushes down
   long-term interest rates.

2 SECURITIZATION
   At the same time, Wall Street packages more
   mortgages and other
   consumer debt into
   securities for investors like
   pension funds, foreign
   central banks and hedge
   funds. Bankers assert that
   these instruments —
   mortgage-backed securities and
collateralized debt
   obligations — will help
   reduce and disperse risks.

3 RISKY LOANS
   Encouraged by low
   rates and
   securitization, banks
   and mortgage
   companies take
   bigger risks in home
   lending by allowing
   homeowners to
   borrow more, put
   little or no money
   down and not
   provide proof of
   their financial
   condition.

4 HOME PRICES RISE
   Lower borrowing
   costs and advent
   of more risky
   loans help drive
   up home prices,
   which nearly
double from
2000 to 2006. The run-up
is greatest in
California,
Florida, Arizona
and Nevada.

LEVERAGE
   Across the financial
   system, banks, securities
   firms and
   hedge funds increase their use of
   borrowed money to
   make investments.
   They borrow at low
   rates and make
   investments that
   yield a much higher
   return, putting very
   little of their own
   money at risk.

The bust

5 PRICES FALL
   With interest rates rising
   and home ownership
   at record levels, prices start to dip
   in the second half
   of 2006. The
decline starts
   in places like San
   Diego, where
   prices jumped
   the most during
   the boom.

6 DEFAULTS INCREASE
   As more homeowners
   are unable to
   refinancing or sell their
   depreciating homes, defaults
   on mortgage payments climb.
   The first signs of
trouble emerge
   among subprime
   loans but they
   quickly move to
   supposedly
   better-quality loans.

7 CREDIT CRISIS
   With defaults rising
   and real estate prices
   falling, the value of
   mortgage securities falls
   rapidly and investors leave the
   market. Banks take
   more than $5 trillion
   in write downs and
   the International
   Monetary Fund
   estimates losses
   could top $1 trillion.

8 TROUBLES SPIRAL
   As losses rise, firms
   like Lehman Brothers
   have more difficulty
   raising capital and
   investors lose
   confidence. Banks
   tighten lending
   standards, squeezing
   the economy and the
   financial system into
   a self-perpetuating
   cycle.
What the Modern Age knew

- Financial crisis of October 2008

<table>
<thead>
<tr>
<th>Key Indexes</th>
<th>At close 10/10/2008</th>
<th>Change</th>
<th>% change</th>
<th>1 month</th>
<th>1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTSE 100 Britain</td>
<td>3,932.06</td>
<td>-381.74</td>
<td>-8.85%</td>
<td>-26.73%</td>
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<tr>
<td>DAX Germany</td>
<td>4,544.31</td>
<td>-342.69</td>
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<td>CAC 40 France</td>
<td>3,176.49</td>
<td>-266.21</td>
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<td>-25.85%</td>
<td>-45.82%</td>
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<td>Micex Russia</td>
<td>700.37</td>
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<td>Nikkei 225 Japan</td>
<td>8,276.43</td>
<td>-881.06</td>
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<td>-32.97%</td>
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<tr>
<td>Hang Seng Hong Kong</td>
<td>14,796.87</td>
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<td>Shanghai Composite China</td>
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<td>-74.01</td>
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<td>Bovespa Brazil</td>
<td>35,609.54</td>
<td>-1,470.76</td>
<td>-3.97%</td>
<td>-28.25%</td>
<td>-42.98%</td>
</tr>
</tbody>
</table>

- 25% (New York Times, October 10)
What the Modern Age knew

• Financial crisis of October 2008

That sinking feeling
Stockmarkets, October 1st 2007=100

MSCI indices:  China  Asia  Japan
Stockmarkets, October 1st 2008=100

Source: Thomson Datastream

(Economist, October 2008)
What the Modern Age knew

- **Financial crisis of October 2008**

<table>
<thead>
<tr>
<th>BEST PERFORMERS</th>
<th>WORST PERFORMERS</th>
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</thead>
<tbody>
<tr>
<td>Hong Kong dollar</td>
<td>Colombian peso</td>
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<tr>
<td>+0.58%</td>
<td>−25.10%</td>
</tr>
<tr>
<td>Chinese yuan</td>
<td>Mexican peso</td>
</tr>
<tr>
<td>−0.08</td>
<td>−25.41</td>
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<td>Thai baht</td>
<td>Turkish new lira</td>
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<tr>
<td>−3.36</td>
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<tr>
<td>Argentine peso</td>
<td><strong>South Korean won</strong></td>
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<tr>
<td>−6.98</td>
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<tr>
<td>Indonesian rupiah</td>
<td>Brazilian real</td>
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<tr>
<td>−8.06</td>
<td>−29.95</td>
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<td>Peruvian new sol</td>
<td>Hungarian forint</td>
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<td>−30.77</td>
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<td>Singaporean dollar</td>
<td>South African rand</td>
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<td>−9.12</td>
<td>−31.38</td>
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<td>Malaysian ringgit</td>
<td>Icelandic krona</td>
</tr>
<tr>
<td>−9.34</td>
<td>−31.78</td>
</tr>
</tbody>
</table>

*Source: Bloomberg*

(24 October 2008)
What the Modern Age knew

(Dow Jones)
What the Modern Age knew

- USA elections of November 2008
What the Modern Age knew

- USA elections of November 2008
What the Modern Age knew

• USA 2009
What the Modern Age knew

- Burj Dubai (2010)
What the Modern Age knew

• Knowledge
What the Modern Age knew

- Geoffrey Miller (2000)
  - Sexual selection caused the human brain to grow very rapidly
  - Art, literature and music are by-products of sexual selection (not useful for survival but for reproduction purposes)
What the Modern Age knew

- Peter Gardenfors (2003)
  - How self-conscious beings came to be: first sensations, then attention, then emotions, then memory, then internal representations, then planning, then the self, then free will and finally language
  - Perceptions (the interpretation of sensations, which are representations directly related to the world) vs "detached" representations (representations about something that is present here and now)
  - Detached representations allow a being to "become increasingly detached from the immediate vicinity"
What the Modern Age knew

- Peter Gardenfors (2003)
  - The self presupposes a you
  - The "I" emerges from a network of inter-related cognitive functions
  - Language came last: human language is very much about the "I" and the "you"
  - Language is an emergent property of cognitive systems (it is a natural evolution of cognitive skills that preexisted it)
What the Modern Age knew

  - A crowd of random individuals is likely to make certain predictions and judgment better than the most expert individuals
What the Modern Age knew

• Thomas Friedman (2005)
  – Globalization has leveled the competitive playing fields between industrial and emerging countries
What the Modern Age knew

• Thomas Friedman (2005)
  – Triple convergence
    • Around the year 2000 all of the flatteners converged with one another
    • Businesses began collaborating horizontally
    • Communist countries adopted capitalism
What the Modern Age knew

• John Hagel (2009)
  – The world is shifting from an economy in which the strategic advantage was in protecting and extracting value from knowledge into an economy in which the focus of value creation is effective participation in knowledge flows which are constantly being renewed
  – Knowledge is depreciating at an accelerating pace
  – Social media allow to build richer knowledge networks that connect with partners and customers
What the Modern Age knew

• Ballet
  – Paulo Henrique (Portugal): “Contract with the Skin” (2000)
  – Igloo (Bruno Martelli and Ruth Gibson, Britain): "Winter Space" (2001)
What the Modern Age knew

- Ballet
  - Pam Tanowitz "Four Quartets" (2018)
What the Modern Age knew

• “No one has any questions because we all have too many questions” (Jennifer Dean, former student of this class)
What the Modern Age knew
Piero Scaruffi
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