

THE

BIG

PICTURE

data

computers

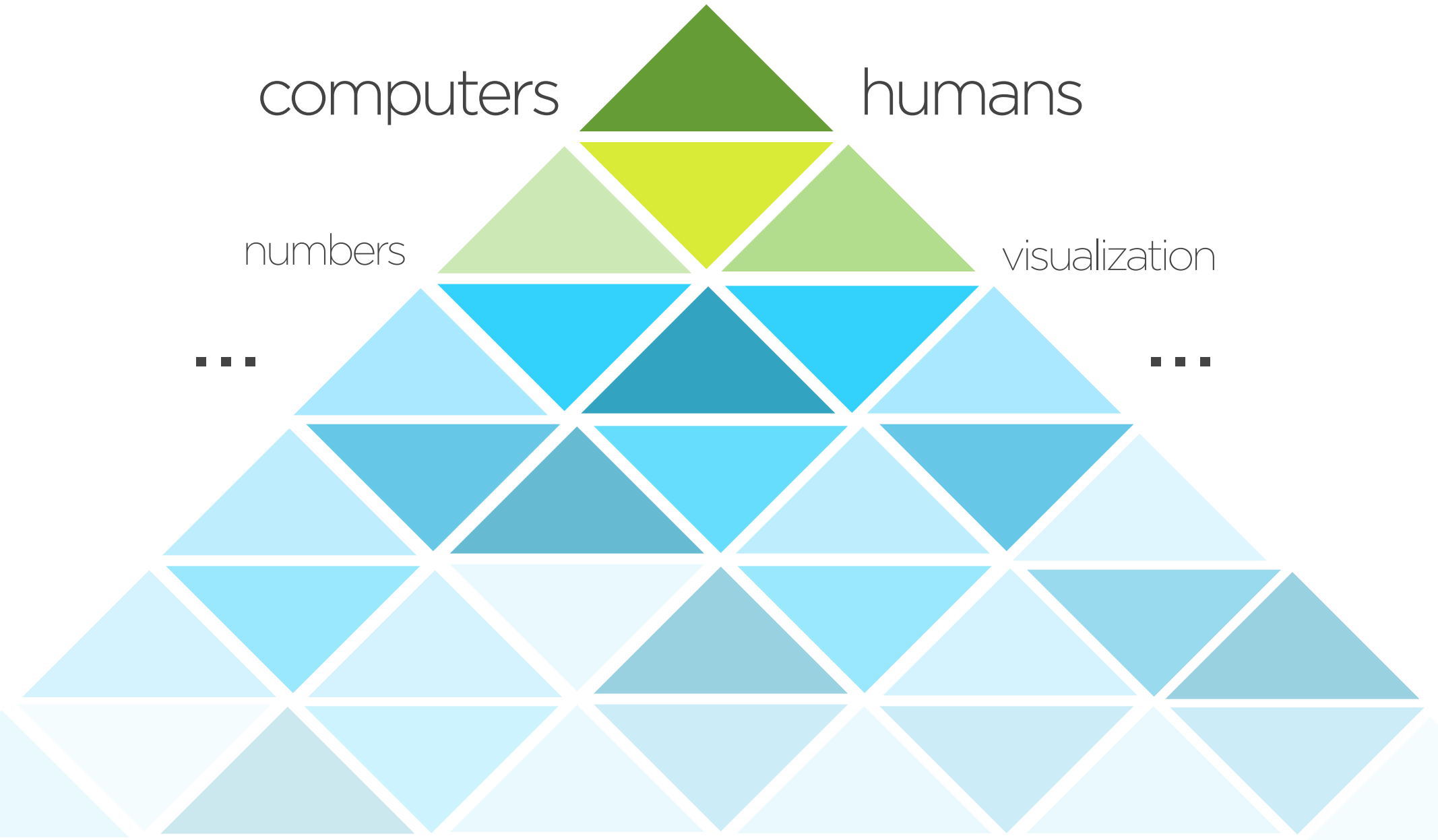
humans

numbers

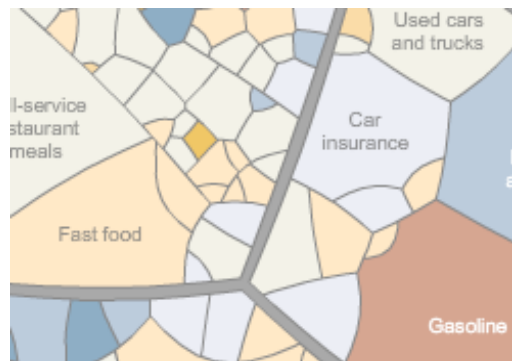
visualization

...

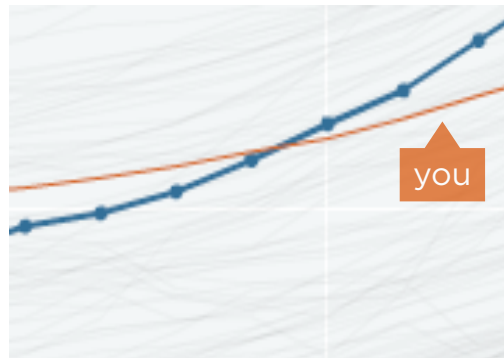
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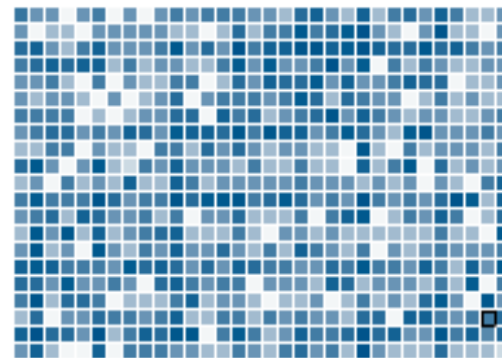
why interactive?



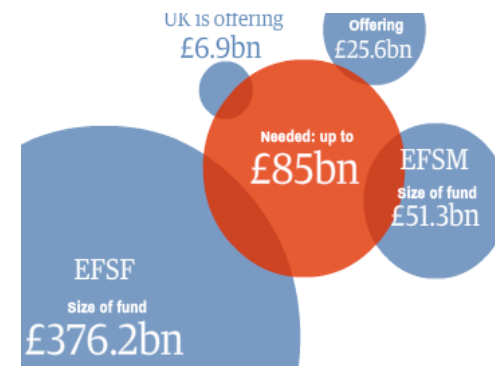
ANALYSIS



PERSONALIZATION



SOCIAL



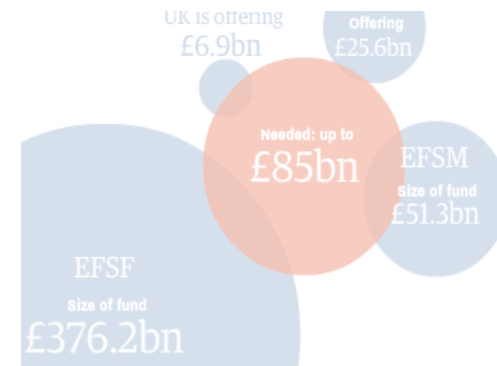
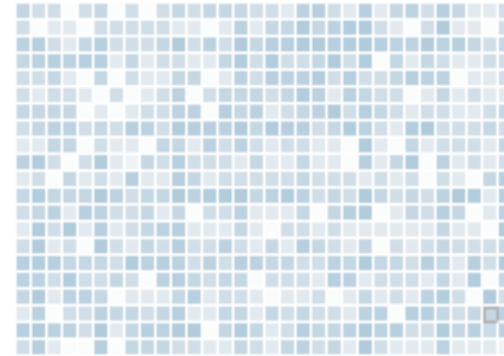
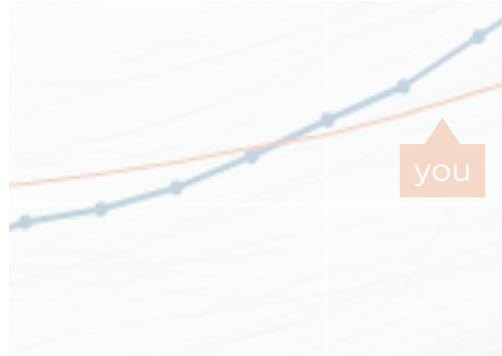
STORYTELLING

why interactive?

Businessweek
Top 100
M&A Deals

BGOV
Federal
Spending

Ask. Explore. Find.
Too much info at once.
Scenario testing.



ANALYSIS

PERSONALIZATION

SOCIAL

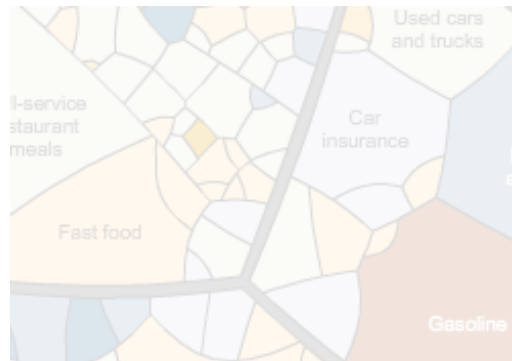
STORYTELLING

why interactive?

NYTimes
Jobless Rate
for People
Like You

Aaron Koblin
Arcade Fire's
Wilderness
Downtown

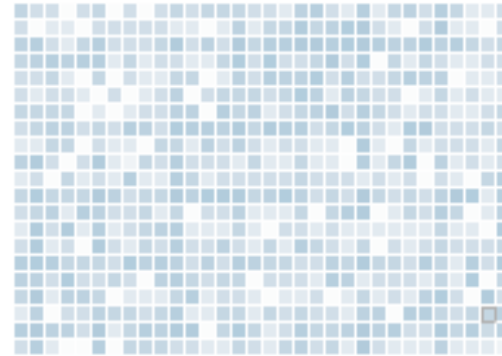
NYTimes
Households
like Yours



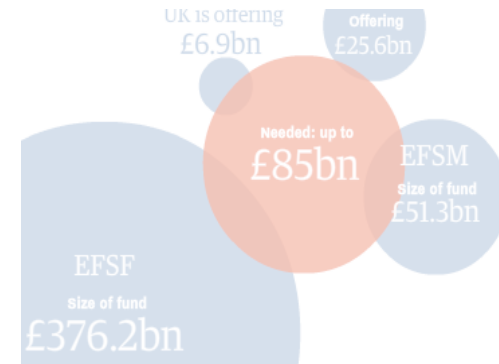
ANALYSIS

Make relevant.
Increase engagement.
Make emotional.

PERSONALIZATION



SOCIAL



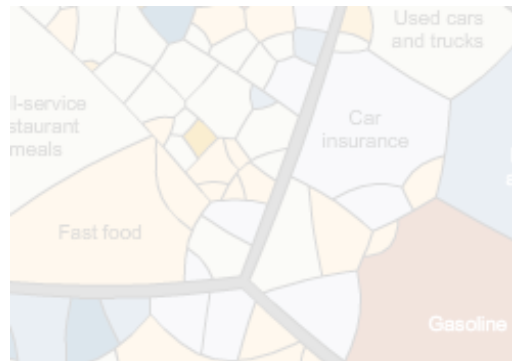
STORYTELLING

why interactive?

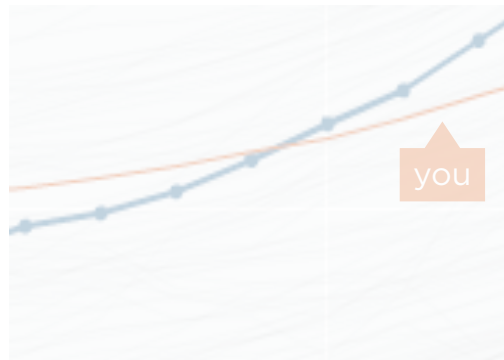
Aaron Koblin
Sheep, Cash,
Bicycle

Stamen Design
MTV VMA
Twitter

NYTimes
Reactions to
Osama



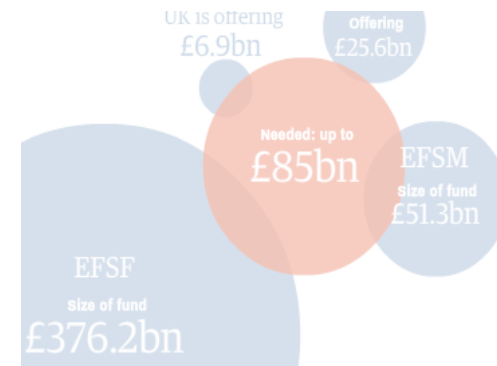
ANALYSIS



PERSONALIZATION

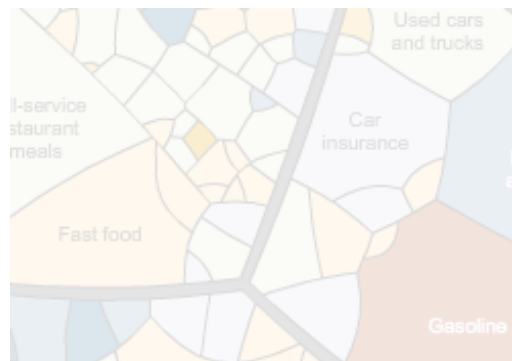
Sharing.
Collaborative.
Real-Time sentiment.

SOCIAL

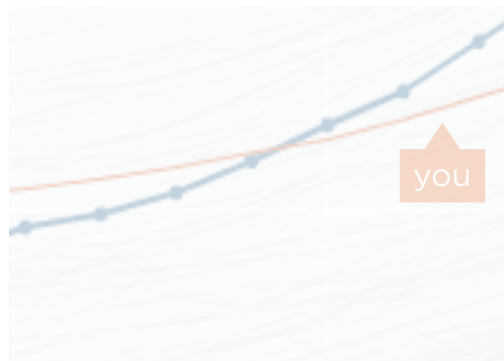


STORYTELLING

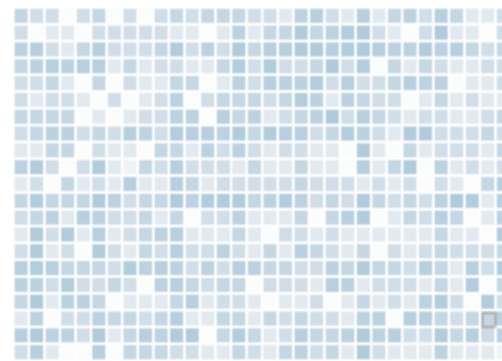
why interactive?



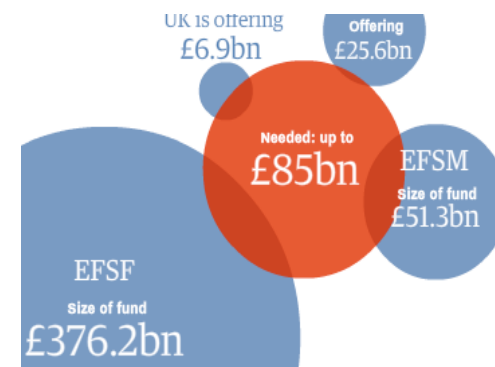
ANALYSIS



PERSONALIZATION

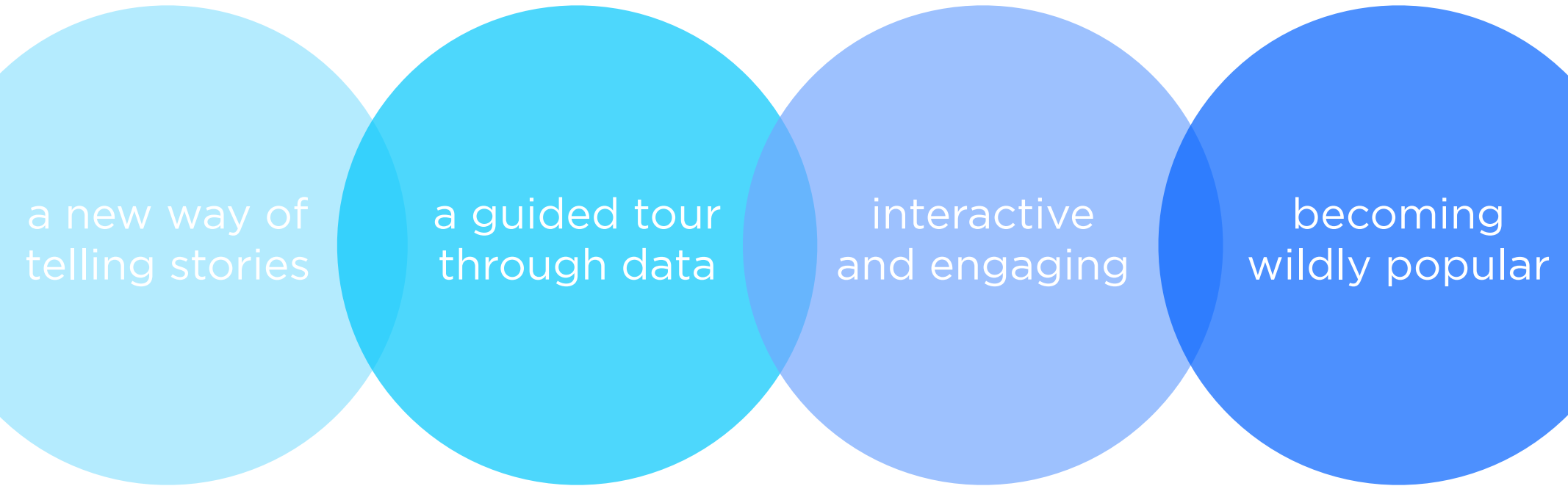


SOCIAL



STORYTELLING

interactive storytelling is...



A

BRIEF

HISTORY

STORYTELLING

as ancient as mankind



STORYTELLING

changes with technology

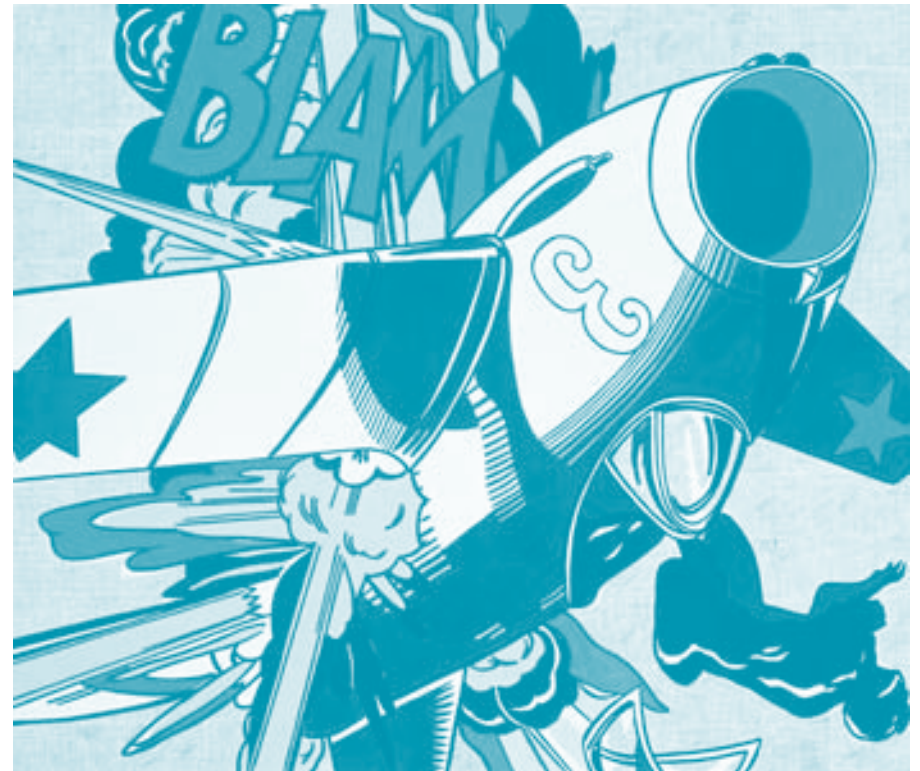
PEOPLE TELL STORIES

WORDS TELL STORIES

IMAGES TELL STORIES

COMICS TELL STORIES

MOVIES TELL STORIES



HOW CAN YOU TELL STORIES WITH
DATA?



Privacy and the internet
Lives of others

Facebook and Google face a backlash from activists and regulators alike over the way they have handled sensitive data

JENNIFER STODOLNEK, Canada's privacy commissioner, is furious with Facebook. In August 2012 the social networking site struck a deal, agreeing to change its policy within a year to comply with the country's privacy law. Now, says Ms Stodolne, the company appears to be ignoring an important part of that deal, which included giving users a clear and easy-to-implement choice over whether to share private data with third parties. "It doesn't seem to me that Facebook is going in the right direction on this issue," she says, fearing that, without a change of course, the firm could soon become the subject of another formal investigation by her organisation.

Facebook is not the only internet giant to provoke the ire of data watchdogs. Google is under scrutiny in Britain this week following news that it had accessed some personal communications sent over unsecured Wi-Fi data networks in hotels and offices in some 30 countries. On May 17th Peter Schaar, Germany's federal commissioner for data protection, called for an independent investigation into Google's behaviour, claiming that it had "clearly displayed normal rules in the development and usage of software."

The cases highlight rising tension between guardians of privacy and internet firms. And they reflect concern among web users about how private data are made public. Several prominent internet

types such as Cory Doctorow, a science-fiction author, and Ian Jopson, a student-led, have abandoned Facebook. Since such as Qualifications Department is urging others to do the same. On May 20th a mass Facebook "manifesto".

This is unlikely to stop the momentum of Facebook, which is poised to claim half a billion members and which draws even more visitors as a whole to its site (see chart). Its users have been ranked at the company's headquarters in Silicon Valley, where bosses are reading user lists to respond. Several senior folk are now hinting that Facebook will soon roll out simpler privacy controls to make it easier to keep more data hidden. MySpace, a rival, is already making its controls simpler to an effort to woo disaffected Facebookers to its service.

A revolt over Facebook's handling of privacy has been brewing for some time. In December the social network changed the default settings on its privacy controls so that individuals' personal information would be shared with "everyone" rather than selected friends. Facebook argued that reflected a shift in society towards greater openness and noted that users could still adjust privacy settings back again. But tens of thousands of privacy activists lobbied for a reversal.

The switch should not have come as a surprise, truly or, many social networks

Also in this section

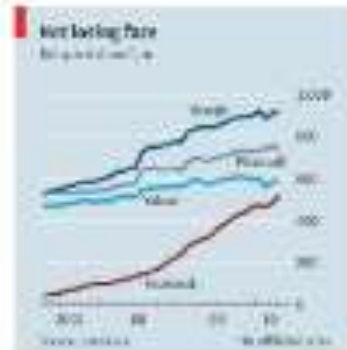
- 68 Selling companies
- 69 The recovery of General Motors
- 68 Business crime in China
- 70 Indian retail
- 70 Japan's drug firms on the move
- 74 Brazil on takeaways
- 78 Schumpeter: Overstretched

See daily analysis and news on business, and www.economist.com/business-finance

impose fairly tough privacy policies in order to attract and retain users. But as more joint controls are gradually loosened to encourage more sharing, as people share more, Facebook can increase the traffic against which it sells advertising. And the more it learns about users' likes and dislikes, the better it can target ads that generate hundreds of millions of dollars.

Facebook's general manager will be facing a developers' conference last month at which Mark Zuckerberg, Facebook's boss, announced yet another series of policy changes. One that raised eyebrows was an "extended general disclaimer" notice that lets certain third-party websites access Facebook data when people visit. Critics say that Facebook has made it tricky to recall this feature, which may explain why its standard default is so much.

Some part of the job, one guaranteeing better Facebook use. This month a group of data-protection experts who advise the European Commission wrote to the social network, calling its default on privacy the default settings "unacceptable." And in the



**Small support
afterthought
boring**



Published: February 2, 2010

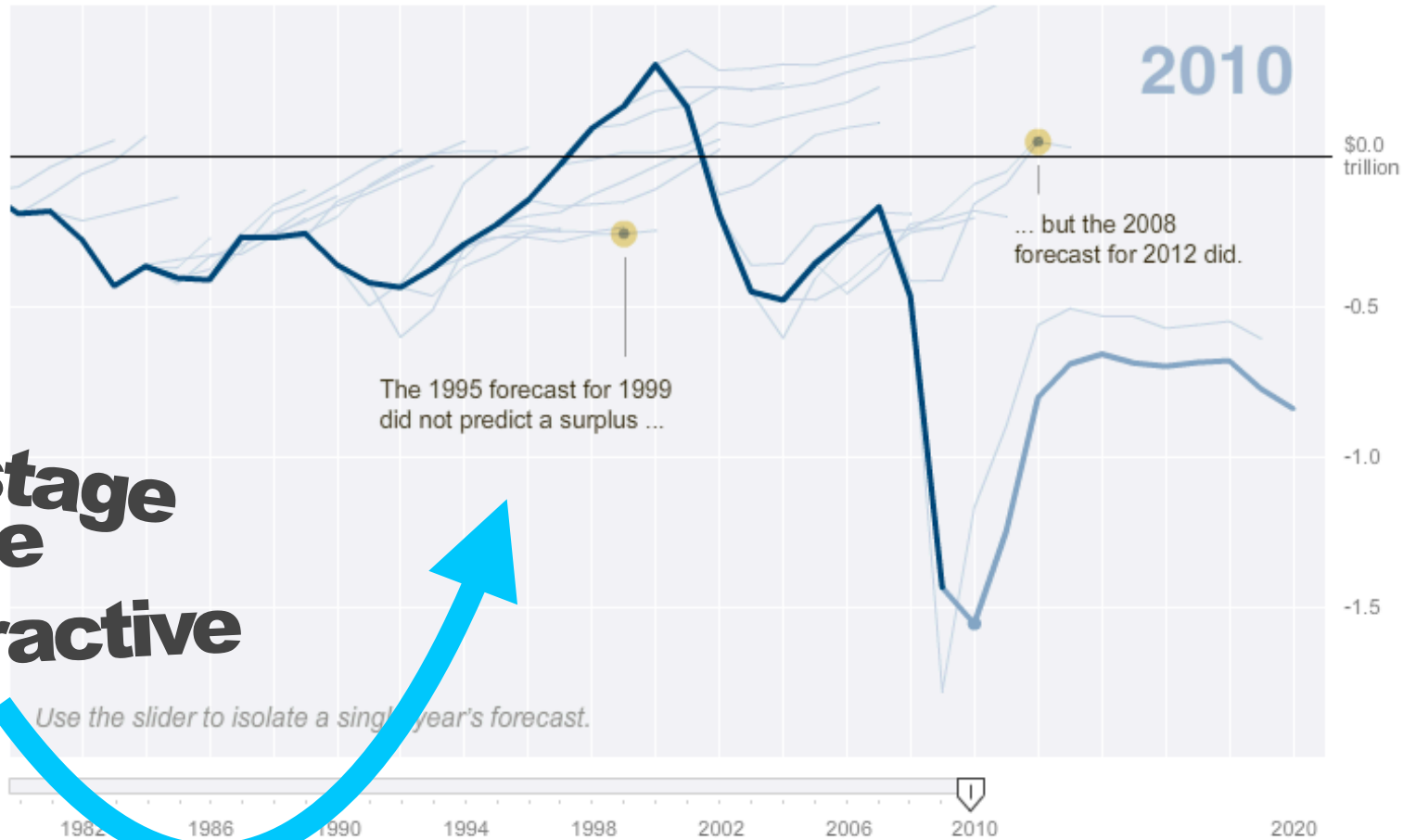
Budget Forecasts, Compared With Reality

Just two years ago, surpluses were predicted by 2012. How accurate have past White House budget forecasts been?

1 2 3 4 5 6 NEXT ▶

Latest forecast

Today, with a better understanding of the severity of the economic downturn, the deficit situation is much more dire.



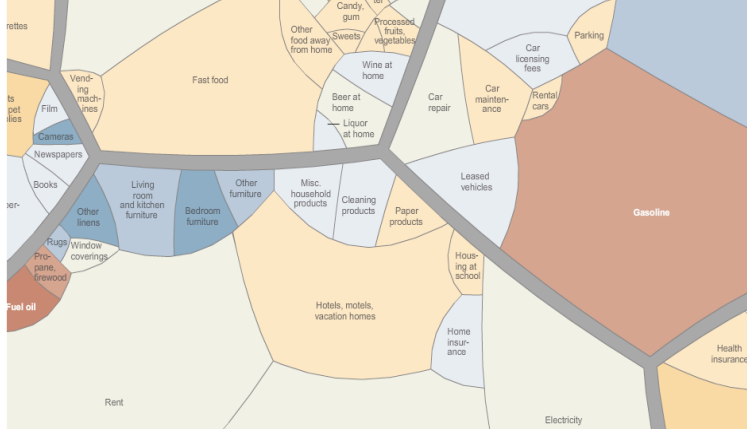
**center stage
standalone
interactive
guided**

Use the slider to isolate a single year's forecast.

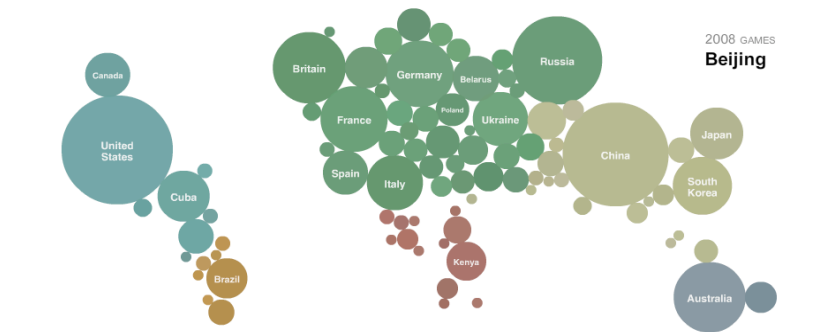
THE

NARRATIVE

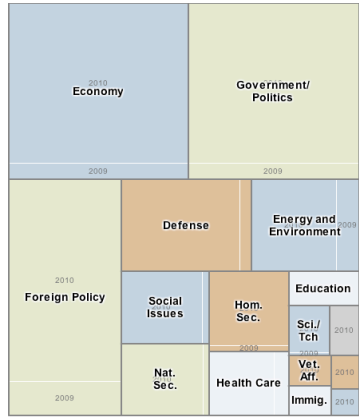
FRAMEWORK



GEOGRAPHIC VIEW BY RANKING
 1896 1900 1904 1908 1912 1920 1924 1928 1932 1936 1948 1952 1956 1960 1964 1968 1972 1976 1980 1984 1988 1992 1996 2000 2004 2008



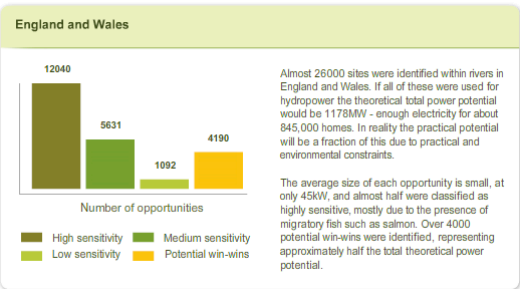
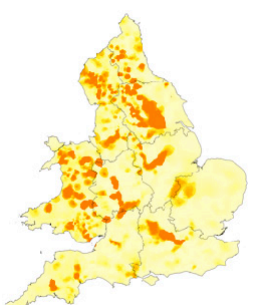
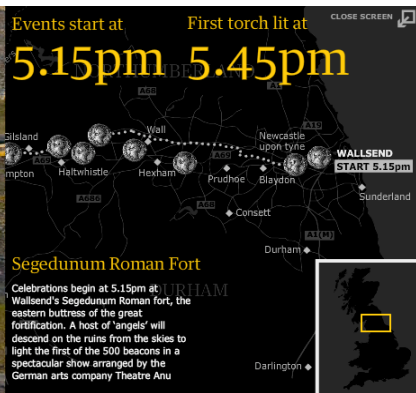
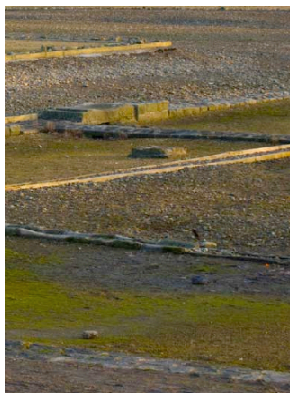
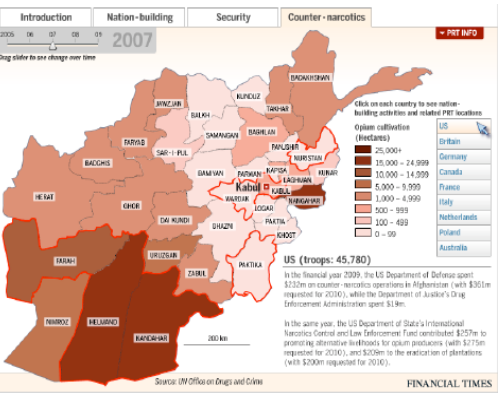
2008 Medal Count



58

CASE STUDIES

- 70% Journalism
- 20% Business
- 10% Research

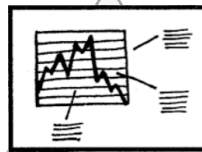


YOU DON'T HAVE TO UNDERSTAND EVERYTHING WE DO TO PROFIT FROM IT.

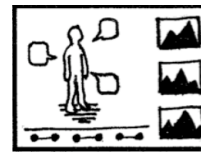
Visual Design



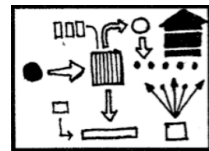
MAGAZINE
STYLE



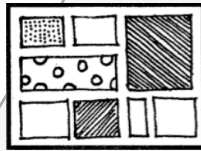
ANNOTATED
CHART



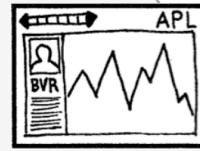
SCIENCE FAIR
POSTER



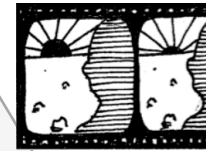
FLOWCHART



COMICSTRIP



SLIDESHOW



MOVIE

Duo-Specific

Captions

Annotations

Attached
Article

Summaries

Interpret

Headlines

Tacit
Tutorial

Selection

Navigation

Details on
Demand

Timelines

Filtering

Highlighting

Messaging

Interactivity

MORE

Genres + Interactivity + Messaging = DESIGN SPACE

STORYTELLING

CLARITY

SPEED

Author Driven

strong ordering
heavy messaging
limited interactivity

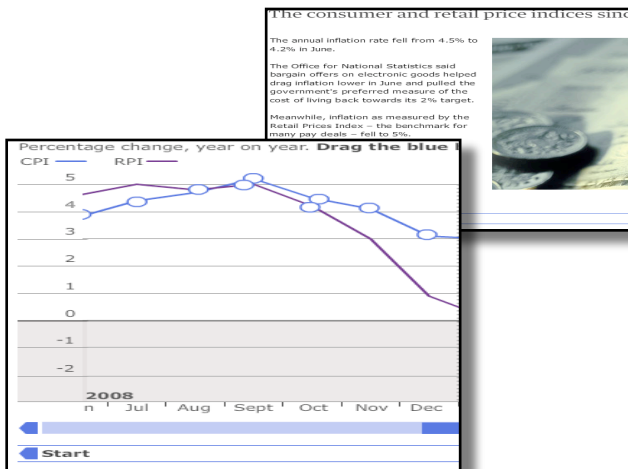
Reader Driven

weak ordering
light messaging
free interactivity

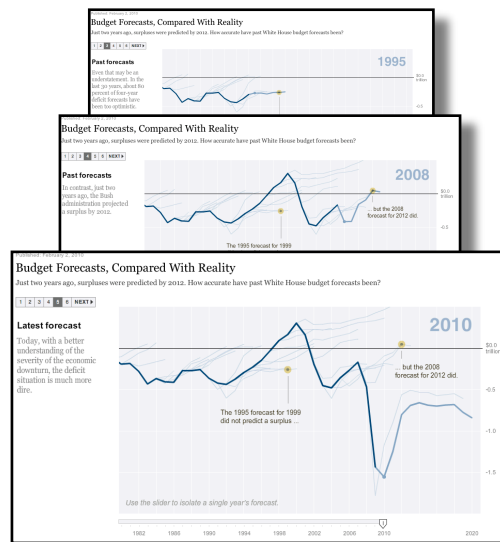
ASK QUESTIONS

EXPLORE

FIND



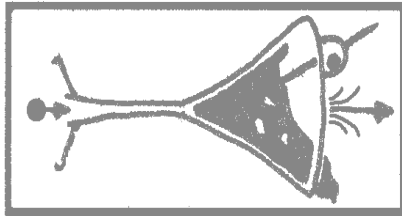
martini
glass



interactive
slideshow

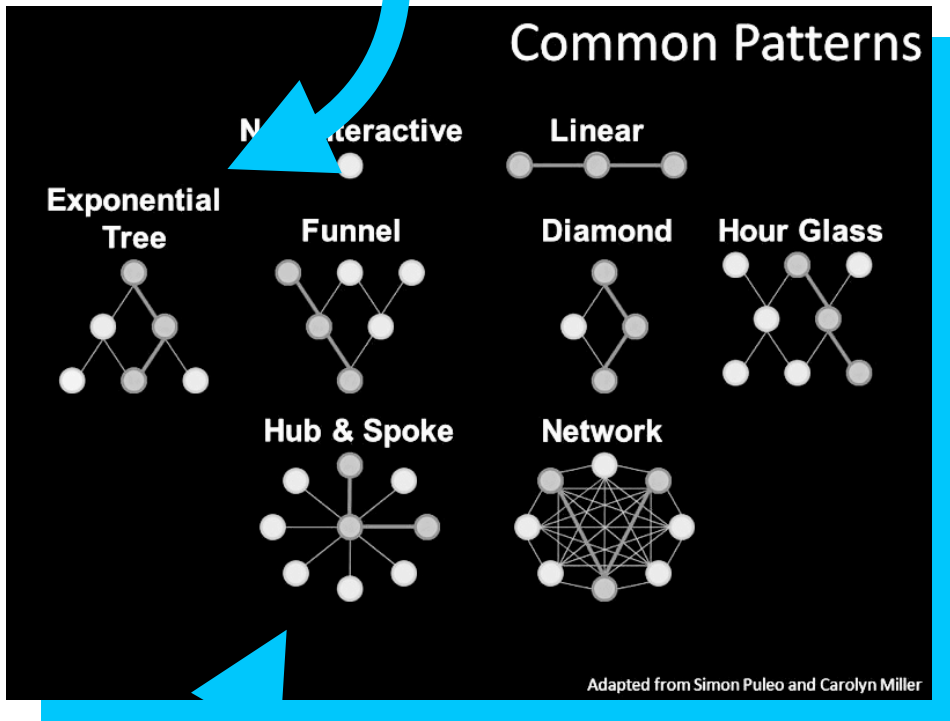


drill-down
story

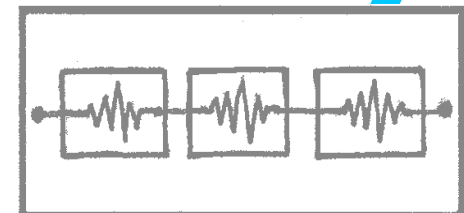
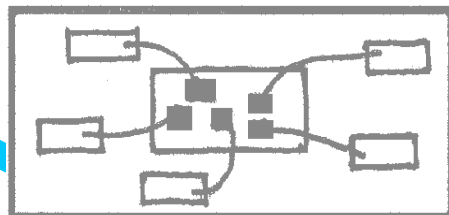
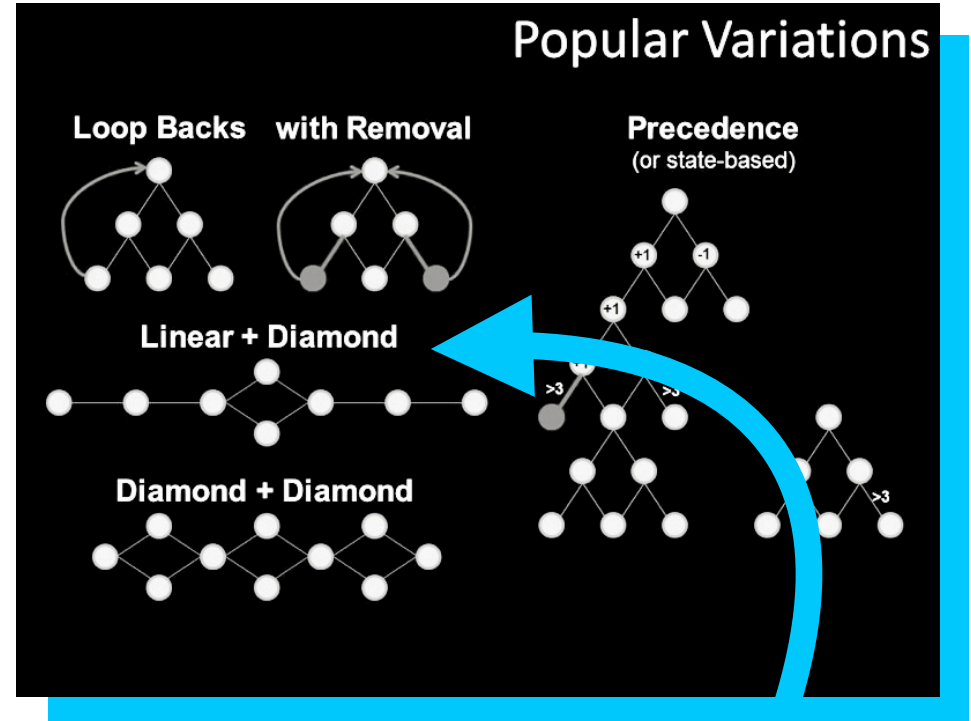


(more patterns)

Common Patterns



Popular Variations



THE

DESIGN

CATALOGUE

Guide. Highlight. Interpret.



VISUAL DESIGN
show

MESSAGING
tell

INTERACTIVITY
engage

VISUAL DESIGN
show

MESSAGING
tell

INTERACTIVITY
engage

Who Owns Greece's Debt?

Taxpayers would suffer from a Greek default since public institutions are the biggest creditors

European Central Bank
asset purchases €49b

Greek public
sector funds €30b

European Union
loans €38b

Rest-of-world official
institutions €25b

International Monetary
Fund loans €15b

Other institutions
€109.1b

National Bank
of Greece* €13.7b

Euro-area central
banks €13.1b

French banks
€15.6b

German banks
€15.2b

Other Greek banks
€40.1b

*COMMERCIAL BANK
DATA: BARCLAYS CAPITAL



Choose your
visualization
type carefully.
Know your
options. Even
obscure ones.

“Cool” and “readability” are often at odds.
Recognize the trade-off and
choose your audience.

Representative	District	Fiscal 2010 contract spending
Mike Coffman	Colo. 6	\$3.26 billion
Doug Lamborn	Colo. 5	2.98 billion
Rob Bishop	Utah 1	2.76 billion
Kenny Marchant	Texas 24	2.58 billion
Jeff Duncan	S.C. 3	2.40 billion
Sandy Adams	Fla. 24	2.36 billion
Lamar Smith	Texas 21	1.65 billion
Steve Scalise	La. 1	1.49 billion
Jeff Landry	La. 3	1.47 billion
Roscoe Bartlett	Md. 6	1.44 billion
John Carter	Texas 31	1.42 billion

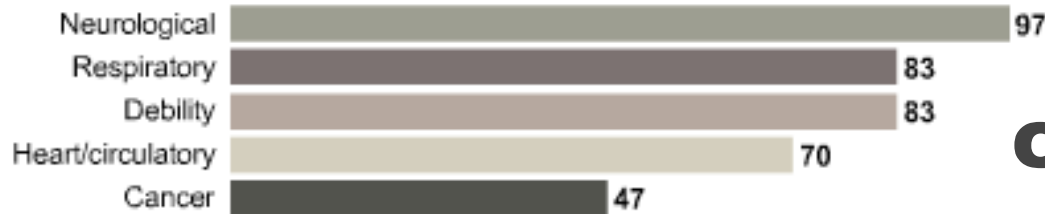
dirty

Avoid “chart junk” (Tufte).
Extra marks
distract from the
data.

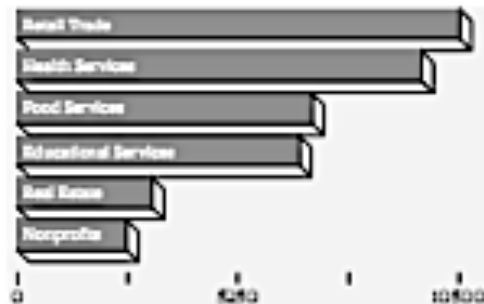
better

Rank	Country	Alcohol consumption	Total quarts
1	Republic of Moldova	4.5	19.3'
2	Czech Republic	3.8	17.4
3	Hungary	3.2	17.2
4	Russian Federation	7.3	16.7
5	Ukraine	5.5	16.5
6	Estonia	9.7	16.5'
7	Andorra	3.3	16.4'
8	Romania	4.4	16.2
9	Slovenia	1.4	16.1'
10	Belarus	4.3	16.0
11	Croatia	2.0	16.0'
12	Lithuania	4.8	15.9
13	South Korea	10.1	15.6
17	U.K.	2.5	14.1
56	U.S.	2.8	10.0

clean



sexy



But...

chart junk may reflect
cool design choices

Businessweek...

does great with labeling
only as much as needed

Make it clear where to start.
Don't let readers defect.

World Population: 6,853,328,460
Migrants in the world: 215,738,321

Almost 216 million people, or 3.15% of the world population, live outside their countries.

Click on a country box to know more about migration flow to/from that country.

click a box

where?

Human Development Trends 2005



Interactive presentation of some of the messages in the Human Development Report 2005

English
Dansk
Portuguese
Suomi
Français
Deutsch

Produced in collaboration with: **gapminder** www.gapminder.org

English translation: Claes Johansson, UNDP

1 Income
2 Regions
3 Poverty
4 Health
5 Countries
6 Differences
7 Trends
8 Gaps
9 Deaths

Start

POTUS Tracker
Analyzing Obama's schedule

View Event List By: ISSUE TYPE ATTENDEES LOCATION

Every day President Obama meets with key members of his administration, Congress, foreign dignitaries, interest groups and regular citizens. Use our interactive database to track how Obama is spending his time, what issues are getting the most attention and who is influencing the debate. Subscribe to daily schedule via RSS.

2009 2010 2011

J.F. M. A. M. J. J. A. S. O. N. D. J. F. M. A. M. J. J. A. S. O. N. D. J. F. M. A.

Matching Events **2131**

FILTERS Use all filters

ISSUES DISCUSSED
Select: All None

- ✓ Courts & Judiciary (15)
- ✓ Crime & Law Enforce. (18)
- ✓ Defense (214)
- ✓ Economy (609)
- ✓ Education (45)
- ✓ Energy & Environment (129)
- ✓ Foreign Policy (636)
- ✓ Government & Politics (577)
- ✓ Health Care (133)
- ✓ Homeland Security (71)
- ✓ Immigration (14)
- ✓ National Sec. & Intel. (84)
- ✓ Science & Technology (37)
- ✓ Social Issues (156)

BOXES SIZED TO NUMBER OF EVENTS

2009 Foreign Policy 2010 2009 2009 Defer

Taking the Corners

A look at the technique of American speedskater Shani Davis, who won gold in the 1,000 meters and silver in the 1,500.

1 2 3 4 5 6 7 8 NEXT ▶



Eric Heiden, the American speedskater who captured five golds in 1980 and is now the doctor for the 2010 U.S. team, explains how Shani Davis uses turns to his advantage.



On Davis's mechanics:

"After you push out to the side, you want to make sure you don't use a lot of effort and energy to bring that foot back underneath you.

"The higher you raise it up off the ice, the more energy you have to expend. So you want to make sure that foot **stays close to the ice without really scraping the ice**, cause scraping the ice will also slow you down."

By Graham Roberts, Bedel Saget and Michael W. Schmidt | Send Feedback

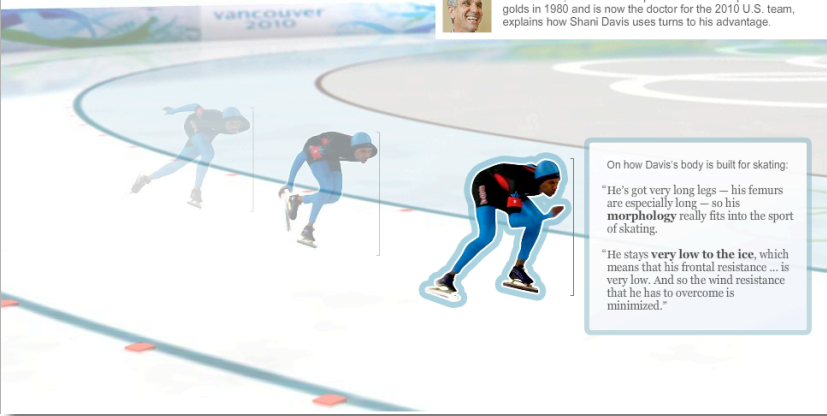
Taking the Corners

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1 2 3 4 5 6 7 8 NEXT ▶



Eric Heiden, the American speedskater who captured five golds in 1980 and is now the doctor for the 2010 U.S. team, explains how Shani Davis uses turns to his advantage.



On how Davis's body is built for skating:

"He's got very long legs — his femurs are especially long — so his **morphology** really fits into the sport of skating.

"He stays **very low to the ice**, which means that his frontal resistance ... is very low. And so the wind resistance that he has to overcome is minimized."

Taking the Corners

A look at the technique of American speedskater Shani Davis, who won gold in the 1,000 meters and silver in the 1,500.

1 2 3 4 5 6 7 8 NEXT ▶



Eric Heiden, the American speedskater who captured five golds in 1980 and is now the doctor for the 2010 U.S. team, explains how Shani Davis uses turns to his advantage.

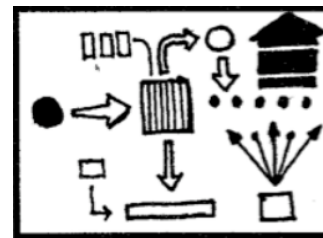


On building speed into the straightaway:

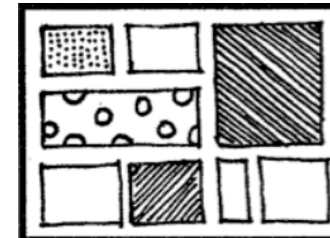
"If you watch Shani when he first enters the turn, his first few strokes the tempo is a little bit slower than when he leaves the turn.

"And by the end of the turn his tempo has increased so that he can **maximize the ability to gain speed out of the turns**. ... As you watch as he enters the straightaway very often ... he continues with his turn strokes long into the straightaway."

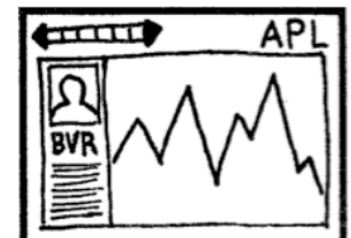
The more linear, the more like a story.
Stories have a beginning, middle, and end.



FLOWCHART



COMICSTRIP



SLIDESHOW

Consistent visual frameworks. Keep things tidy.

Dodd-Frank One Year Later: The Key Players

When Dodd-Frank was signed into law a year ago, the lobbying in Congress moved to the regulatory agencies. Now financial firms are arguing with regulators and each other over the language of hundreds of rules that will determine how much Dodd-Frank will change the system.

[Explore the key players >](#)

Photos from Bloomberg, U.S. Chamber of Commerce, U.S. Securities and Exchange Commission

Source: Bloomberg reporting



Bloomberg GOVERNMENT

The Social Network



Black Swan



The King's Speech



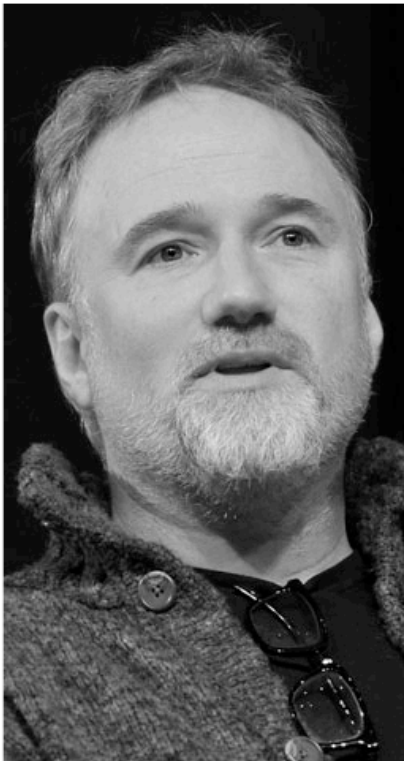
The Fighter



127 Hours



The Kids Are All Right



Guardian Review



Observer Review



Interview



Interview



Trailer



More

8 nominations

Many people have the Golden Globes winner down as the film to rain on the king's parade. Its slick script and well-pitched performances impressed critics and picking a film about the internet may help Academy members feel like they have their fingers on the pulse

IMAGES: GETTY IMAGES, ALLSTAR/COLUMBIA PICTURES



Toy Story 3



The Social Network



True Grit



Inception



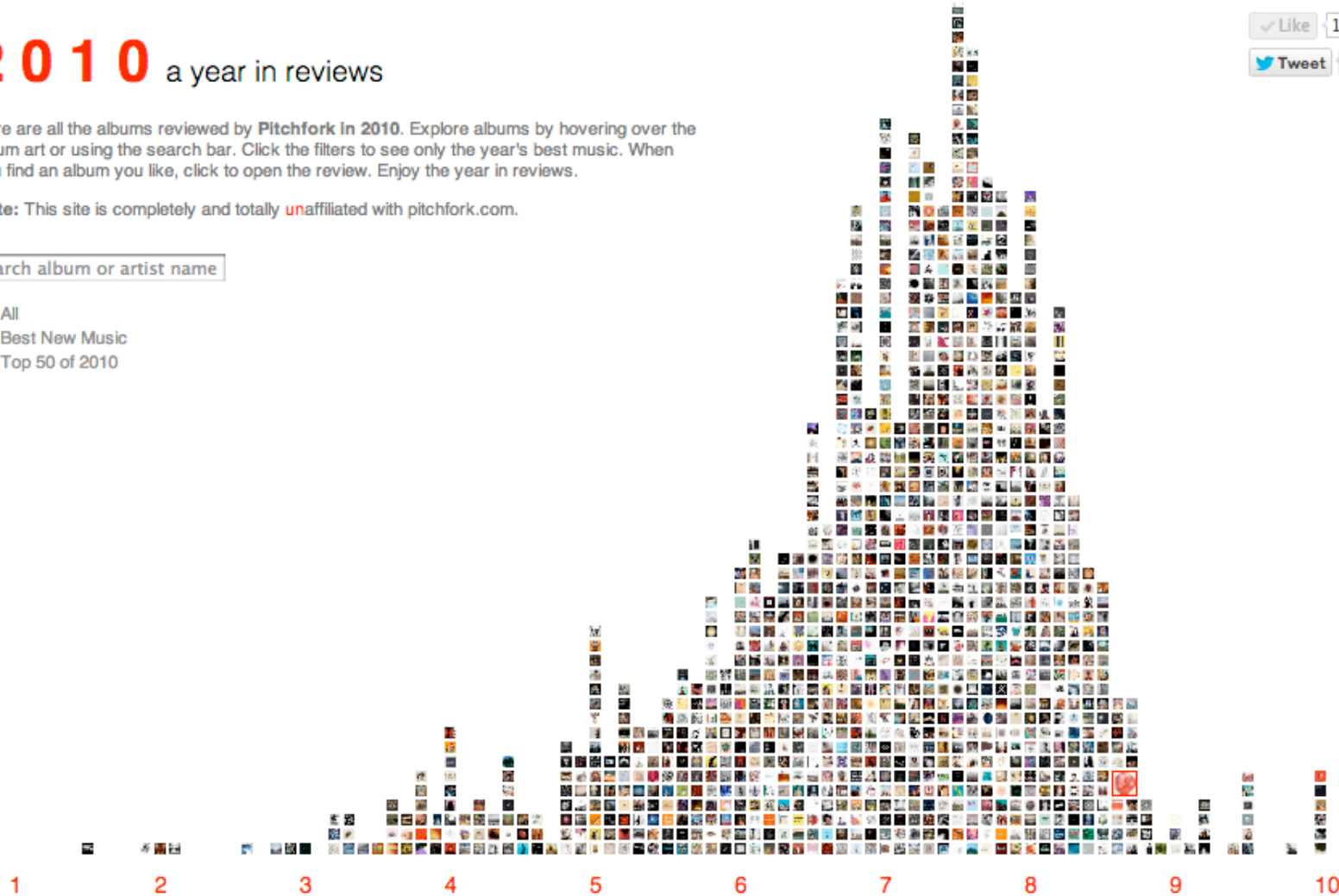
Winter's Bone

2010 a year in reviews

Here are all the albums reviewed by Pitchfork in 2010. Explore albums by hovering over the album art or using the search bar. Click the filters to see only the year's best music. When you find an album you like, click to open the review. Enjoy the year in reviews.

Note: This site is completely and totally **un**affiliated with pitchfork.com.

- All
- Best New Music
- Top 50 of 2010



Like 1.2k

Tweet 578



8.6

best new music

Owen Pallett

Heartland

[Domino / 2010]

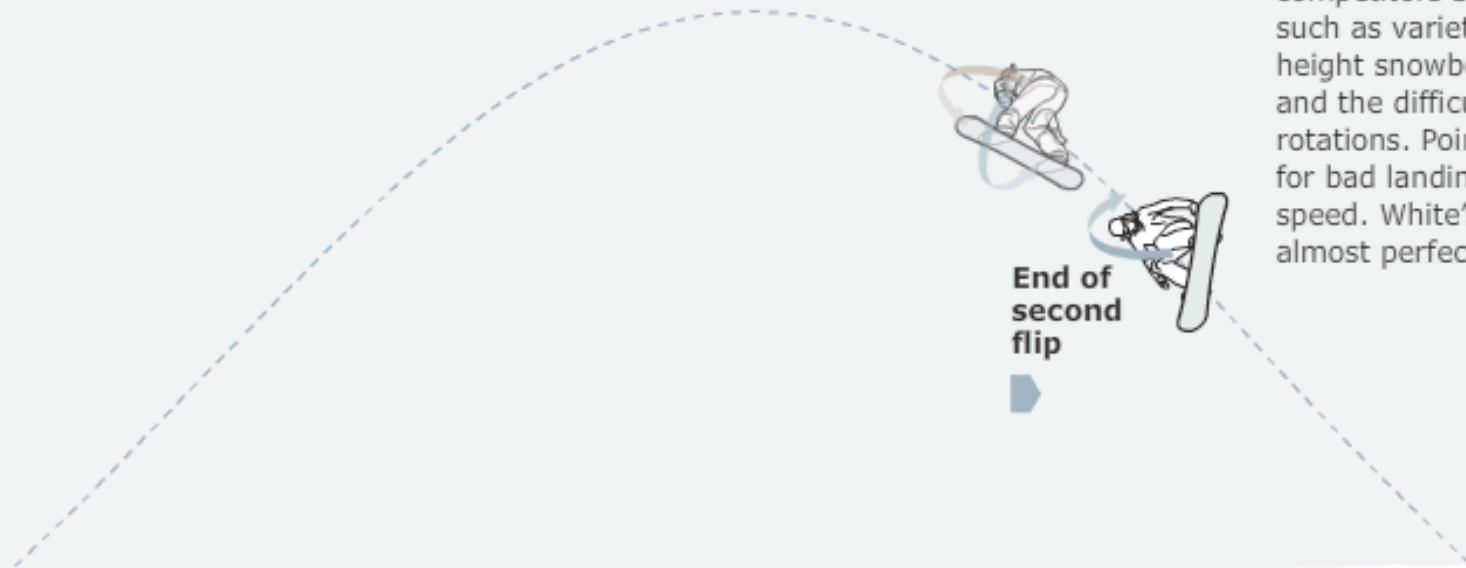
[Click for Review](#)

CONTINUED...

Consistent
visual
frameworks.
Keep things
tidy.



The jump

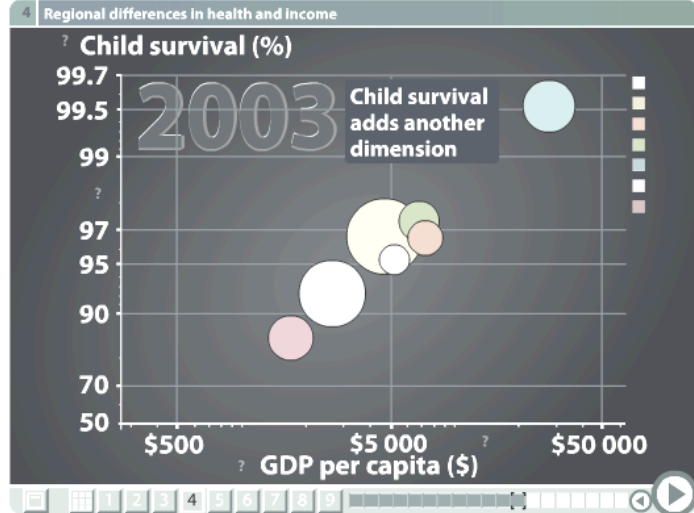
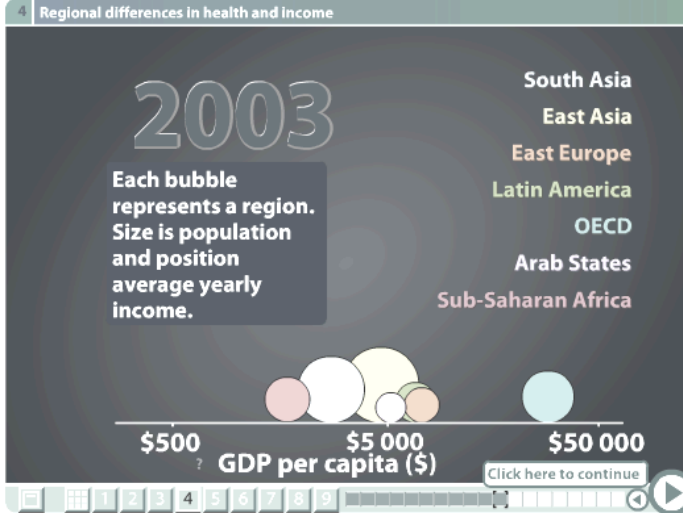
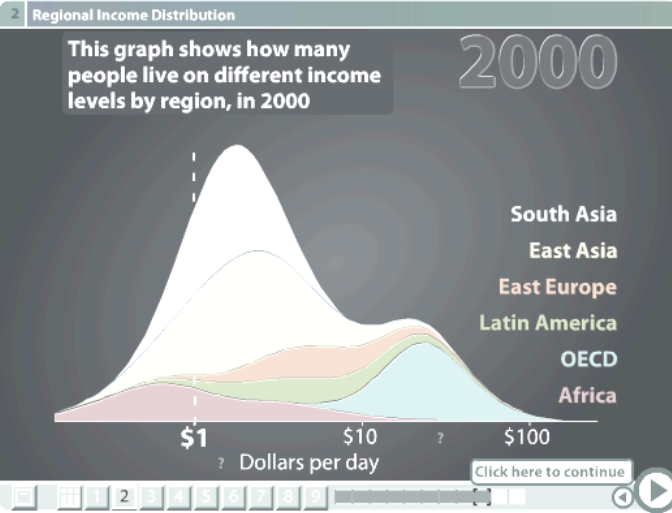
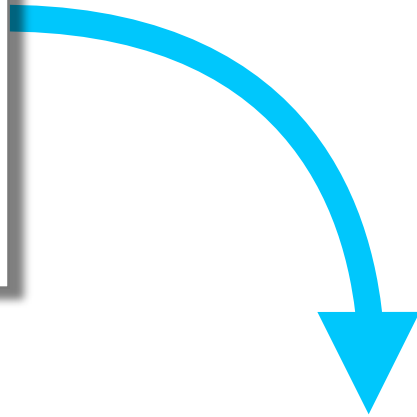


Five judges award points to competitors based on factors such as variety of tricks, the height snowboarders reach and the difficulty of tricks and rotations. Points are deducted for bad landings and a lack of speed. White's jump was almost perfect

End of
second
flip



Use staging and animation for complicated transitions. Stage big transitions to avoid confusing readers



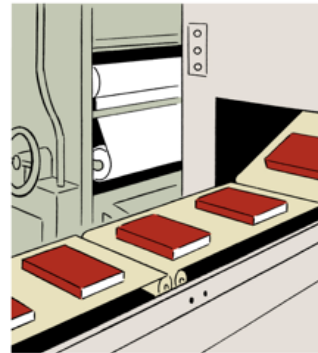
Transitions Guidance

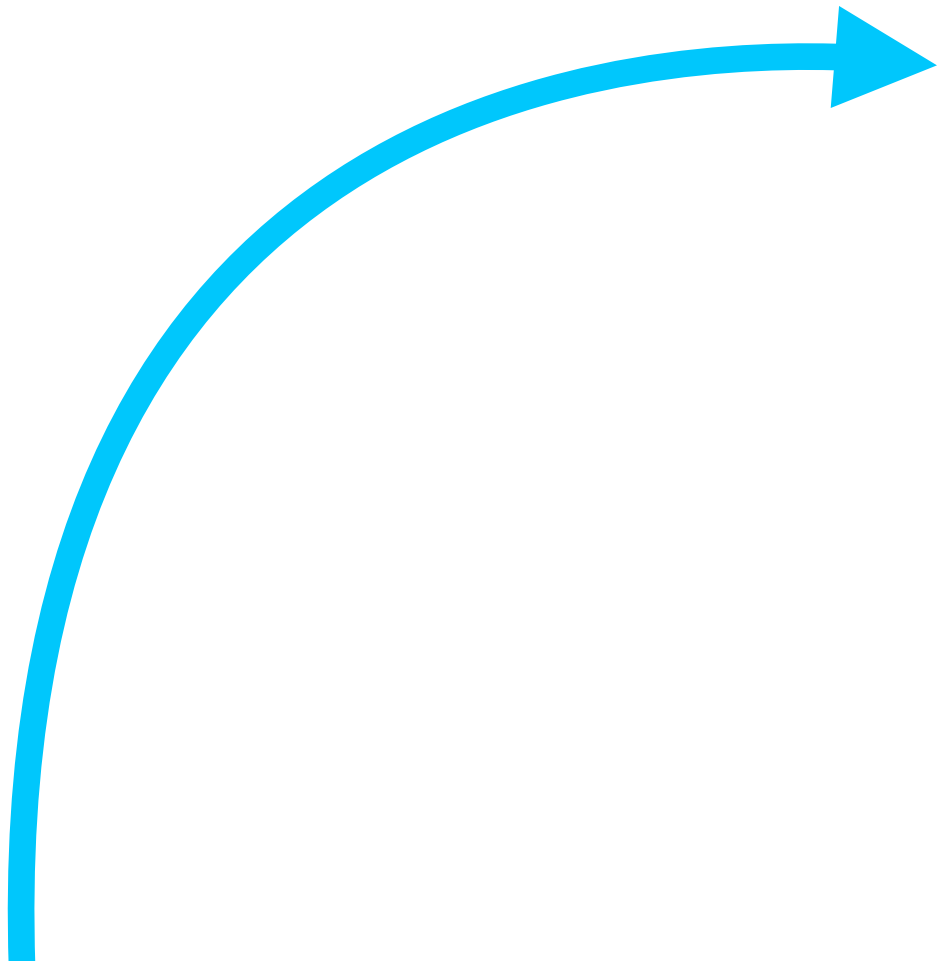
Viewing Angle
Viewer (Camera) Motion
Continuity Editing
Object Continuity
Familiar Objects

PRICE \$4.50

THE NEW YORKER

FEB. 25, 2008





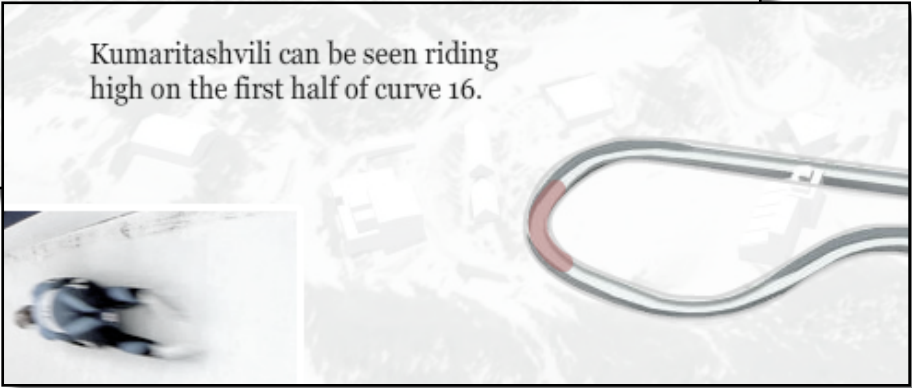
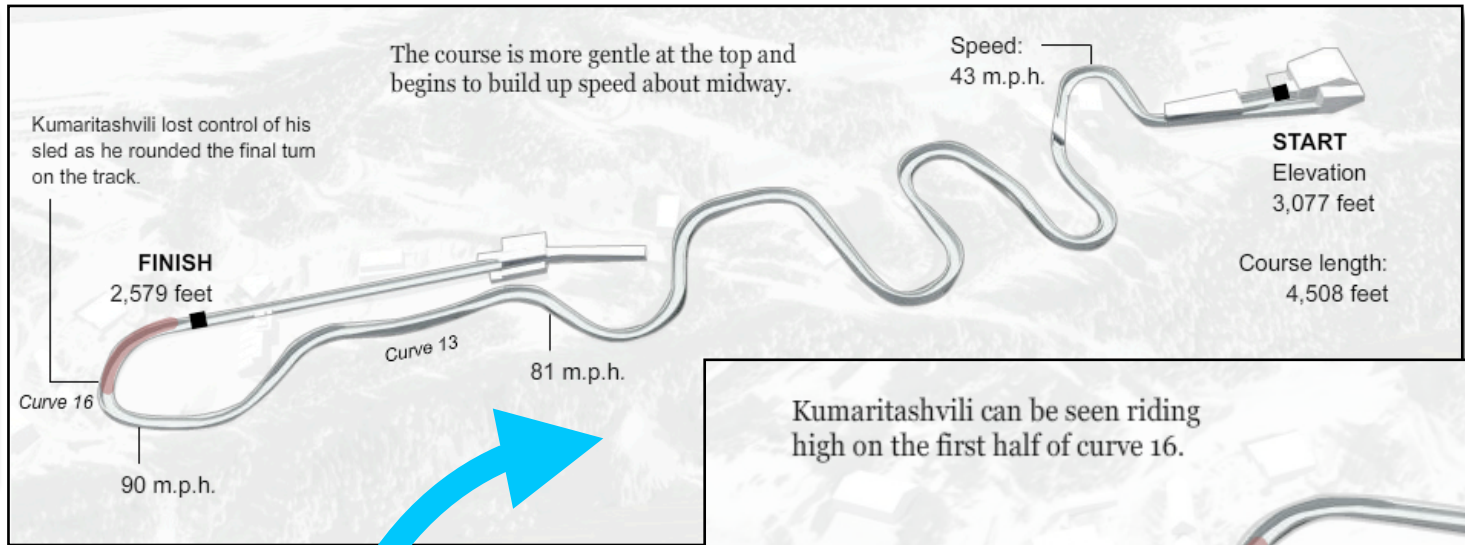
Use establishing shots. Situate the viewer before diving in.



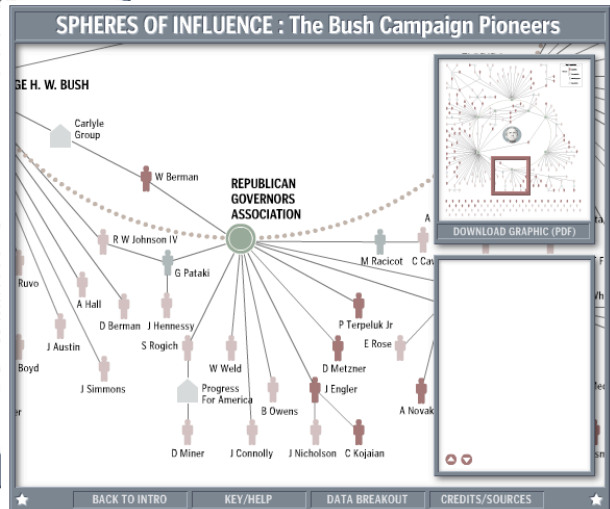
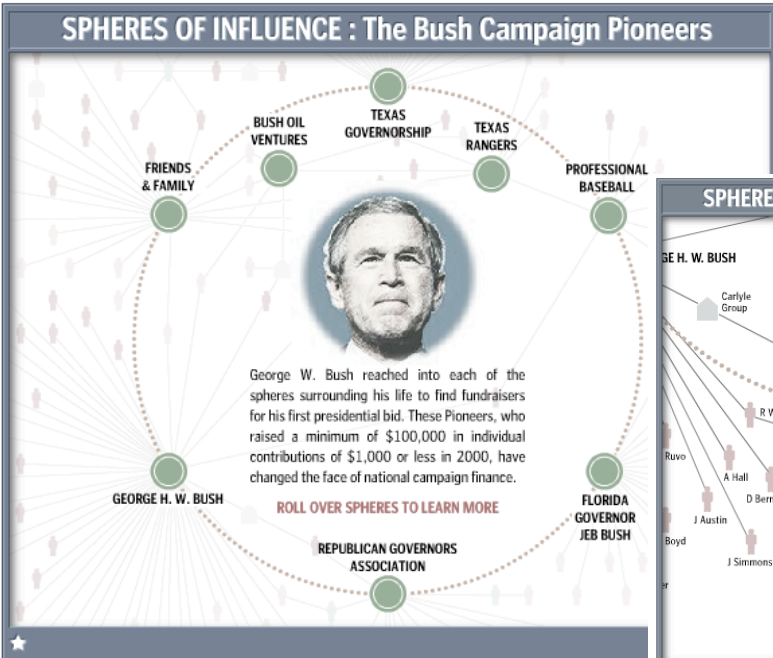
CONTINUED...

Use establishing shots.

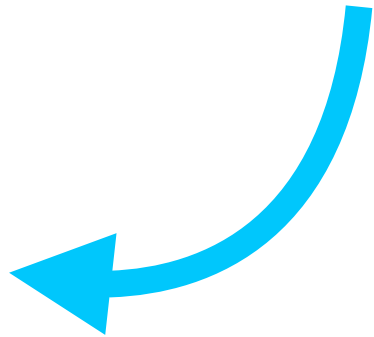
Situate the viewer before diving in.



good



bad



PRICE \$4.99

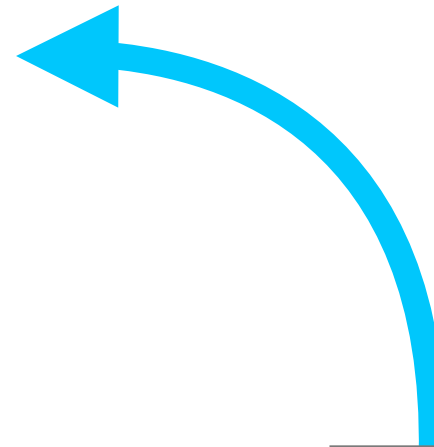
MAR. 20, 2006

THE NEW YORKER



Highlighting Techniques

- Character Direction
- Feature Distinction
- Close-Ups
- Zooming
- Framing
- Motion
- Audio



Make it clear what to look at and when.
Guide readers through the story or they'll get lost.

PRICE \$3.50

JULY 30, 2001

THE NEW YORKER

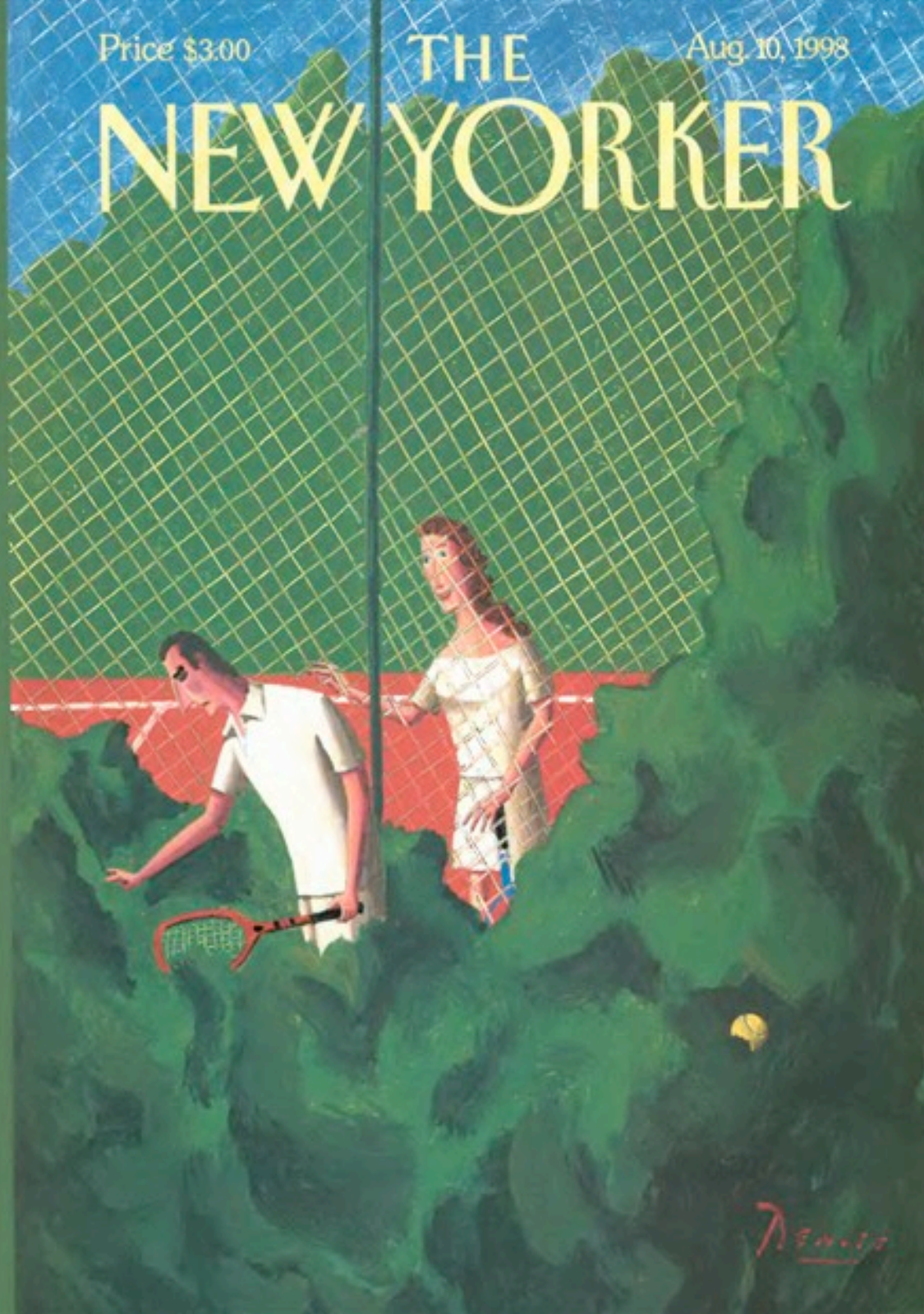


atkinson

Price \$3.00

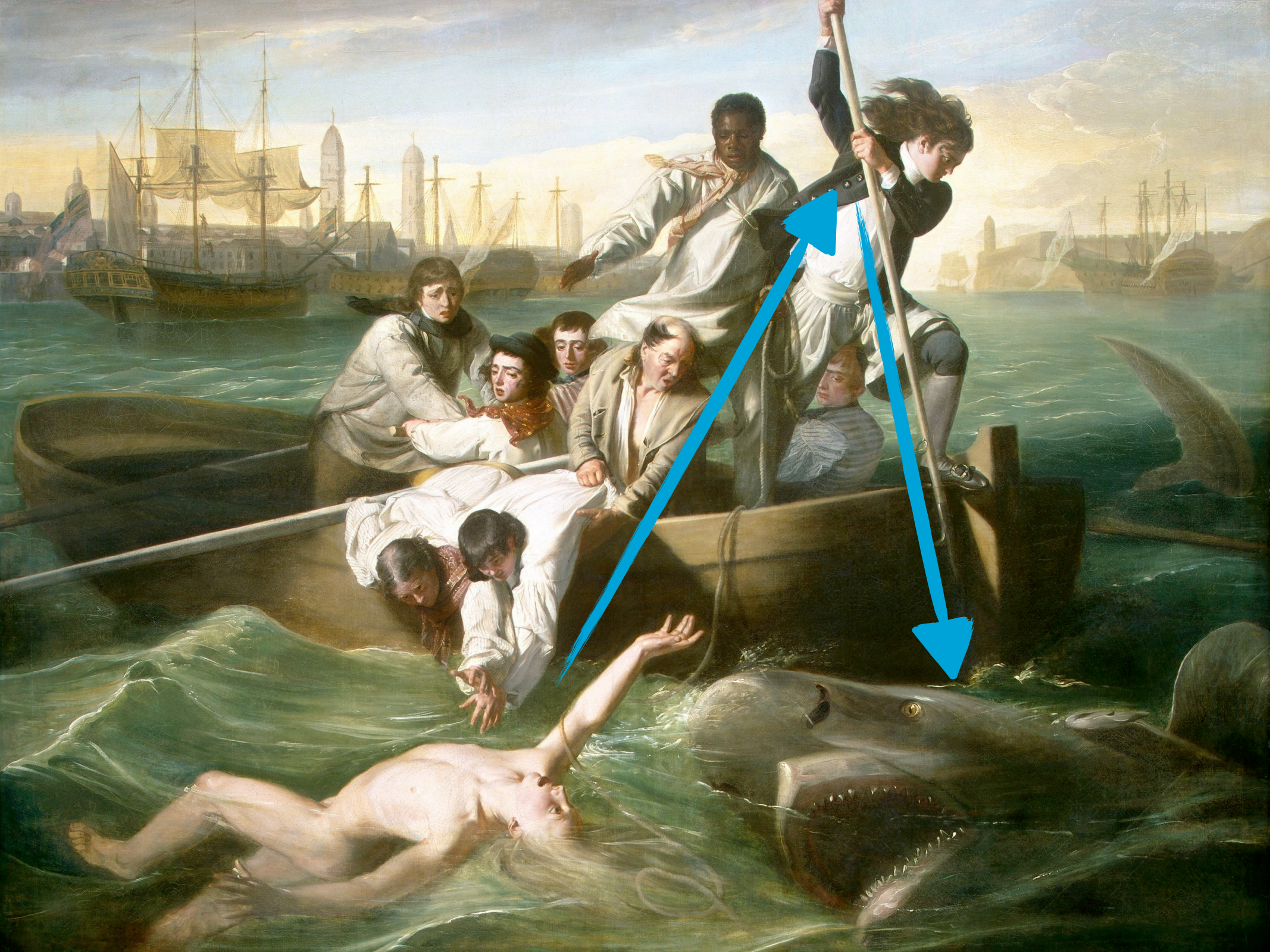
Aug. 10, 1998

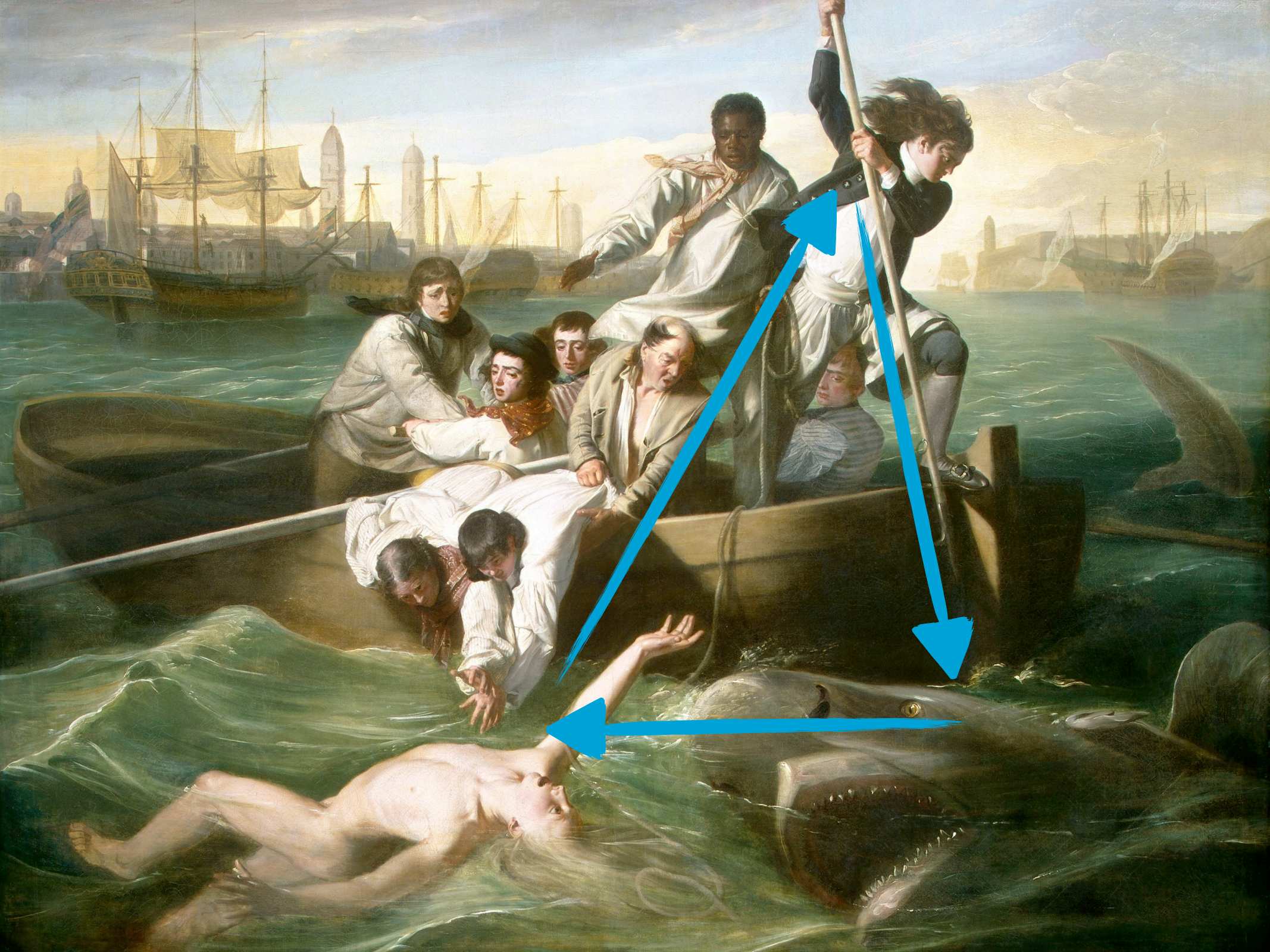
THE NEW YORKER











755

Steroids or Not, the Pursuit Is On

Barry Bonds is taking aim at the career home run record. He needs only six more to tie Babe Ruth and 47 to equal Hank Aaron.

Lines are cumulative home runs.

Hank Aaron
755 homers
23 seasons



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714 homers
22 seasons



Barry Bonds
708 homers
20 seasons

Bonds takes lead
Home runs after 16 seasons:
Bonds 567
Aaron 554
Ruth 516

14th season

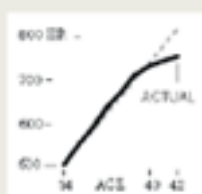
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Homer Pace After Age 34

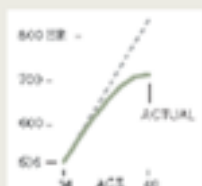
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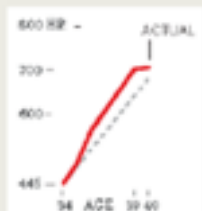
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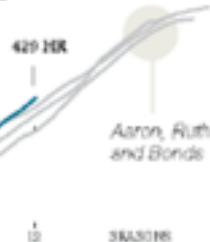
Note: Ages as of July 1 of each season.



Others Taking Aim

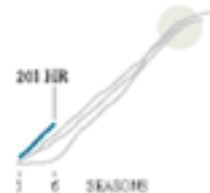
Alex Rodriguez

Is ahead of the pace set by all three home run leaders.



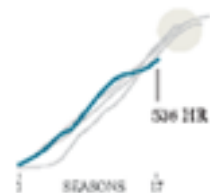
Albert Pujols

Averaging 40 homers a season, he has started stronger than the three leaders did.



Ken Griffey Jr.

Many thought he would be the first to catch Ruth and Aaron until injuries limited his output.



Differing Paths to the Top of the Charts

The top seven players on the career home run list, along with a look at Griffey (12th), Rodriguez (37th) and Pujols (9th/257th).



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BEGINNING

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Ruth: 516

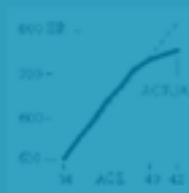
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20 seasons
Bonds was injured last season. He played 14 games and hit 5 homers.

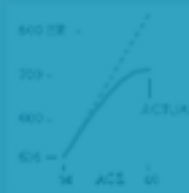
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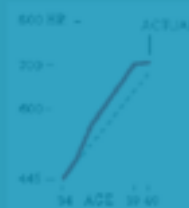
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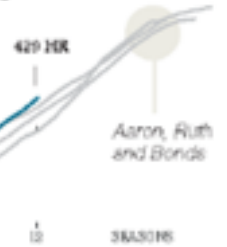


Note: Ages as of July 1 of each season.

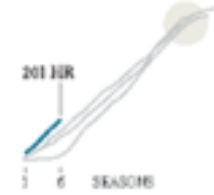


Others Taking Aim

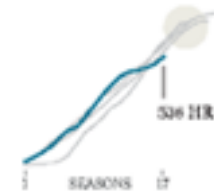
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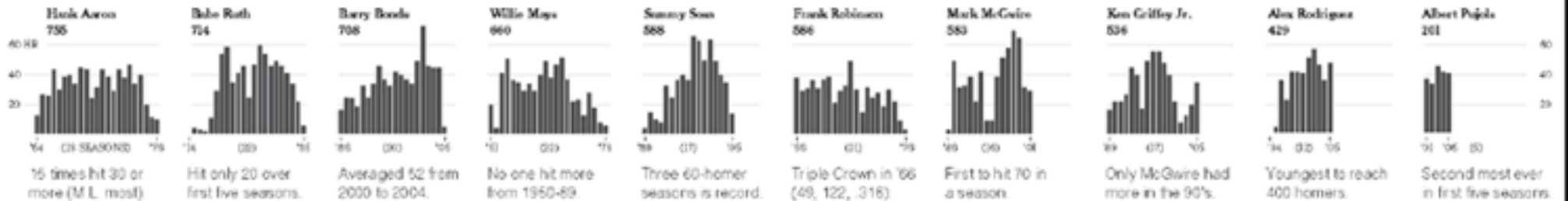


Ken Griffey Jr. Many thought he would be the first to catch Ruth and Aaron until injuries limited his output.



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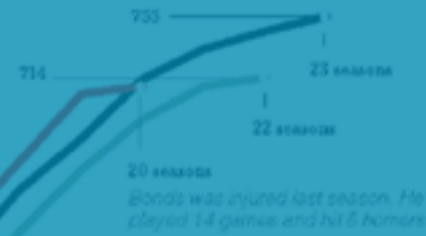


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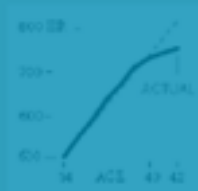
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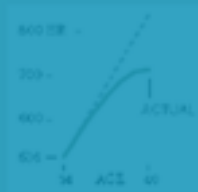
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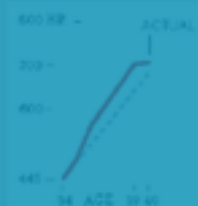
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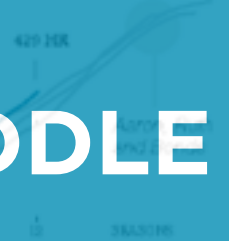
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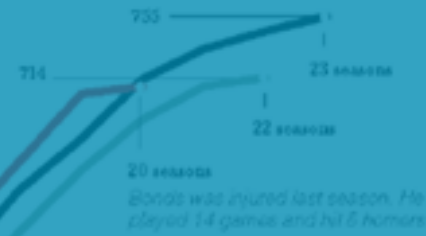


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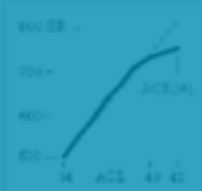


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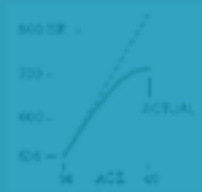
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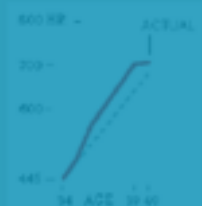
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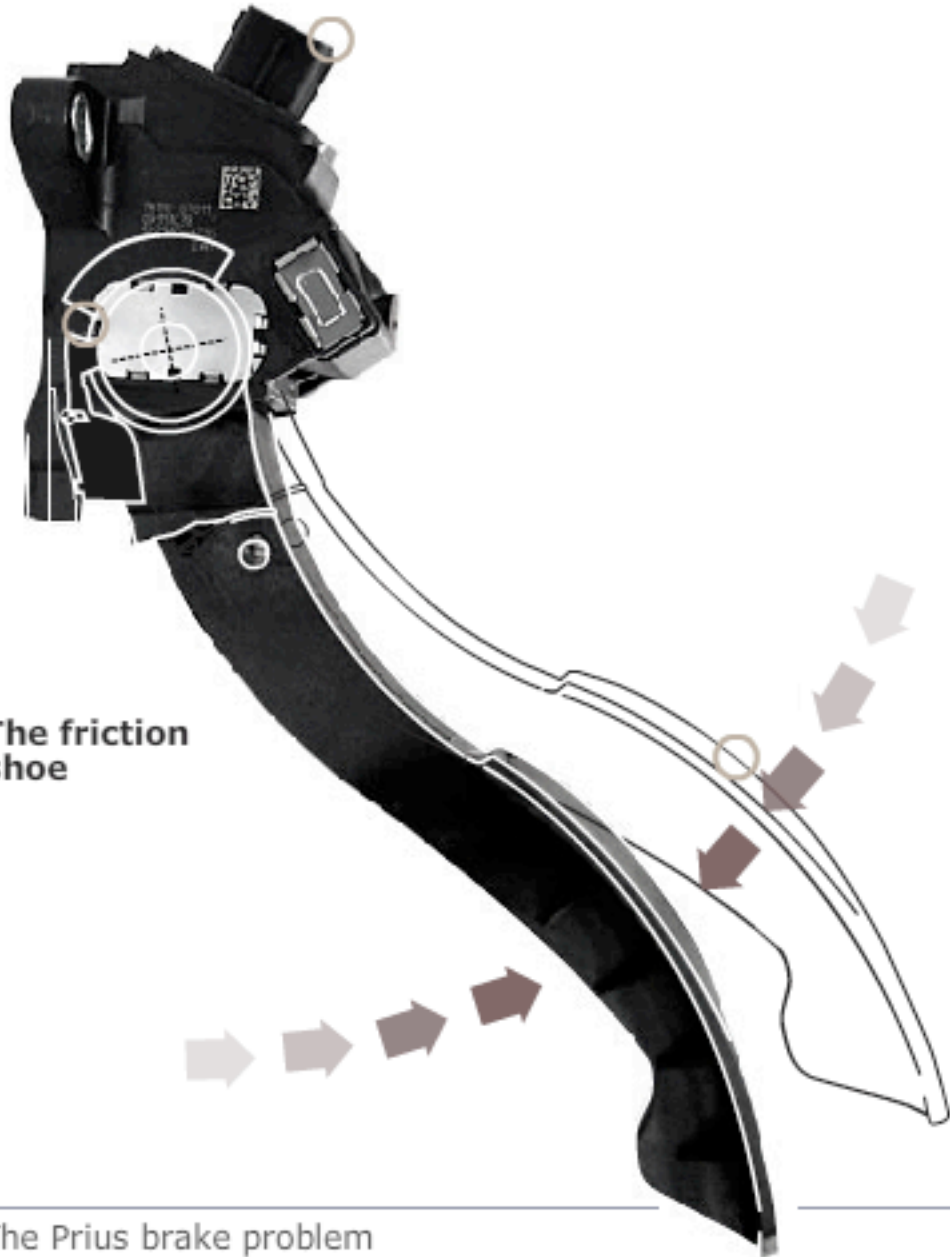
The top seven players on the career home run list, along with a look at Griffey (128), Rodriguez (378) and Pujols (261).



END

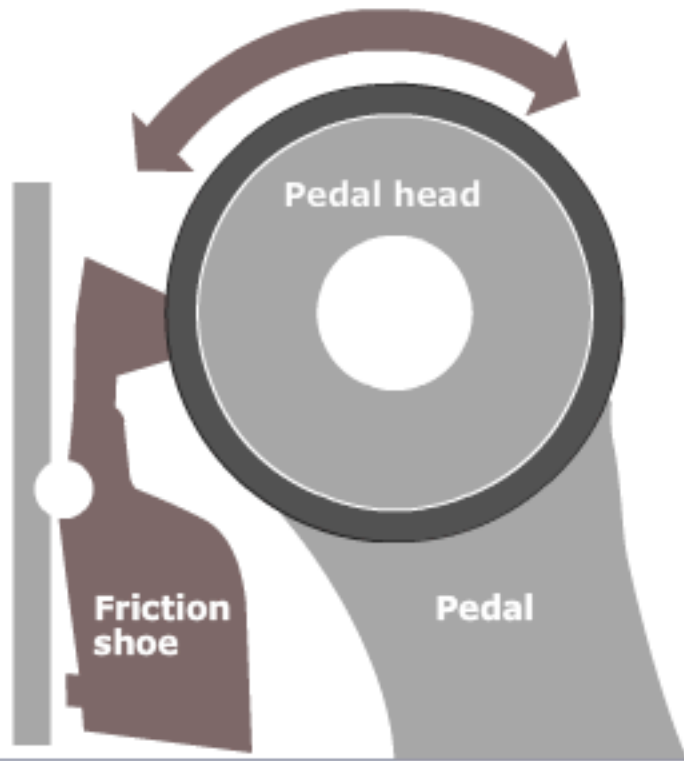
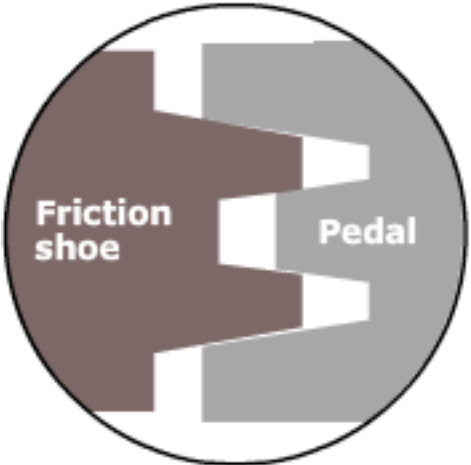
Toyota accelerator

Roll over the circles



The problem

Grooves on the pedal head mesh with grooves on the shoe creating friction. Occasionally this has been so great that the pedal has jammed against the shoe



VISUAL DESIGN
show

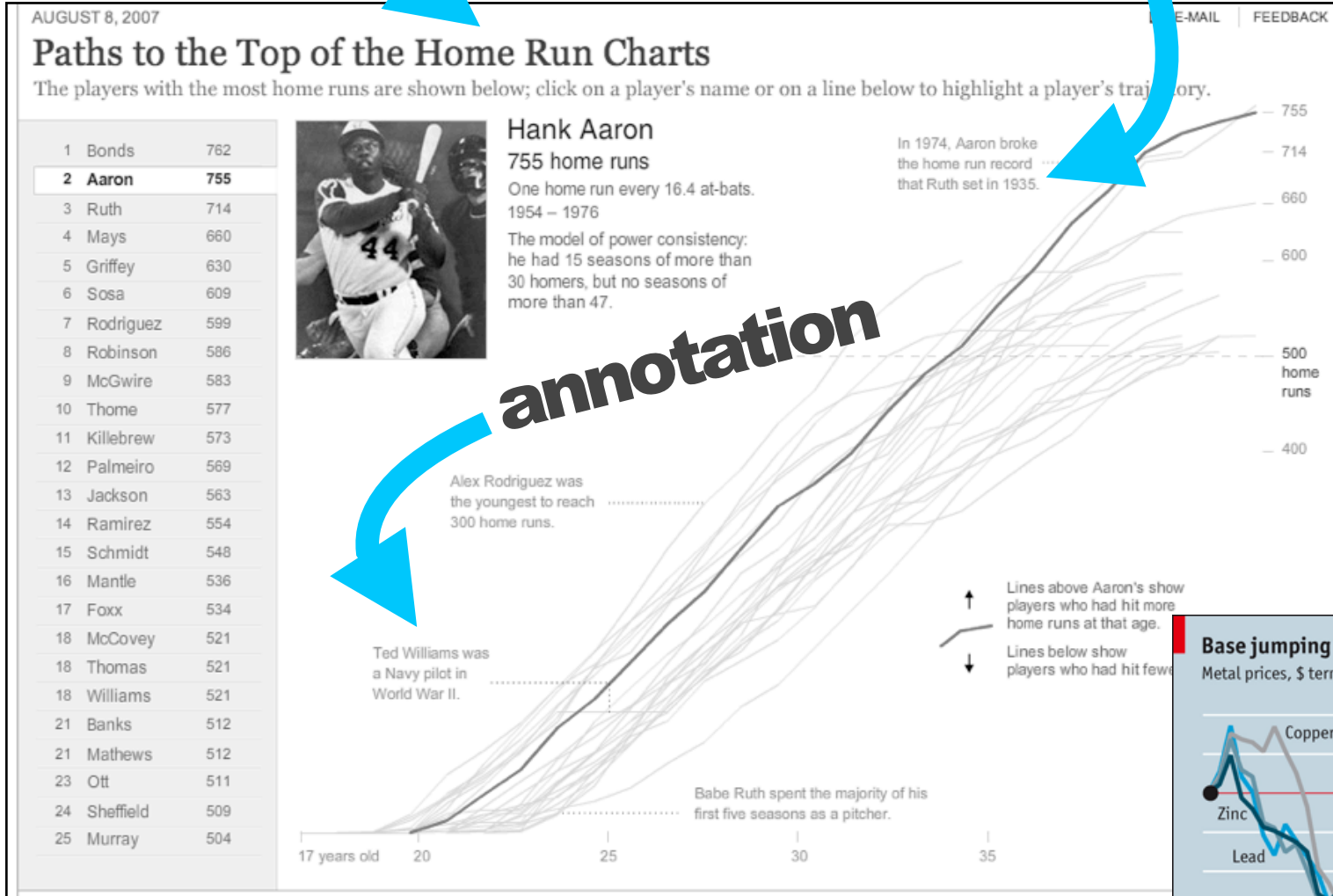
MESSAGING
tell

INTERACTIVITY
engage

headline

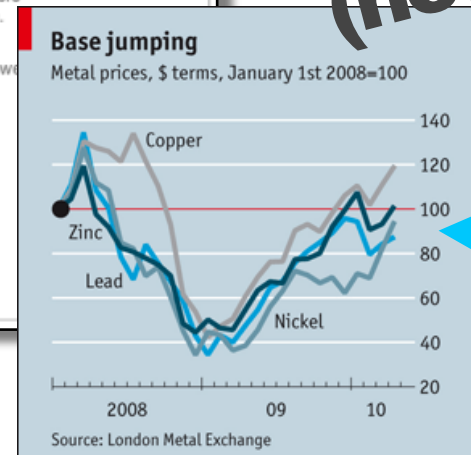
caption

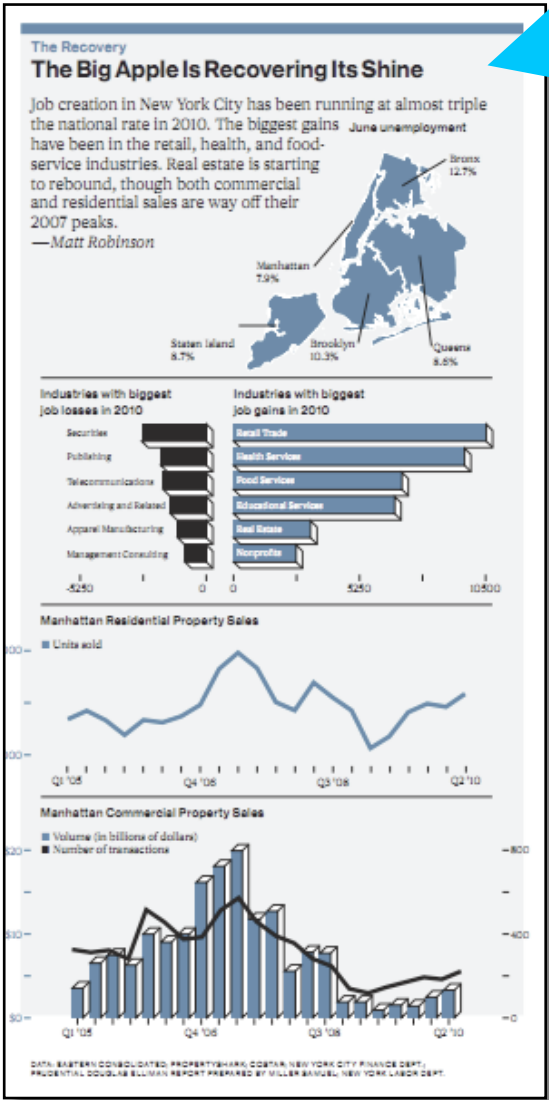
Use headlines, captions, & annotations. Quickly draw attention to what's important.



annotation

(nothing)





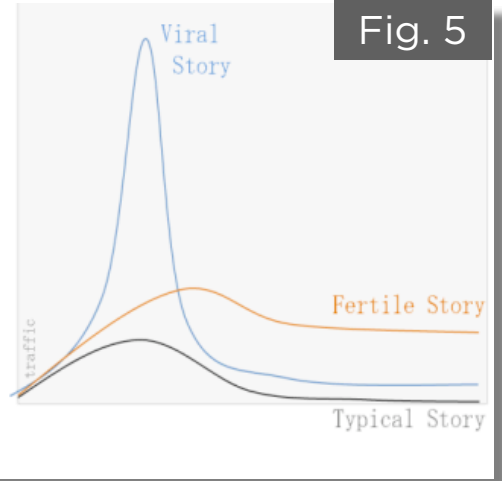
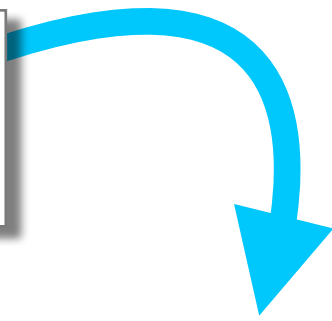
isolated

Weave text into the graphic—not just at the beginning.
 Text and graphics work better together than apart.

Connect the text to the relevant graphics.
 See Fig. 5

June 20, 2011

quite significantly more work than traditional news. To make this work economical, visualizations need to be tied to stories that are either *persistent* or *viral* in order to generate traffic. **Persistent stories** cover “atematic themes” that maintain relevance over time (e.g., crisis, food economics, the housing market). Visualizations tied to persistent themes “fatten and elongate” stories. During this slow-burn, these visualizations are sustained by hundreds of stories over several months and they evolve. **Viral stories** achieve heavy traffic in punctuated spikes of popularity. These stories tend to be about celebrity, personalities, or sensational news. To get the buck, produce visualizations for editorial content that is *persistent* or *viral*.



The Supreme Court gets the Wal-Mart ruling right.

Everything about Wal-Mart Stores Inc. (WMT) is big. Total sales, at \$422 billion last year, exceeded the gross domestic product of all but 18 countries. Its 4,300 U.S. stores employ more than 1.4 million people, more than any other U.S. company.

So the verdict handed down yesterday by the U.S. Supreme Court in *Wal-Mart v. Dukes* was suitably outsized; it decided the largest workplace discrimination case in history. The decision, which was unanimous in one part, and split along the familiar 5-4 ideological lines in another, was the correct one.

The lawsuit was brought on behalf of every woman who worked for Wal-Mart since late December 1998, more than 1.5 million in all. The Supreme Court, which hadn't reviewed the standards for class-action suits in 12 years, told the women they didn't have enough in common to sue the company as a monolithic class.

The female plaintiffs claimed that they had been illegally denied pay and promotions despite a company policy against sex discrimination. The suit relied largely on statistics, which seemed damning enough.

Women filled 70 percent of Wal-Mart's hourly jobs, yet made up only 33 percent of management employees. Women were paid less than men in every region, even when they had higher performance ratings and seniority.

The plaintiffs bolstered their case with affidavits detailing the experiences of 120 individuals. One female worker said

she was told to "doll up" if she wanted a promotion.

Wal-Mart devastatingly turned the numbers against the plaintiffs. One brief filed on behalf of the women cited Census Bureau figures showing that U.S. median earnings of women in 2009 were 77 percent of men's earnings. The company pointed out that women at Wal-Mart earned between 85 percent and 95 percent of what male colleagues earned. They actually did better at Wal-Mart than in the country at large.

As for the affidavits, the company said they represented just one-thousandth of one percent of women employed at the retailer since December 1998.

As Justice Antonin Scalia wrote for the majority, "Without some glue holding together the alleged reasons" for Wal-Mart's pay and promotion decisions, it was impossible to say that all of the class members suffered the same injury at different stores run by different managers across the nation. Wal-Mart allows local managers wide latitude in wages and promotions.

The plaintiffs can still bring lawsuits individually, and many certainly will. Some may even band together in smaller classes -- if they worked at the same store, for example, and believe they experienced systemic discrimination from the same managers.

In the end, what the women were really trying to prove is that Wal-Mart has a corporate culture that favors men. Some of the briefs filed with the court claimed that promotions were characterized as a "tap on the shoulder," with local managers having great discretion in deciding whose shoulder to tap. Vacancies were not regularly

posted. Employees were discouraged from discussing their compensation, presumably to prevent comparisons.

As Justice Ruth Bader Ginsburg wrote in a partial dissent, such behavior could be a cover for bias against women. It will be up to other courts to make sure Wal-Mart doesn't use its decentralized management to escape legal responsibility. But those cases should be dealt with on their individual merits -- and unique facts.

This opinion is likely to make litigation harder for other employment class actions that bind together disparate litigants in a single class. But a class of 1.5 million employees faces an appropriately high hurdle. This class didn't clear it.

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The female plaintiffs claimed that they had been illegally denied pay and promotions despite a company policy against sex discrimination. The suit relied largely on statistics, which seemed damning enough. And this is the end of my first graphic for Bloomberg.

1.5 million women sued Wal-Mart for discriminatory pay & promotion practices, using mostly statistics to make their case.

Women filled 70% of hourly jobs...



...but only 33% of management.



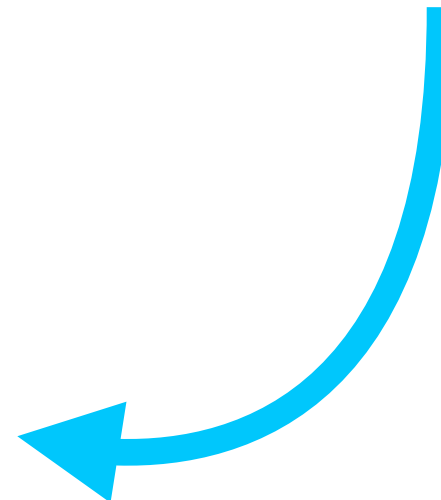
Women were paid less than men in every region, even when they had higher ratings and seniority.

But Wal-Mart's numbers showed their women fared better than elsewhere in the country.



OurView The Supreme Court was right.

integrated



CONTINUED...

Weave text into the graphic—not just at the beginning.
Text and graphics work better together than apart.

Word-Specific

Pictures illustrate the words

Picture-Specific

Words accentuate aspects of the scene

Duo-Specific

Words and pictures send the same message

Intersecting

Words and pictures contribute information independently

Interdependent

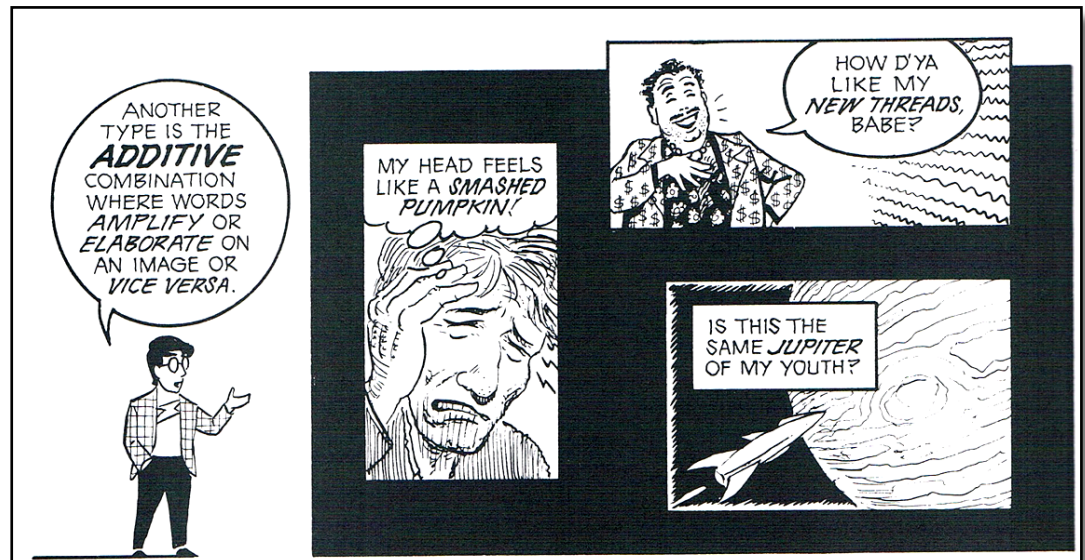
Word and pictures combine to convey an idea neither conveys alone

Parallel

Words and pictures seem to be independent.

Montage

Words and pictures combine pictorially.



A Peek Into Netflix Queues

Examine Netflix rental patterns, neighborhood by neighborhood, in a dozen cities. Some titles with distinct patterns are *Mad Men*, *Obsessed* and *Last Chance Harvey*. [Comments \(135\)](#)

100 titles that were frequently rented from Netflix in 2009

Change how movies are sorted: **Most rented** | Alphabetical | By metascore

Mad Men: Season 1: Disc 1

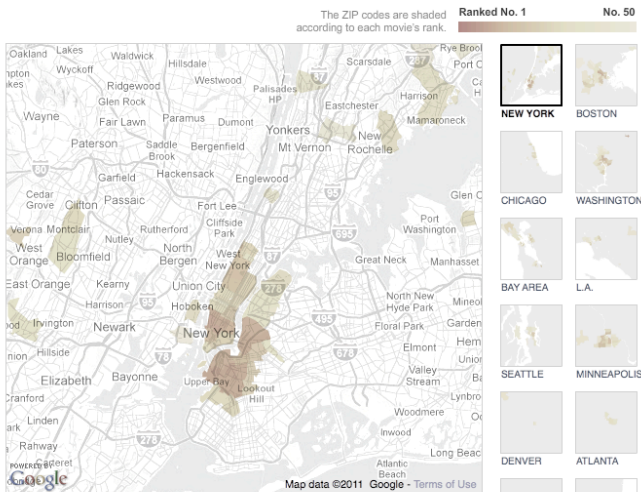


77

Metacritic score
100-loved by critics, 0-hated

There were seven deadly sins practiced at the dawn of the 1960s: smoking, drinking, adultery, sexism, homophobia, anti-Semitism and racism. The magic of "Mad Men" is that it softly spoofs those cruel, antiquated mores without draining away the romance of that era: the amber-lit bars and indigo nightclubs, soaring skyscrapers, and the brash confidence that comes with winning a war and owning the world.

[Read Rest of NYT Review >](#)



Sources: Netflix provided data on the top 50 rentals in 2009 in each ZIP code. Titles are listed in the approximate order of popularity across selected metropolitan areas. Metascores are from metacritic.com.

Start with an editorially interesting view.

Default views can be boring. Curate the experience from the beginning.

Make data relatable. Put numbers and facts in context. 250 thousand square miles means nothing. It's the size of Texas!

Wetlands Destruction



Coastal marshes absorb fertilizer runoff from farms and buffer civilization from Gulf storms. Losses in coastal watersheds, 1998 to 2004

Great Lakes	20,000	acres
Atlantic	110,000	acres

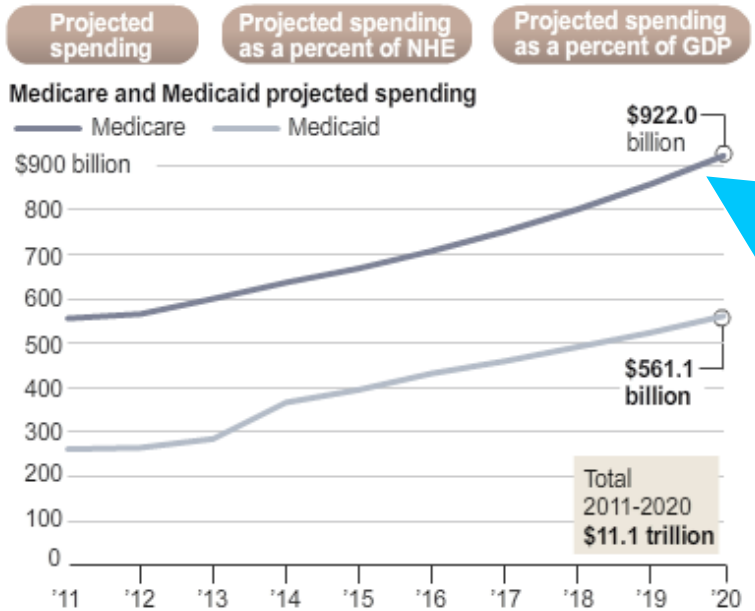
Mind your precision.

Significant digits, tickmarks, and labels suggest what deserves attention.

BGOV INTERACTIVE

Medicare and Medicaid Spending Show No Signs of Slowing Down

Centers for Medicare and Medicaid Services projects increases in spending compared to gross domestic product and national health expenditures.



Sources: Centers for Medicare and Medicaid Services, Bloomberg Government
Graphic: Adrienne Lewis
BGOVgraphics@bloomberg.com

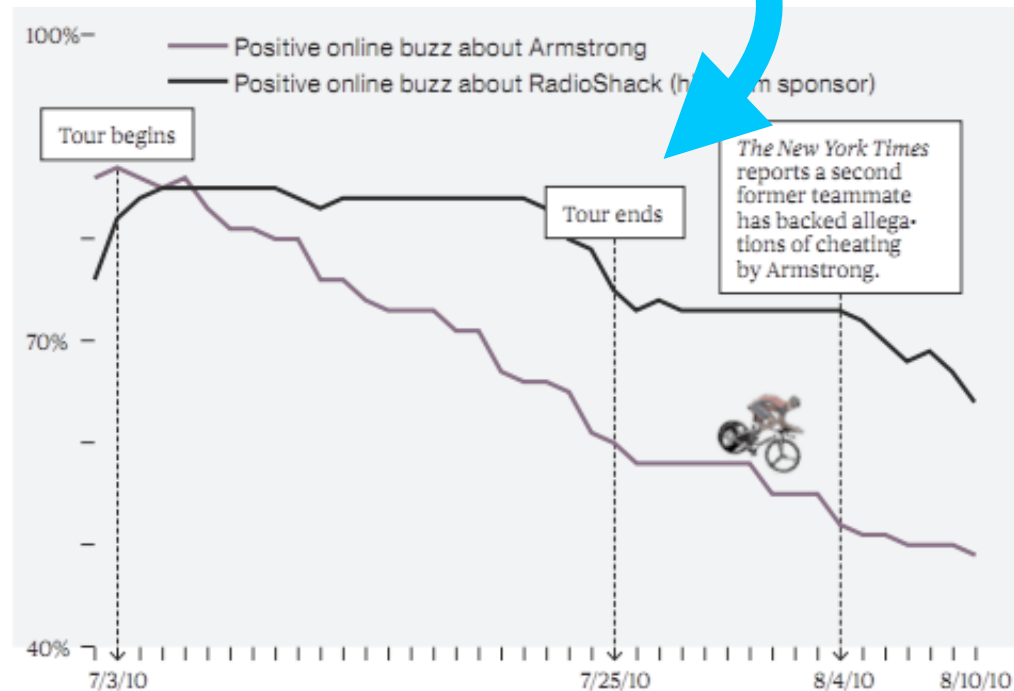
Bloomberg GOVERNMENT

too precise

thoughtful

fine

Representative	District	Fiscal 2010 contract spending
Mike Coffman	Colo. 6	\$3.26 billion
Doug Lamborn	Colo. 5	2.98 billion
Rob Bishop	Utah 1	2.76 billion
Kenny Marchant	Texas 24	2.58 billion
Jeff Duncan	S.C. 3	2.40 billion
Sandy Adams	Fla. 24	2.36 billion
Lamar Smith	Texas 21	1.65 billion
Steve Scalise	La. 1	1.49 billion
Jeff Landry	La. 3	1.47 billion
Roscoe Bartlett	Md. 6	1.44 billion
John Carter	Texas 31	1.42 billion



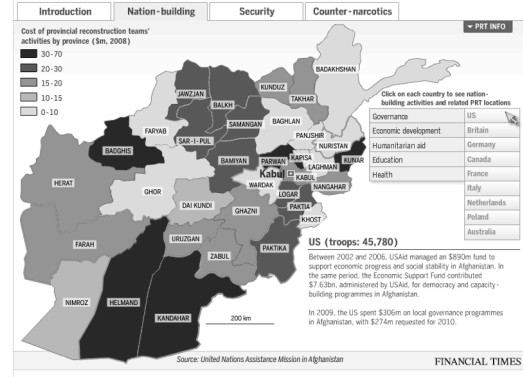
VISUAL DESIGN
show

MESSAGING
tell

INTERACTIVITY
engage

Interactive features should scream interactivity. Avoid a click-and-seek experience.

Be explicit.



live outside their country

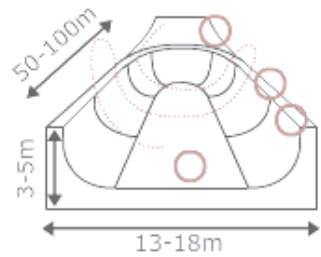
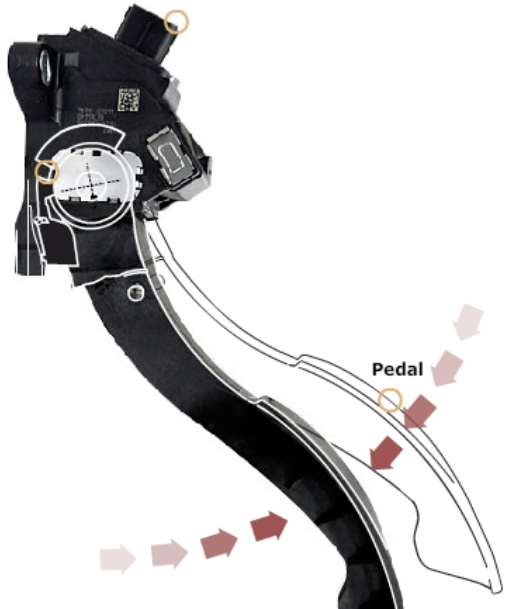
Click on a country box to to/from that country.

click a box

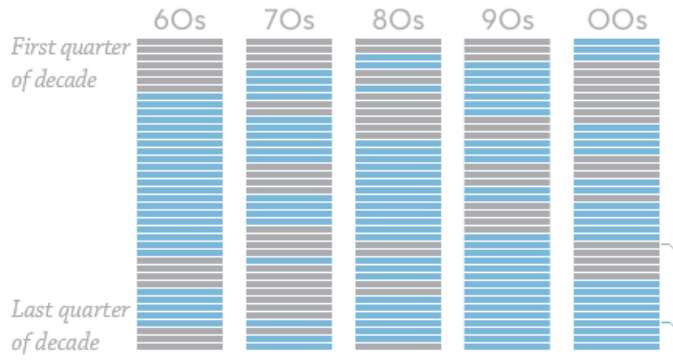
Top migrant de

USA

suggested actions



visual cues



We first looked at whether policy was counter-cyclical in any given quarter.

CONTINUE

Counter-cyclical policy not used

Counter-cyclical policy used

Source: Bloomberg



August bills due: \$306.7 billion

Click on options below to see the effect on U.S. spending

<input type="checkbox"/> Interest on Treasury securities	\$29.0 billion	+
<input type="checkbox"/> Social Security benefits	49.2	+
<input type="checkbox"/> Medicare	28.6	+
<input type="checkbox"/> Medicaid	21.4	+
<input type="checkbox"/> Defense vendor payments	31.7	+
<input type="checkbox"/> Unemployment Insurance benefits	12.8	+

The U.S. will take in \$172.4 billion from Aug. 3 to 31

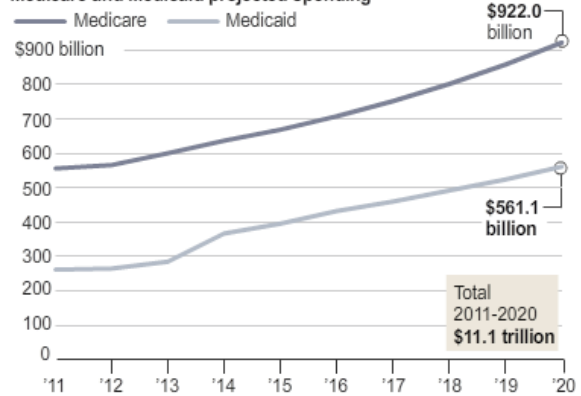
familiar widgets

Medicare and Medicaid Spending Show No Signs of Slowing Down

Centers for Medicare and Medicaid Services projects increases in spending compared to gross domestic product and national health expenditures.

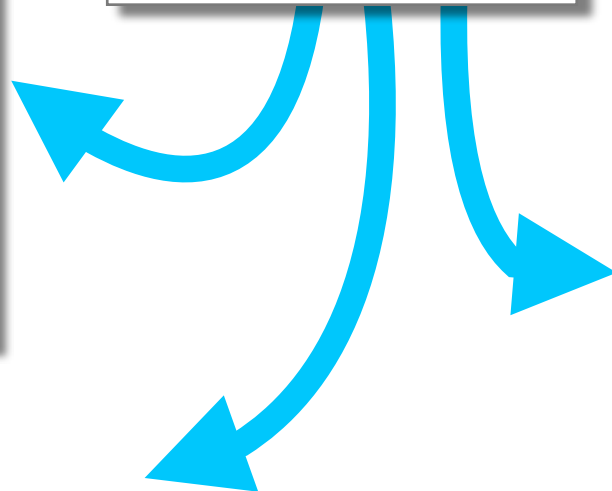
Projected spending Projected spending as a percent of NHE Projected spending as a percent of GDP

Medicare and Medicaid projected spending



Sources: Centers for Medicare and Medicaid Services, Bloomberg Government
Graphic: Adrienne Lewis
BGOVgraphics@bloomberg.com

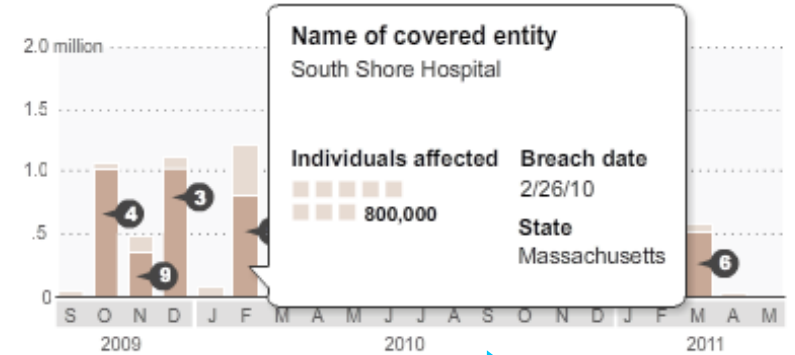
Interactive features should react to the user. Depress buttons, highlight items, animate widgets.



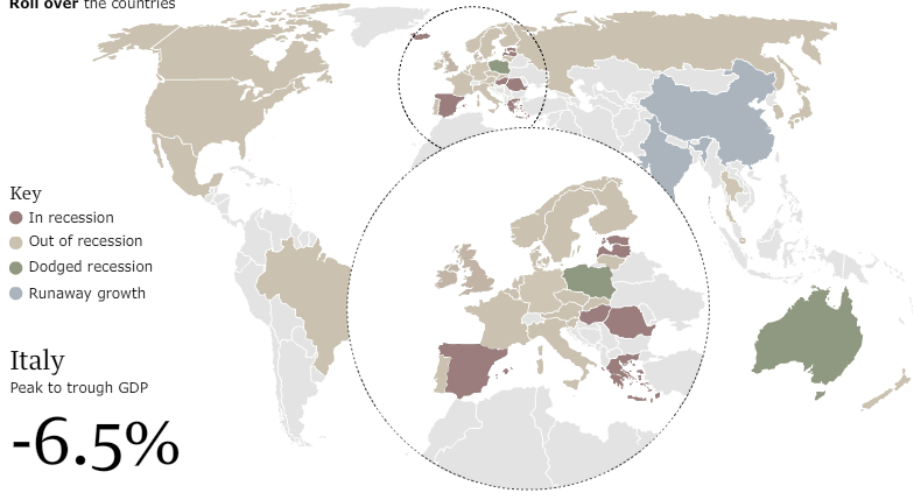
Health Care's Growing Concern Over Cyber Security

As health-care providers increasingly adopt electronic records, they are looking for insurance coverage against possible data breaches.

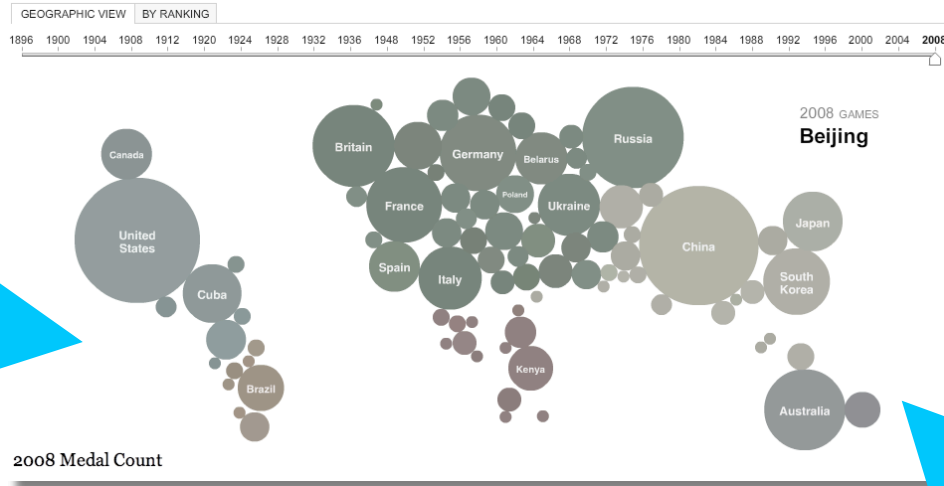
Ten of the largest recent breaches □ = 100,000 individuals
Type of breach: ■ Unknown ■ Theft ■ Loss ■ Hacking/IT incident ■ Other



Roll over the countries

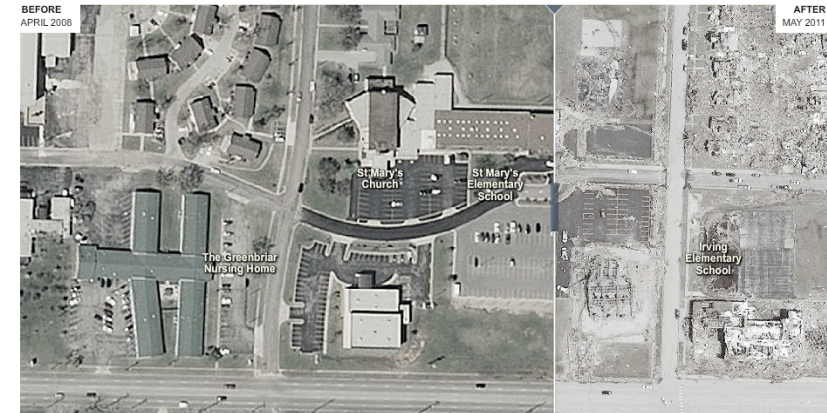


Don't obscure data. Avoid letting pop-ups obscure data.



Make the visualization "look alive". Things move even without the user!

Demonstrate interactivity. Animate interactive widgets for tacit tutorials.



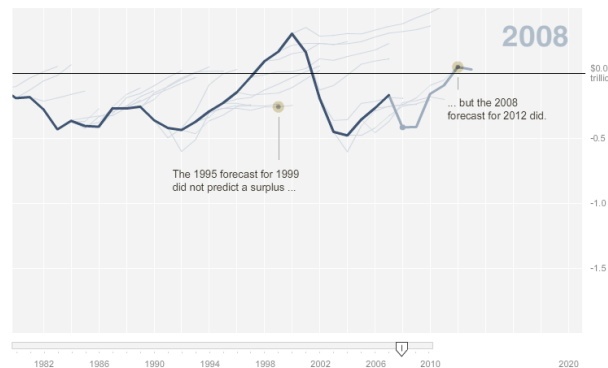
Budget Forecasts, Compared With Reality

Just two years ago, surpluses were predicted by 2012. How accurate have past White House budget forecasts been?

1 2 3 4 5 8 NEXT ▶

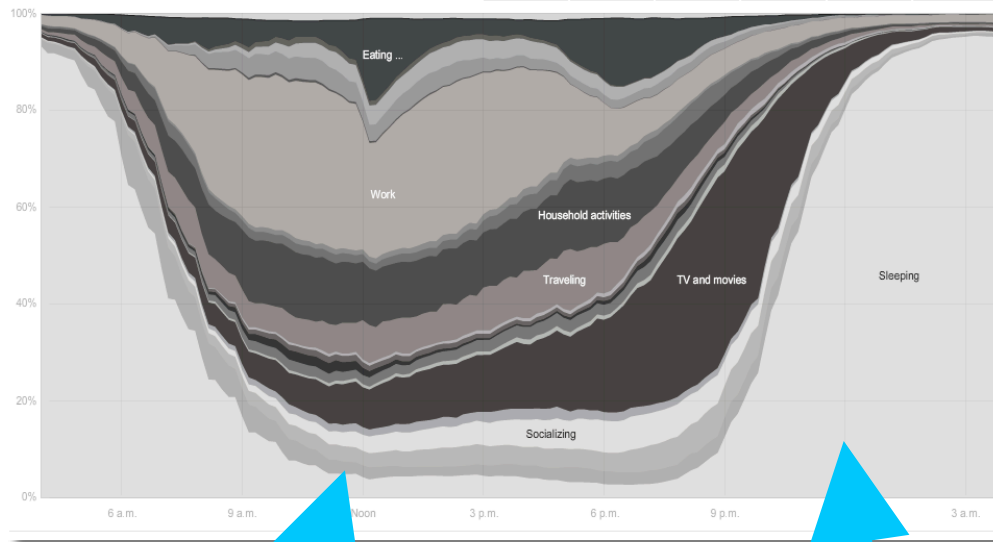
Past forecasts

In contrast, just two years ago, the Bush administration projected a surplus by 2012.



Everyone
 Sleeping, eating, working and watching television take up about two-thirds of the average day.

Everyone	Employed	White	Age 15-24	H.S. grads	No children
Men	Unemployed	Black	Age 25-64	Bachelor's	One child
Women	Not in lab...	Hispanic	Age 65+	Advanced	Two+ children



Include a progress bar and "back" and "reset" buttons
 Linear navigation is important—especially with lots of interactivity.

POTUS Tracker
 Analyzing Obama's schedule

ANALYSIS CALENDAR View Event List By: ISSUE TYPE ATTENDEES LOCATION

Every day President Obama meets with key members of his administration, Congress, foreign dignitaries, interest groups and regular citizens. Use our interactive database to track how Obama is spending his time, what issues are getting the most attention and who is influencing the debate. Subscribe to daily schedule via RSS.

2009 2010 2011

J.F. M.A. M.J.J.A.S.O.N.D.J.F.M.A.M.J.J.A.S.O.N.D.J.F.M.A.

Matching Events **2131**

FILTERS Use all filters

ISSUES DISCUSSED
 Select: All None

- ✓ Courts & Judiciary (15)
- ✓ Crime & Law Enforce. (18)
- ✓ Defense (214)
- ✓ Economy (609)
- ✓ Education (45)
- ✓ Energy & Environment (129)
- ✓ Foreign Policy (636)
- ✓ Government & Politics (577)
- ✓ Health Care (133)
- ✓ Homeland Security (71)
- ✓ Immigration (14)
- ✓ National Sec. & Intel. (84)
- ✓ Science & Technology (37)
- ✓ Social Issues (156)

BOXES SIZED TO NUMBER OF EVENTS

2009 Foreign Policy

2010

2009 Defer

Restrict interactivity to key dimensions.
 The more interactivity, the less story.



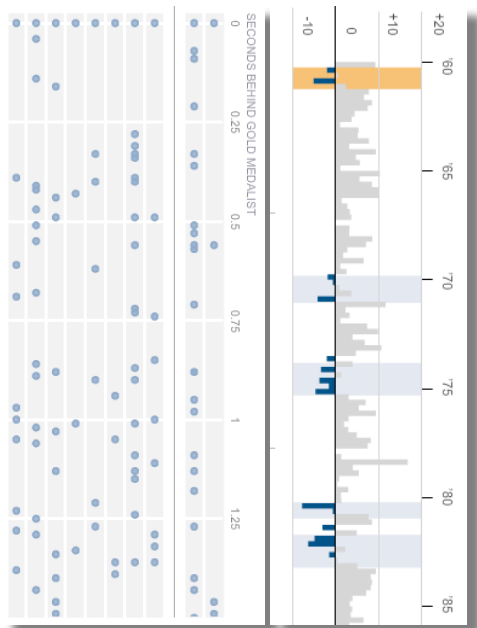


VISUAL DESIGN
show

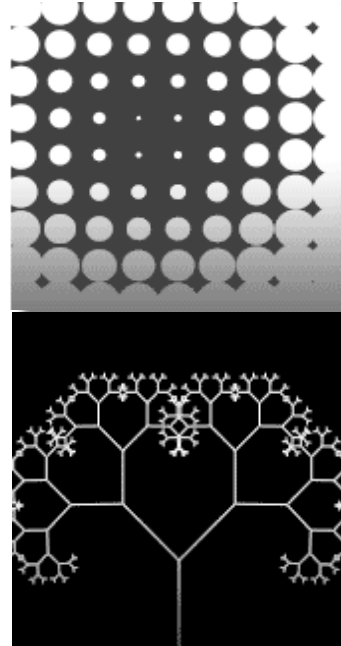
MESSAGING
tell

INTERACTIVITY
engage

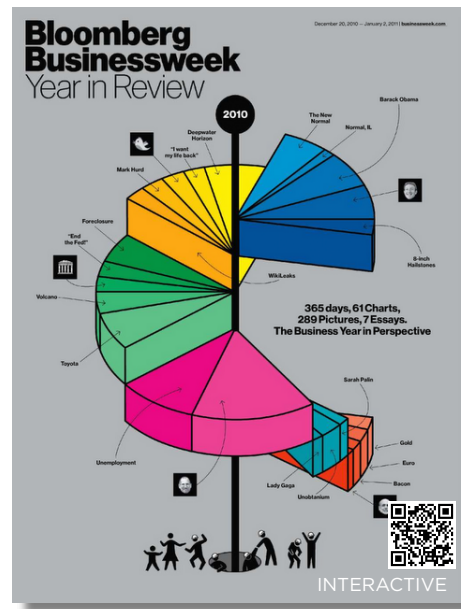
Sound & Video



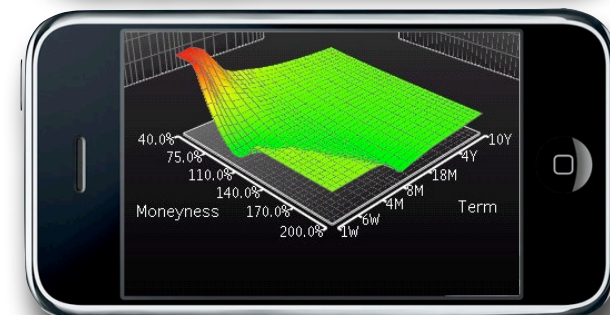
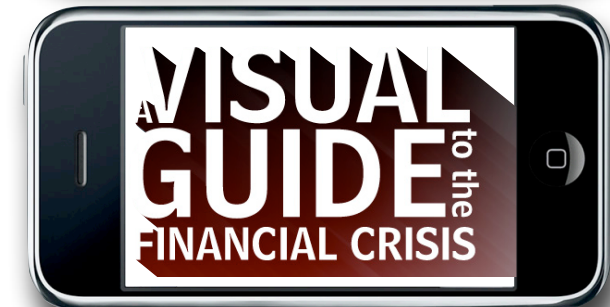
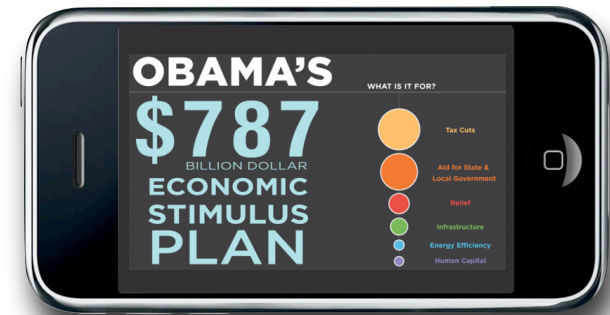
Fluid



Linking



Mobile



WHAT'S

NEXT

DATA JOURNALISM
IS NOT GRAPHICS AND
VISUALIZATIONS. IT'S ABOUT
TELLING THE STORY IN THE BEST WAY POSSIBLE.
SOMETIMES THAT WILL BE A VISUALIZATION...
BUT SOMETIMES IT'S A NEWS STORY. SOMETIMES,
JUST PUBLISHING THE NUMBER IS ENOUGH.

SIMON ROGERS, THE GUARDIAN // 2011

PEOPLE HAVE BEGUN TO FORGET HOW
POWERFUL HUMAN STORIES ARE,
EXCHANGING THEIR SENSE OF EMPATHY FOR
A FETISHISTIC FASCINATION WITH DATA...
THE HUMAN STUFF IS THE MAIN STUFF,
AND THE DATA SHOULD ENRICH IT.

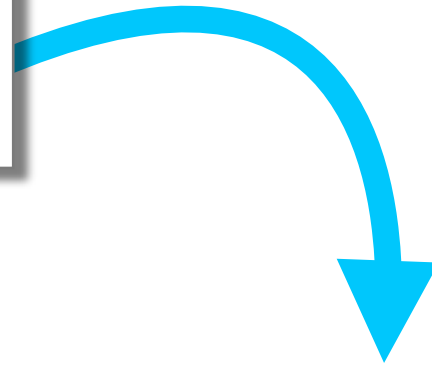
JONATHAN HARRIS // 2008

VISUALIZATION

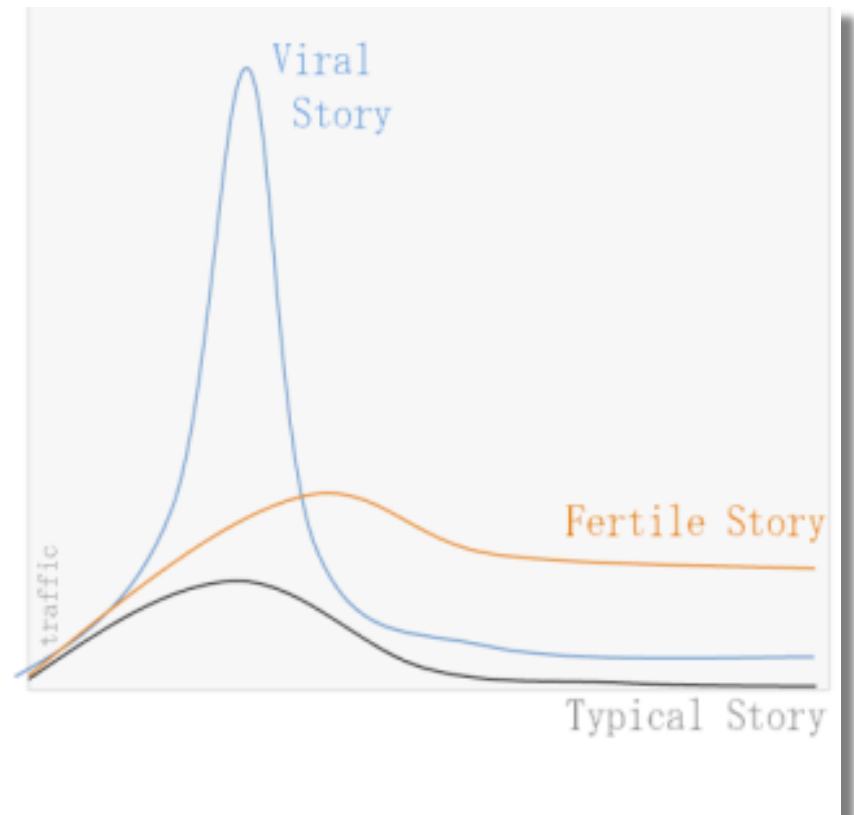
& JOURNALISM

Interactive Visualizations Drive Traffic

Slow burn vs. Burn out



quite significantly more work than traditional
pics. To make this work economical, visualizations
ed to stories that are either *persistent* or *viral* in order
ue-generating traffic. **Persistent stories** cover
amatic themes” that maintain relevance over time
(crisis, food economics, the housing market).
izations to persistent themes “fattens and elongates”
r visualizations (which are already fatter and longer
stories). During this slow-burn, these visualizations
l by hundreds of stories over several months and
es evolve. **Viral stories** achieve heavy traffic
unctuated spikes of popularity. These stories tend
ology, personalities, or sensational news. To get the
e buck, produce visualizations for editorial content
sistent or viral



Fast Turnaround
What can be done quickly?

FRIDAY

MONDAY

TUESDAY

WEDNESDAY

THURSDAY

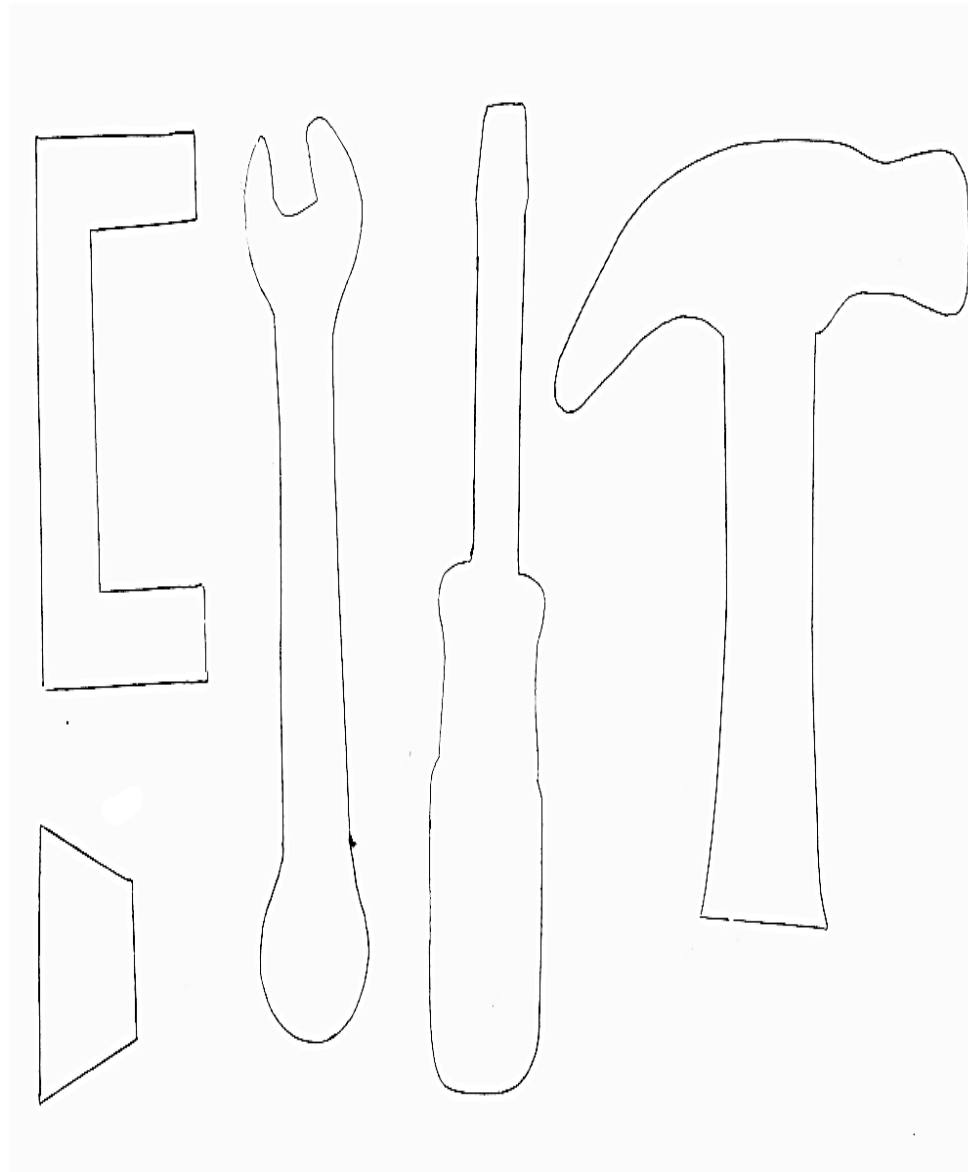
magazine

web

iPad



Print to Digital



Templates & Tools

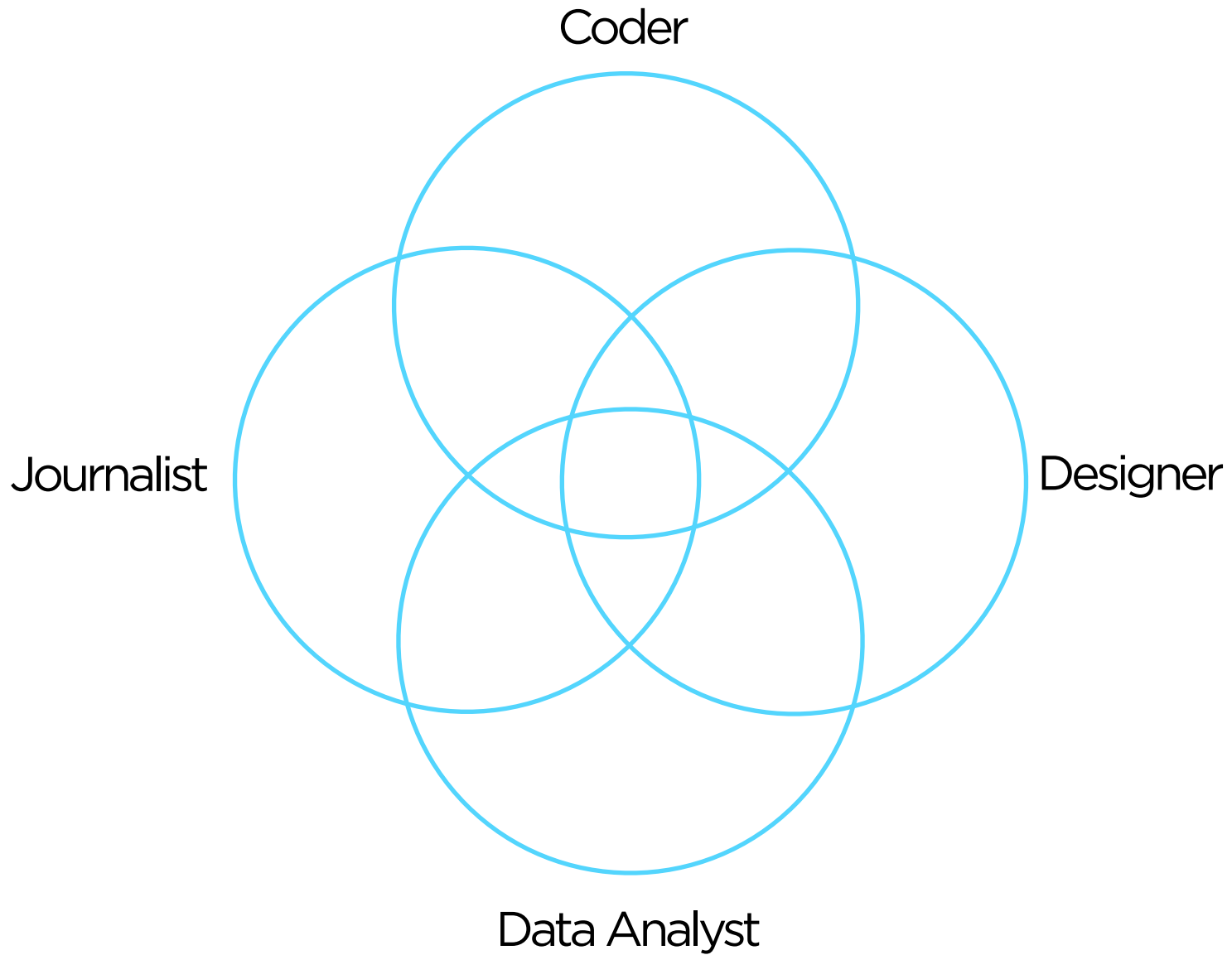
High demand for visualization tools for non-technical journalists

What are the
big seminal themes
over the next year?

Build visualizations that
update with those themes...

Link to them every
chance you get!

Magical Candidate
Who has all these skills?



the
importance
of
domain
expertise



edward.segel@gmail.com



VISUAL DESIGN

show the story

(1) Choose your visualization type carefully.
Know your options. Even obscure ones.

(2) The more linear, the more like a story.
Stories have a beginning, middle, and end.

(3) Use establishing shots.
Situate the viewer before diving in.

(4) Make it clear what to look at and when—especially where to start.
Guide readers through the story or they'll get lost.

(5) Limit complexity at first. Reveal as needed.
Don't confuse the reader with extraneous information.

(6) Consistent visual frameworks.
Keep things tidy.

(7) Use staging and animation for complicated transitions.
Stage big transitions to avoid confusing readers

(8) Design Matters.
Duh.

(9) Avoid “chart junk” (Tufte).
Extra marks distract from the data.

(10) “Cool” and “readability” are at odds.
Recognize the trade-off and choose your audience.



MESSAGING

tell the story

(1) The more text, the more storytelling.

Graphs are abstract. Words give concrete interpretations.

(2) Say the point you're making with the graphic.

Don't make the reader figure it out on his own.

(3) Use headlines, captions, & annotations.

Quickly draw attention to what's important.

(4) Weave text into the graphic—not just the beginning.

Text and graphics work better together than apart.

(5) Start with an editorially interesting view.

Default views can be boring. Curate the experience from the beginning.

(6) Make data relatable. Put numbers and facts in context.

250 thousand square miles means nothing. It's the size of Texas!

(7) Connect the text to the relevant graphics.

See Fig. 5

(8) Don't ignore summaries & conclusions.

Answer the "so what?" or the reader leaves empty handed.

(9) Mind your precision.

Significant digits, tickmarks, and labels suggest what deserves attention.

(1) Demonstrate interactivity.

Animate interactive widgets for tacit tutorials.

(2) Interactive features should scream interactivity.

Avoid a click-and-seek experience.

(3) Interactive features should react to the user.

Depress buttons, highlight items, animate widgets.

(4) Restrict interactivity to key dimensions.

The more interactivity, the less story.

(5) Make the visualization “look alive”.

Things move even without the user!

(6) Don't obscure data.

Avoid letting pop-ups obscure data.

(7) Include a progress bar and “back” and “reset” buttons

Linear navigation is important—especially with lots of interactivity.



New York Times

New York Times. The jobless rate for people like you.

<http://www.nytimes.com/interactive/2009/11/06/business/economy/unemployment-lines.html>

New York Times. How many households are like yours?

<http://www.nytimes.com/interactive/2011/06/19/nyregion/how-many-households-are-like-yours.html>

New York Times. The Death of a Terrorist: a Turning Point?

<http://www.nytimes.com/interactive/2011/05/03/us/20110503-osama-response.html>

New York Times. Paths to the Top of the Home Run Charts.

http://www.nytimes.com/ref/sports/20070731_BONDS_GRAPHIC.html

New York Times. A Peek Into Netflix Queues.

<http://www.nytimes.com/interactive/2010/01/10/nyregion/20100110-netflix-map.html>

New York Times. A Map of Olympic Medals.

http://www.nytimes.com/interactive/2008/08/04/sports/olympics/20080804_MEDALCOUNT_MAP.html

New York Times. Aerial Photographs of Joplin Before and After the Tornado

<http://www.nytimes.com/interactive/2011/05/25/us/joplin-aerial.html>

New York Times. How different groups spend their day.

<http://www.nytimes.com/interactive/2009/07/31/business/20080801-metrics-graphic.html>

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<http://www.nytimes.com/interactive/2010/02/20/sports/olympics/20100220-davis-graphic.html>

New York Times. Alpine Skiing, From Technical Turns to Tucks and Speed

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Guardian. Shaun White's Double McTwist.

<http://www.guardian.co.uk/sport/interactive/2010/feb/19/winterolympics2010-vancouver>

Guardian. Earthquakes: Why they happen.

<http://www.guardian.co.uk/world/interactive/2008/jan/23/earthquakes>

Guardian. Oscars 2011: an interactive guide to this year's best picture nominees

<http://www.guardian.co.uk/film/interactive/2011/feb/21/oscars-2011-best-picture-nominations-interactive-guide>

Guardian. Inflation in the UK.

<http://www.guardian.co.uk/business/interactive/2009/mar/24/rpi-inflation?intcmp=239>

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<http://www.guardian.co.uk/business/interactive/2010/jan/26/recession-gdp>

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<http://www.aaronkoblin.com/work.html>

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BGOV. Hospitals Wary of Data Breaches Seek Cyber Insurance From AIG

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BGOV. Medicare-Medicaid Costs \$1.5 Trillion by 2020: Chart of the Day.

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BGOV. Kentucky Bourbon's Seoul Appeal May Rise With Trade Agreement.

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BGOV. Dodd-Frank One Year Later: The Key Players

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Businessweek. The Credit Boom's Best and Worst Deals.

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http://www.businessweek.com/magazine/content/11_27/b4235000567802.htm

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http://images.businessweek.com/mz/10/34/1034therecovery11.pdf?chan=magazine+channel_news+-+global+economics

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<http://projects.washingtonpost.com/potus-tracker/>

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http://www.washingtonpost.com/wp-srv/politics/pioneers/pioneers_spheres.html

Washington Post. On the Map: On the Map: Five Major North Korean Prison Camps

<http://www.washingtonpost.com/wp-srv/special/world/north-korean-prison-camps-2009/>

