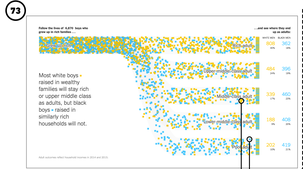
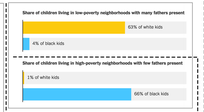



Main characters:
White & Black

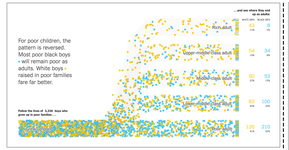
**1** **Progressive disclosure**
More parent income classes

**2** **Different character**
Men → women

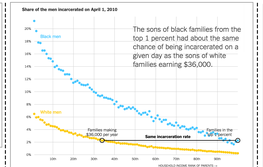



**Different context:**
Fathers present or not

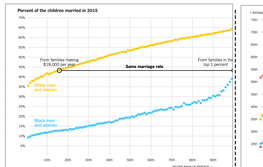
**4** **Different attribute:**
Income ranke parents/kids → share living in neighborhood



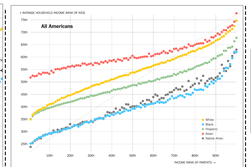

**5** **Different attributes**
Fathers present → income classes



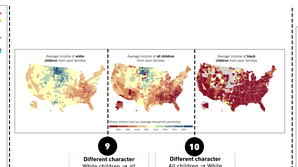

**6** **Different attributes**
Income classes → Men incarcerated




**7** **Different attribute:**
Share of incarcerations → Share of children married



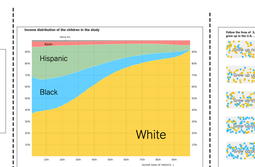

**7** **Different attribute:**
Children married → Income rank kids




**9** **Different character**
White children → all children

**10** **Different character**
All children → White children

**8** **Highlight**
Poor white children

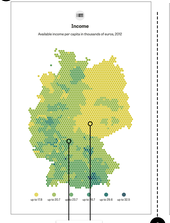



**11** **Different attribute**
Location → Income parents

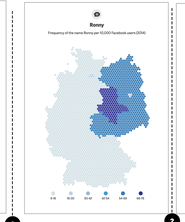
**11** **More characters**
Black children → all races

**12** **Less characters**
All races → black & white

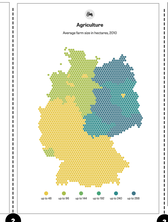
**12** **Different attribute**
Income distribution → Income rank



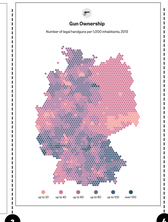

Main characters:
West & East



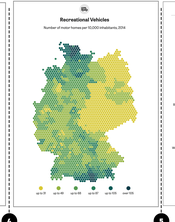

**1** Different attribute
Income → Ronny frequency



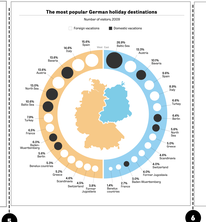

**2** Different attribute
Ronny frequency → Agriculture




**3** Different attribute
Agriculture → Gun ownership

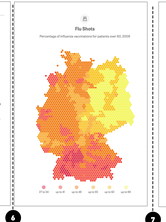



**4** Different attribute
Gun ownership → recreational vehicles



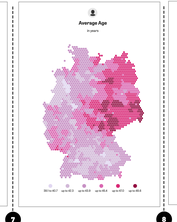

Different attribute
Recreational vehicles → holiday destinations

Split characters
East and west → holiday destinations

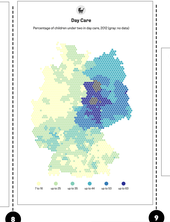



**5** Split characters
holiday destinations → foreign and domestic

**6** Different attribute
Holiday destinations → Flu shots



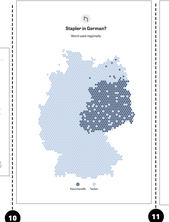

**7** Different attribute
Flu shots → average age




**8** Different attribute
Average age → day care

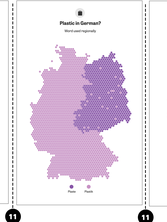
Different attribute
Day care → Children per women

**9** Add attribute
Time

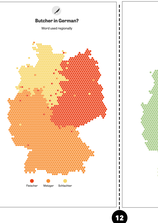



**10** Remove attribute
Time

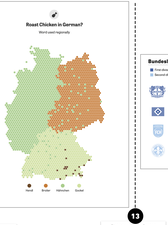
Different attribute
Children per women → word for stapler



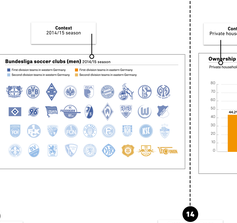

**11** Different attribute
Word for stapler → Word for plastic



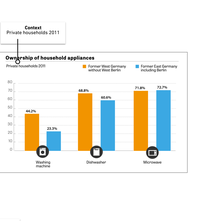

**11** Different attribute
Word for plastic → word for butcher




**12** Different attribute
Word for butcher → Word for roast chicken




**13** Change all attributes
Location, word → Soccer clubs, ranking

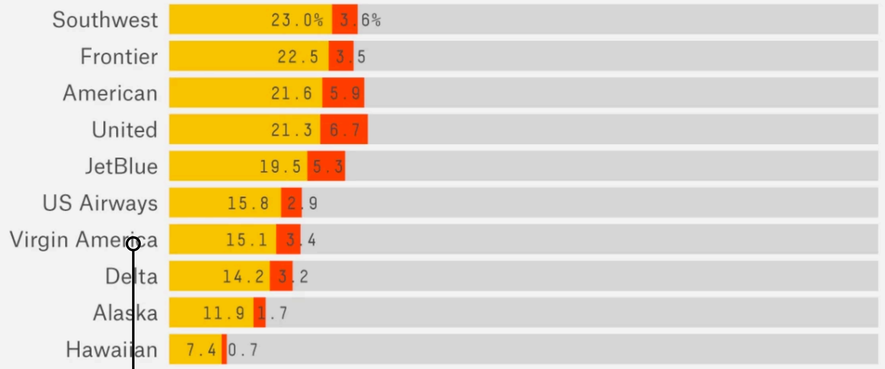



**14** Change all attributes
Soccer clubs, ranking → appliances, ownership

## Southwest's Delays Are Short; United's Are Long

As share of scheduled flights, 2014

- FLIGHTS DELAYED 15-119 MINUTES
- FLIGHTS DELAYED 120+ MINUTES, CANCELED OR DIVERTED

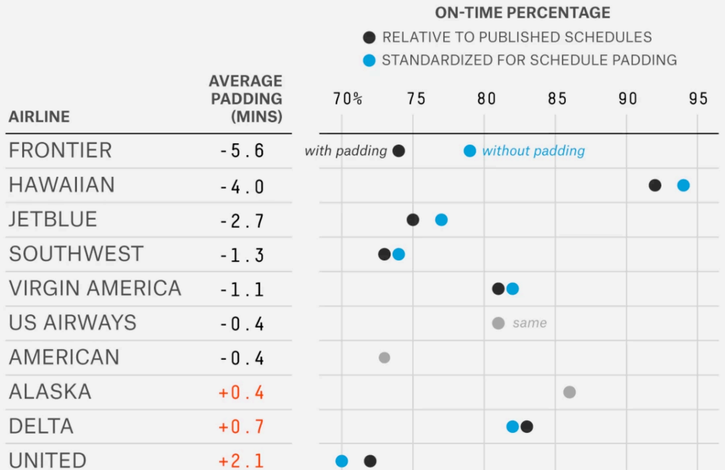



FIVETHIRTYEIGHT BASED ON DATA FROM THE BUREAU OF TRANSPORTATION STATISTICS

**Main characters:** Airlines

## Some Airlines Pad Their Schedules

Schedule padding and effect on on-time percentages, 2014




FIVETHIRTYEIGHT BASED ON DATA FROM THE BUREAU OF TRANSPORTATION STATISTICS

**1** **Different attribute**
Flights delayed → Effect of padding

## The Slowest And Fastest Major Airports

Departure and arrival delays for 30 largest U.S. airports, 2014

| AIRPORT | EXTRA TIME ADDED DEPARTING | EXTRA TIME ADDED ARRIVING |
|---|---|---|
| EWR | 0:25 | 0:25 |
| LGA | 0:27 | 0:23 |
| JFK | 0:24 | 0:19 |
| ORD | 0:16 | 0:22 |
| PHL | 0:18 | 0:15 |
| MDW | 0:13 | 0:14 |
| SFO | 0:10 | 0:14 |
| IAD | 0:13 | 0:08 |
| CLT | 0:10 | 0:09 |
| DTW | 0:09 | 0:08 |
| BOS | 0:12 | 0:04 |
| DFW | 0:05 | 0:11 |
| DCA | 0:11 | 0:05 |
| BWI | 0:10 | 0:05 |
| ATL | 0:07 | 0:07 |
| FLL | 0:07 | 0:05 |
| MSP | 0:05 | 0:05 |
| DEN | 0:03 | 0:06 |
| IAH | 0:04 | 0:05 |
| LAX | 0:02 | 0:05 |
| MCO | 0:04 | 0:03 |
| SEA | 0:02 | 0:05 |
| PHX | 0:02 | 0:04 |
| LAS | 0:03 | 0:02 |
| TPA | 0:02 | 0:00 |
| MIA | 0:01 | 0:00 |
| SLC | 0:00 | 0:01 |
| SAN | 0:01 | -0:01 |
| PDX | -0:03 | 0:00 |
| HNL | -0:06 | -0:07 |

FIVETHIRTYEIGHT

**Different character**
Airlines → airports

**2** **Different attribute**
Airports → time won/lost

## Which Airlines Fly The Fastest

Time added relative to typical and target flight times

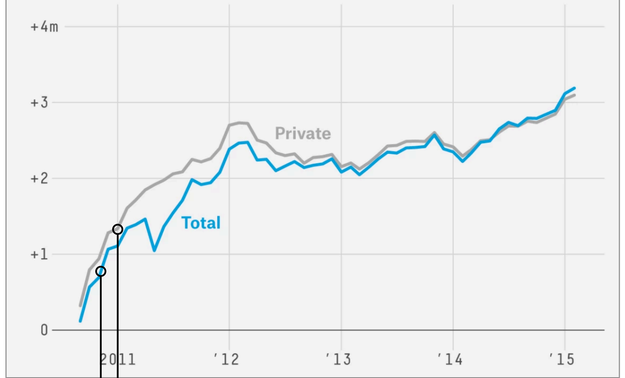
| AIRLINE | TIME ADDED VS. TYPICAL | TIME ADDED VS. TARGET |
|---|---|---|
| Virgin America | -0:07 | +0:10 |
| US Airways | -0:06 | +0:10 |
| Alaska | -0:06 | -0:01 |
| Delta | -0:04 | +0:09 |
| Hawaiian | -0:03 | -0:16 |
| Frontier | -0:02 | +0:08 |
| JetBlue | -0:01 | +0:19 |
| Southwest | 0:00 | +0:10 |
| American | +0:03 | +0:19 |
| United | +0:06 | +0:23 |

FIVETHIRTYEIGHT

**3** **Different character**
Airports → airlines

## Job Growth From A Year Earlier

Seasonally adjusted




**Characters**
Private, Total

## Hourly Earnings, Change From A Year Earlier

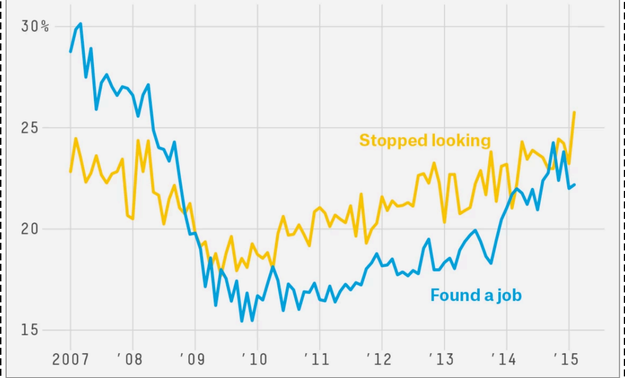
Seasonally adjusted

**1**

- char: Sectors → Level
- attr: Job growth → hourly earnings
- ctx: -

## What The Unemployed Are Doing One Month Later

Seasonally adjusted

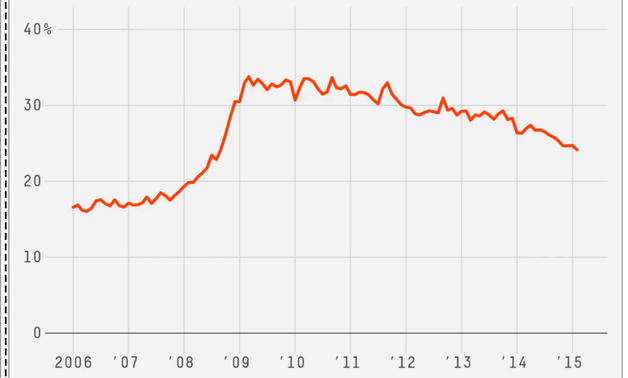



**2**

- char: Level → Unemployed
- attr: Hourly earnings → Changes in perspective
- ctx: -

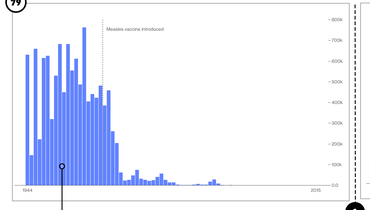
## Share Of Part-Timers Who Want A Full-Time Job

Seasonally adjusted

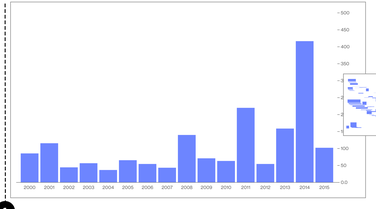


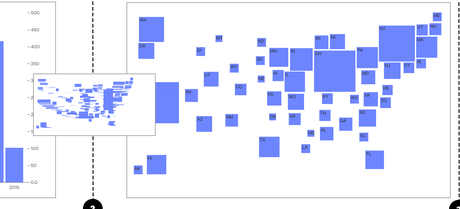

**3**

- char: Unemployed → Part time workers
- attr: Changes in perspective → Share who want a job
- ctx: -




**Characters**
Years



**1**

char -

att Scaled y-axis

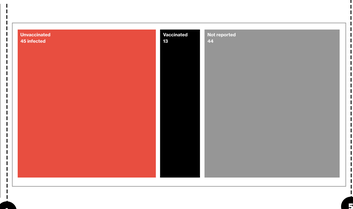
ctx -

**2**

char Years → States

att year → location

ctx -




**3**

char Split by year

att + year

ctx -

**4**

char Focus on CA 2015, split by type

att -

ctx -

**5**

char Merge, show other states

att Vaccination rates

ctx -

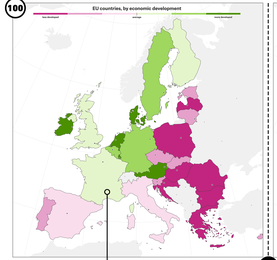
**6**

char Merge, show other states

att Location, cases → Philosophical Exemptions

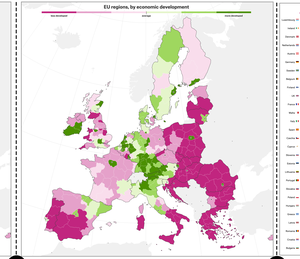
ctx -

100

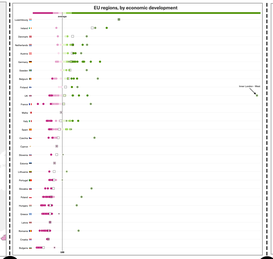



**Characters**
Countries

1
- Char: Split by region
- ATT: -
- CTX: -

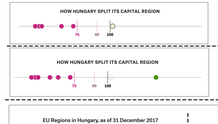



2
- Char: -
- ATT: Remap x- and y-axes, change shape
- CTX: -




3
- Char: -
- ATT: Rescale x-axis
- CTX: -

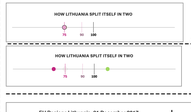
4
- Char: Focus on Hungary
- ATT: -
- CTX: -




5
- Char: -
- ATT: -
- CTX: Different year

6
- Char: -
- ATT: Remap x and y-axis
- CTX: -

7
- Char: -
- ATT: -
- CTX: Different year




8
- Char: Change from Hungary to Lithuania
- ATT: -
- CTX: -

9
- Char: -
- ATT: -
- CTX: Different year

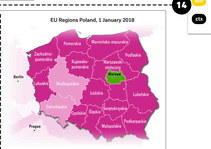
10
- Char: -
- ATT: Remap x and y-axis
- CTX: -

11
- Char: -
- ATT: -
- CTX: Different year

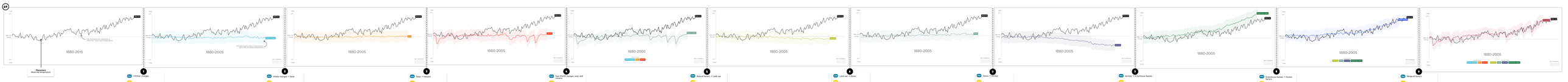
12
- Char: Change from Lithuania to Poland
- ATT: -
- CTX: -

13
- Char: -
- ATT: -
- CTX: Different year

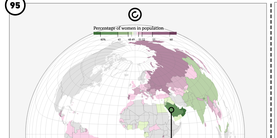
14
- Char: -
- ATT: Remap x and y-axis
- CTX: -




15
- Char: -
- ATT: -
- CTX: Different year



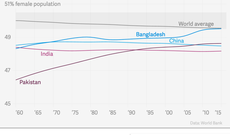

1. Wind – Biomass
2. Wind – Hydro
3. Solar – Biomass
4. Solar – Geothermal
5. Solar – Hydro
6. Solar – Natural Gas
7. Solar – Petroleum
8. Solar – Solar
9. Solar – Wind




**Characters**
Countries

## The missing girls in China and India

In 2015, men outnumbered women on the planet by more than 66 million, according to the World Bank. What makes this possible, even though a majority of countries have more women than men, is the fact that the most populous countries in the world are also highly imbalanced: India has 48 million more men than women, China nearly 42 million, accounting for 75% of the male surplus worldwide.

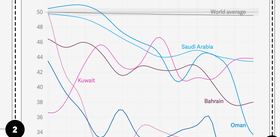



1
- **char** Focus on Bangladesh, China, India and Pakistan
- **arr** +time
- **ctr** -

2
- **char** Southeast Asia → Arabian
- **arr** -
- **ctr** -

## Migrant workers on the Arabian Peninsula

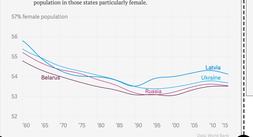
The most gender imbalanced states in 2015 were all found on the Arabian Peninsula, the United Arab Emirates being the most extreme. Barely one quarter of all people who lived in the United Arab Emirates in 2015 were women. Those countries have attracted a lot of migrant workers for male-dominated industries, especially after oil prices started rising in the 1970s and the industry grew.




3
- **char** Arabian → Slavic countries
- **arr** -
- **ctr** -

## Heavy drinking in Russia

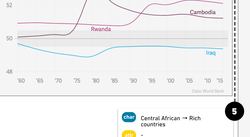
The former Soviet states are notorious for men's short life expectancy, which is largely attributed to alcohol-related deaths. Strikingly, Russia currently has more than twice as many women than men above the age of 65. According to the WHO, women in Russia live, on average, 12 years longer than men, a larger difference than anywhere else in the world. The only countries that come close are other former states of the Soviet Union. It is this difference in life expectancy that makes the population in those states particularly female.




4
- **char** Slavic countries → Central African
- **arr** -
- **ctr** -

## War and genocide in Rwanda, Cambodia and Iraq

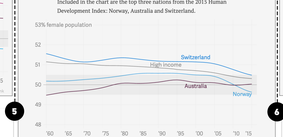
Disruptive events such as wars and genocides show in the data as well. Since they tend to claim more men's lives than women's, the population's sex ratio usually shifts female.




5
- **char** Central African → Rich countries
- **arr** -
- **ctr** -

## The homogenous top

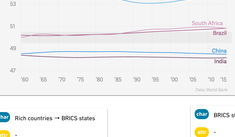
One of the strongest predictors of a country's sex ratio is how developed it is. Highly developed countries tend to have more women in their population. Thirteen of the top 15 countries in the Human Development Index (which measures health, education and prosperity) and 29 of 31 "high-income OECD states" (as defined by the World Bank) have a female population above 50%. The exceptions, Iceland with 49.9% women and Norway with 49.6% women, are not far off, either. Included in the chart are the top three nations from the 2015 Human Development Index: Norway, Australia and Switzerland.




6
- **char** Rich countries → BRICS states
- **arr** -
- **ctr** -

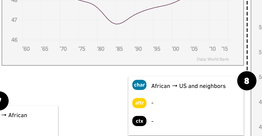
## The diverse BRICS states

We've seen that highly developed countries are quite homogenous in terms of gender ratios. In contrast, the five emerging economies of the BRICS states strikingly fall into three groups.




7
- **char** BRICS states → African
- **arr** -
- **ctr** -

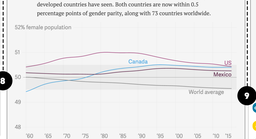
## The surprisingly balanced African states




8
- **char** African → US and neighbors
- **arr** -
- **ctr** -

## The US and its neighbors

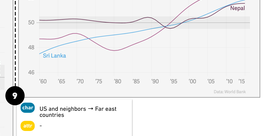
Looking at five decades of sex ratios in North America, we can see that both the United States and Canada have seen an increase in women's share in the population from the 1960s onward, followed by a slight rebound toward a more balanced population in recent years. In both countries, these developments can be explained by the difference in life expectancy between men and women, which had widened after 1960 and narrowed again starting in the '80s and '90s, a trend most highly developed countries have seen. Both countries are now within 0.5 percentage points of gender parity, along with 73 countries worldwide.



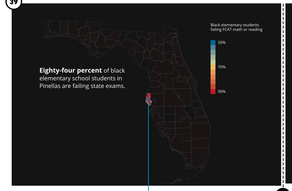

9
- **char** US and neighbors → Far east countries
- **arr** -
- **ctr** -

## Hong Kong's single ladies

Hong Kong, Sri Lanka, and Nepal are the countries that have seen the strongest move toward a more female population over the past five decades.

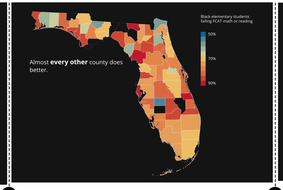


39

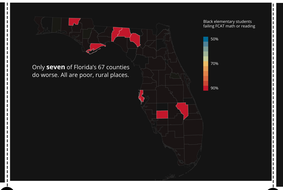



**Characters**
Pinellas

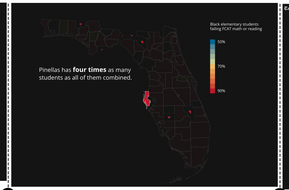
1
TRY Show more Florida counties
ATT -
ON -



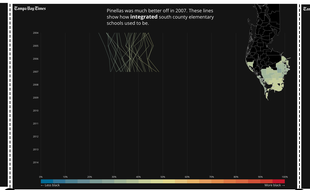

2
TRY Show only counties with bad test scores
ATT -
ON -



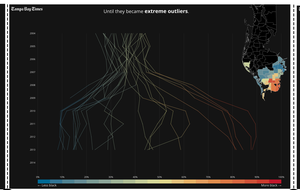

3
TRY -
ATT ←Number of students
ON -



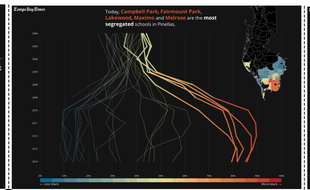

4
TRY -
ATT Number of students → Time, degree of segregation
ON -



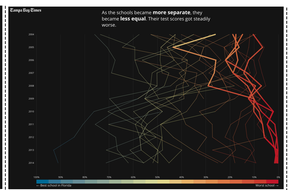

5
TRY More of the characters
ATT -
ON -



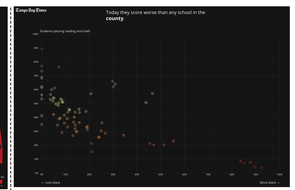

6
TRY Highlight outliers
ATT -
ON -

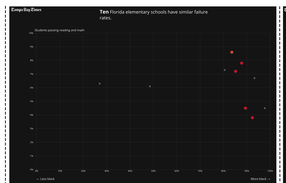



7
TRY -
ATT Degree of segregation → Student's performance
ON -

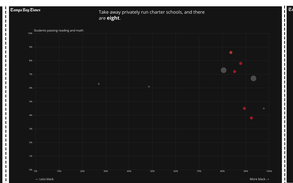



8
TRY -
ATT Time → Degree of segregation
ON -

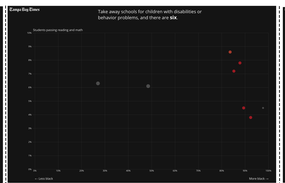


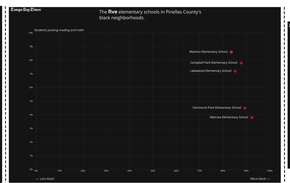

9
TRY Highlight ten worst schools
ATT -
ON -




10
TRY Highlight state schools
ATT -
ON -

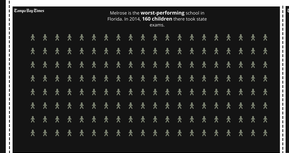



11
TRY Highlight regular schools
ATT -
ON -



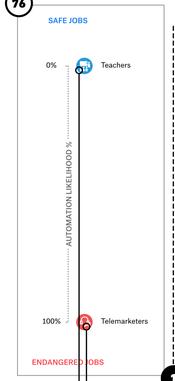

12
TRY Highlight regular schools
ATT -
ON -

13
TRY Split Melrose into individual students
ATT Passing: segregation → ↓
ON -




14
TRY -
ATT ←→ Failing reading and math
ON -

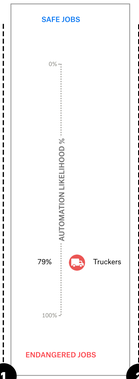
15
TRY Highlight students who passed
ATT -
ON -




**Characters**
Teachers, Telemarketers

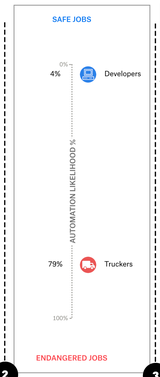
1

char Teachers, Telemarketers → Truckers
attr -
ctx -



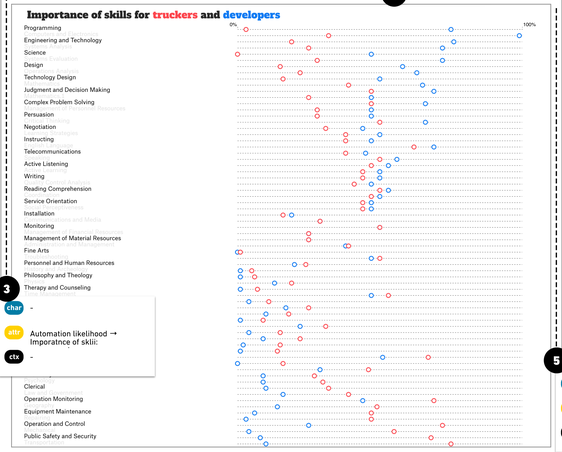

2

char + Developers
attr -
ctx -




3

char -
attr Automation likelihood → Imporatnce of sklii:
ctx -




4

char -
attr More skills
ctx -

5

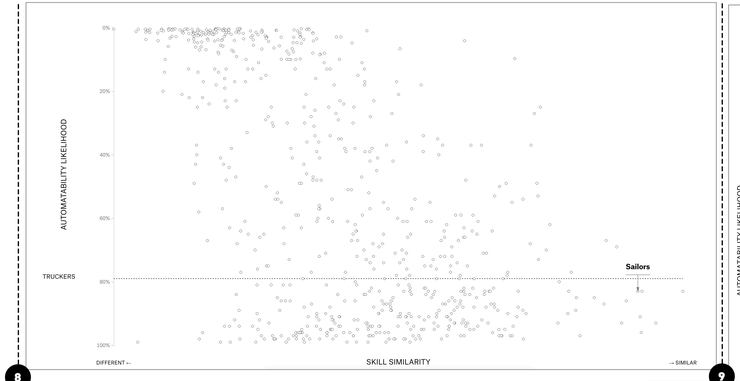
char -
attr kskill importance
ctx -

6

char Other jobs
attr Skill dfference → Sum of skill differences
ctx -

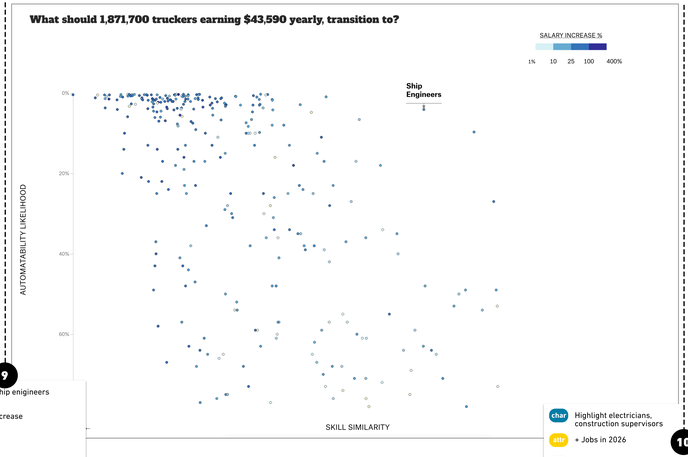
7

char Sort by skill difference
attr -
ctx -



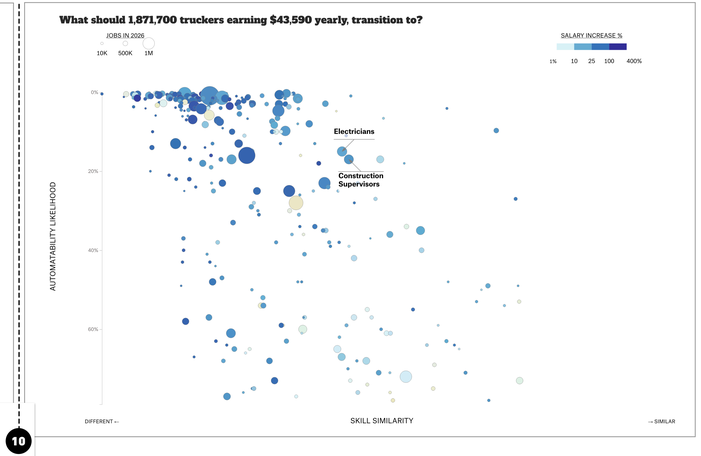

8

char Highlight sailors
attr + Automation likelihood
ctx -




9

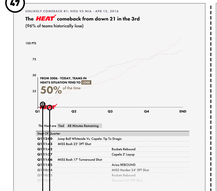
char Highlight ship enigineers
attr + Salary increase
ctx -




10

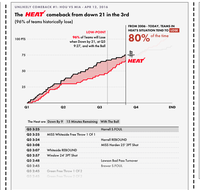
char Highlight electricians, construction supervisors
attr + Jobs in 2026
ctx -

47



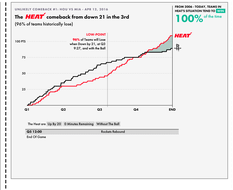

1

Char More of the characters
ATT -
STY -




2

Char More of the characters
ATT -
STY -

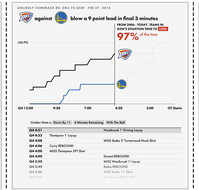



3

Char Heats, Rockets → Golden State, OKC
ATT -
STY -

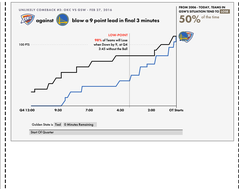
4

Char More of the characters
ATT -
STY -



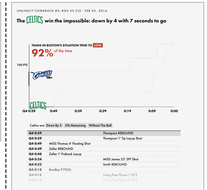

5

Char More of the characters
ATT -
STY -



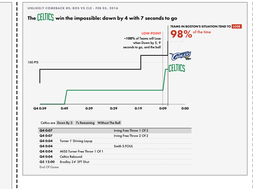

6

Char Golden State, OKC → Cavaliers, Celtics
ATT -
STY -



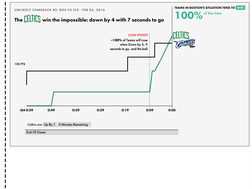

7

Char More of the characters
ATT -
STY -



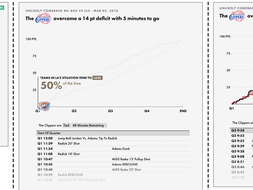

8

Char More of the characters
ATT -
STY -



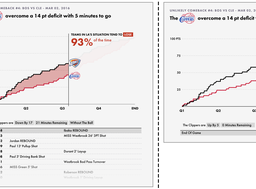

9

Char Cavaliers, Celtics → OKC, Clippers
ATT -
STY -



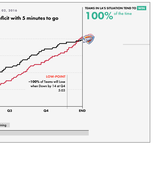

10

Char More of the characters
ATT -
STY -

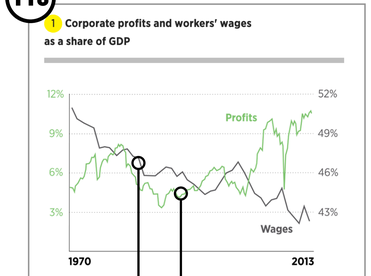


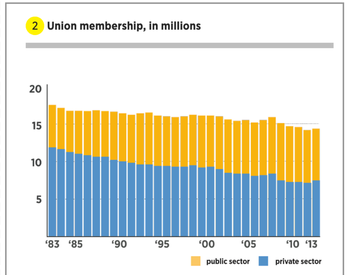

11

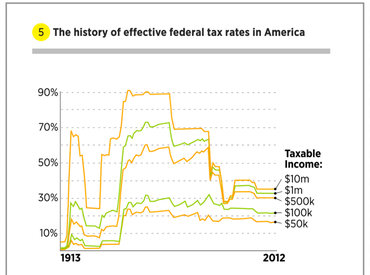
Char More of the characters
ATT -
STY -

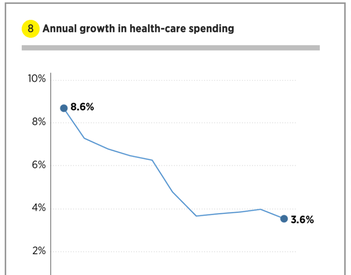


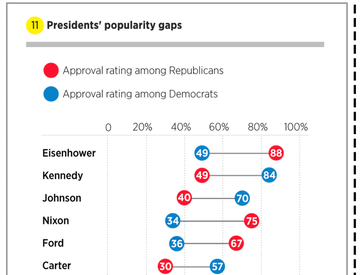

Char More of the characters
ATT -
STY -

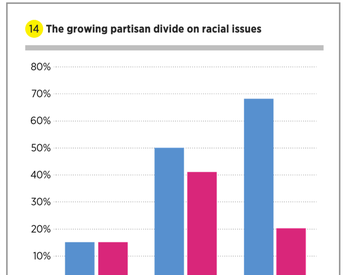


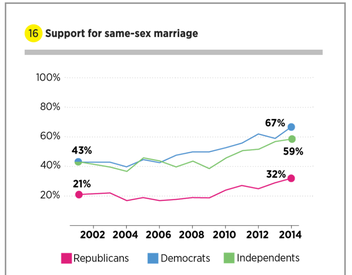




**Characters**
Profits, Wages

**1**

- char: Profits, wages → Public, private sector
- attr: GDP share → Union memberships
- ctx: -

**2**

- char: Public, private sector → Income ranges
- attr: Union memberships → Federal tax rates
- ctx: -

**3**

- char: Income ranges → All incomes
- attr: Tax rates → Health care spending
- ctx: -

**4**

- char: All incomes → Presidents
- attr: Health care spending → Popularity gaps
- ctx: -

**5**

- char: Presidents → Party
- attr: Popularity gaps → Agreement on racial issues
- ctx: -

**6**

- char: + Independents
- attr: Agreement on racial isues → Support for same-sex marriage
- ctx: -

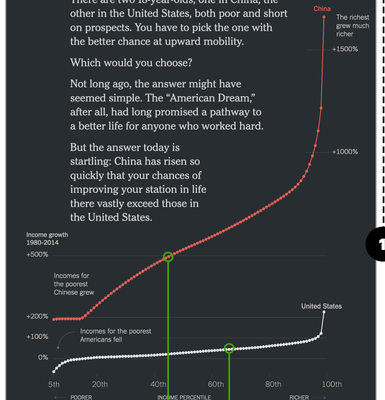
Imagine you have to make a bet.

There are two 18-year-olds, one in China, the other in the United States, both poor and short on prospects. You have to pick the one with the better chance at upward mobility.

Which would you choose?

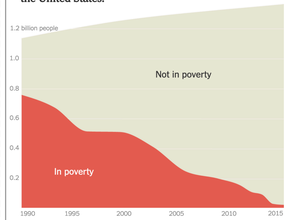
Not long ago, the answer might have seemed simple. The "American Dream," after all, had long promised a pathway to a better life for anyone who worked hard.

But the answer today is startling: China has risen so quickly that your chances of improving your station in life there vastly exceed those in the United States.




**Characters**
China, U.S.

**Eight hundred million people have risen out of poverty. That's two and a half times the population of the United States.**

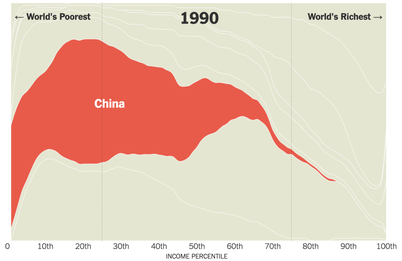



Source: The World Bank. People in poverty live at or below $1.90 a day.

**1**

- **char** China, US → In poverty, not in poverty
- **attr** Percentile, income growth → time, number of people
- **ctx** China

**China used to make up much of the world's poor. Now it makes up much of the world's middle class.**

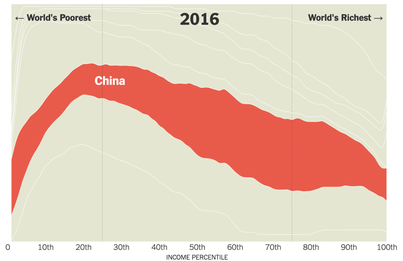



Source: World Inequality Database

**2**

- **char** In poverty, not in poverty → China, other countries
- **attr** Time → Percentile
- **ctx** China → 1990

**China used to make up much of the world's poor. Now it makes up much of the world's middle class.**

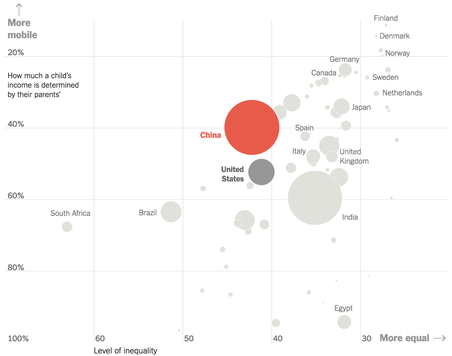



Source: World Inequality Database

**3**

- **char** -
- **attr** -
- **ctx** 1990 → 2016

**But by some measures Chinese society has about the same level of inequality as the United States. Here are the world's major countries ordered by inequality and income mobility.**

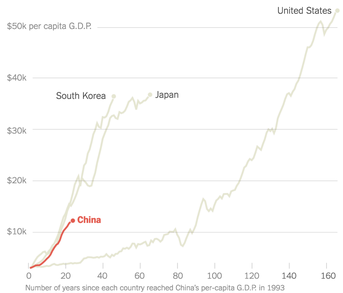



Source: The World Bank, Fair Progress, Economic Mobility Across Generations Around the World; World Development Indicators

**4**

- **char** -
- **attr** Number of people, percentile → Mobility, equality
- **ctx** 2016 → -

**Yet few analysts doubt where the bigger increases will come. Here's how modern China's per-capita G.D.P. growth compares so far:**

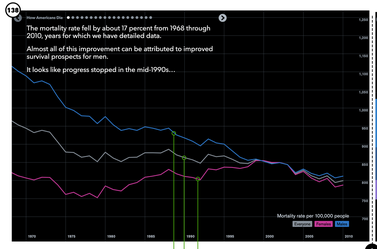



In 2011 U.S. dollars. Source: Maddison Project.

**5**

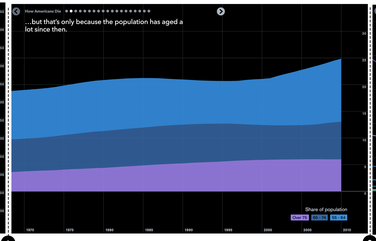
- **char** -
- **attr** Mobility, equality → GDP per capita, years
- **ctx** -

138



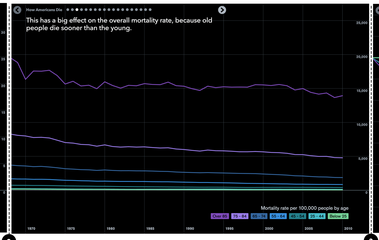

1

Viz: Everyone, Females, Males → Age groups
Y: Mortality → Share of populations
Ex: -



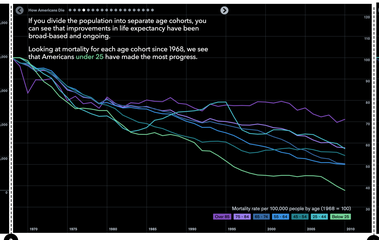

2

Viz: More age groups
Y: Share of populations → Mortality rate
Ex: -



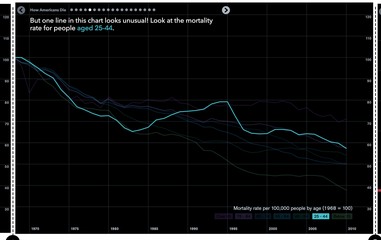

3

Viz: -
Y: Resize y-axis
Ex: -



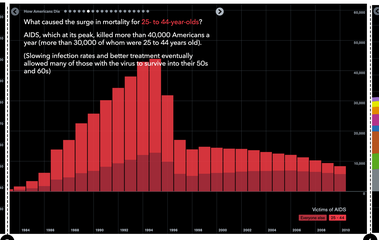

4

Viz: Highlight 25-44 age groups
Y: -
Ex: -



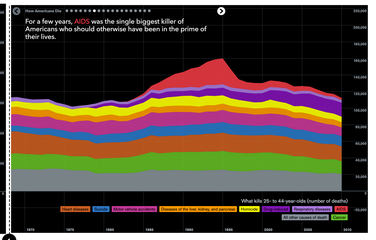

5

Viz: + Everyone
Y: Mortality rate → AIDS victims
Ex: -



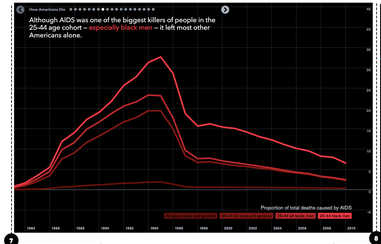

6

Viz: Age groups → Causes of death
Y: -
Ex: → 25-44 year olds



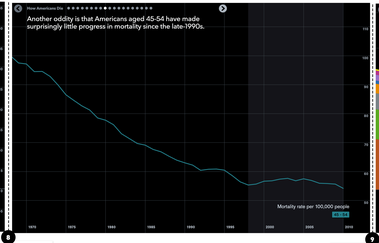

7

Viz: Causes of death → age groups and races
Y: Deaths → Proportion of deaths
Ex: -



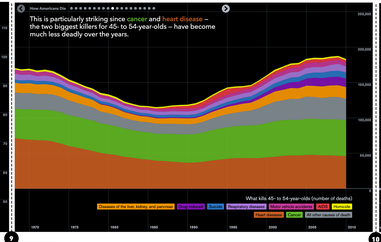

8

Viz: Different age group 45–54
Y: Proportion of deaths → Mortality rate
Ex: -



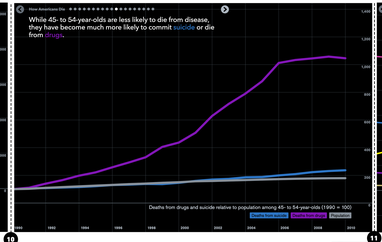

9

Viz: 45–54 year olds → causes of death
Y: Proportion of deaths → Mortality rate
Ex: → 45–54 year olds



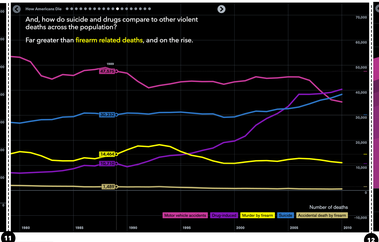

10

Viz: Highlight suicide and drugs
Y: Mortality rate → Number of deaths
Ex: -



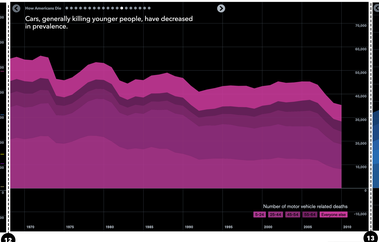

11

Viz: Show more violent causes of death
Y: -
Ex: -



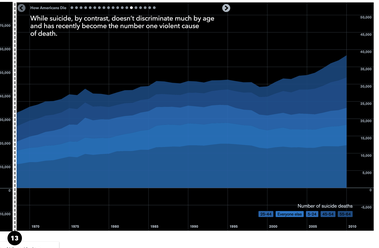

12

Viz: Focus on motor vehicle accidents
Y: → Age groups
Ex: -



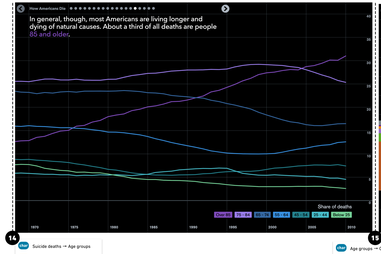

13

Viz: Motor vehicle accidents → Suicide deaths
Y: -
Ex: -



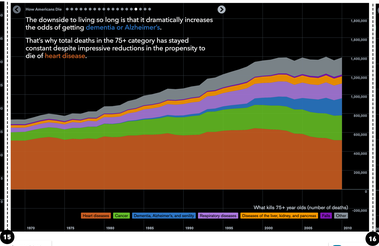

14

Viz: Suicide deaths → Age groups
Y: Number of deaths → Share of deaths
Ex: -



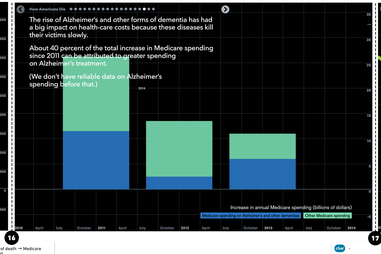

15

Viz: Age groups → Causes of death
Y: Share of deaths → Number of deaths
Ex: → 75+ age groups



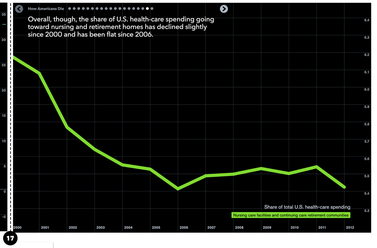

16

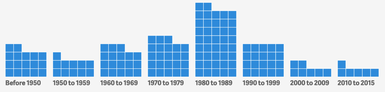
Viz: Causes of death → Medicare spending
Y: Number of deaths → Billions of dollars
Ex: 75+ age groups → -




17

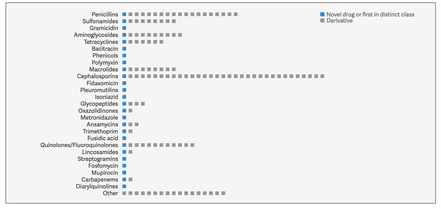
Viz: -
Y: Billions of dollars → share of total spending
Ex: -






Here is **every antibiotic that has been introduced to the market** in the United States. New antibiotics have been steadily declining since the 1980s, in part because they are far less profitable than other drugs. Compared with pills for a chronic condition that you might have to take your entire life, antibiotics are less attractive to pharmaceutical companies because you typically only take them for a week or so.

**Characters**
Antibiotics

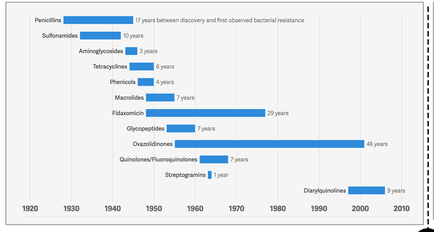



**1**

| | |
|---|---|
| char | Highlight first in class |
| attr | Year → class |
| ctx | - |

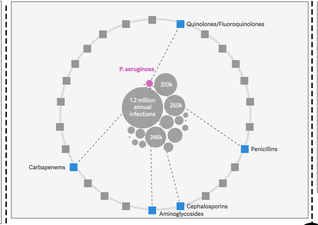
**2**

| | |
|---|---|
| char | - |
| attr | Class → year |
| ctx | - |



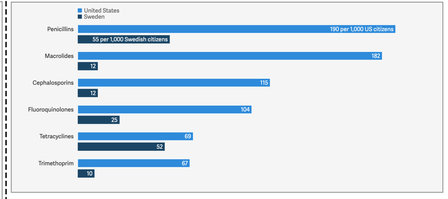

**3**

| | |
|---|---|
| char | - |
| attr | + Distance between discovery and first observed resistance |
| ctx | - |



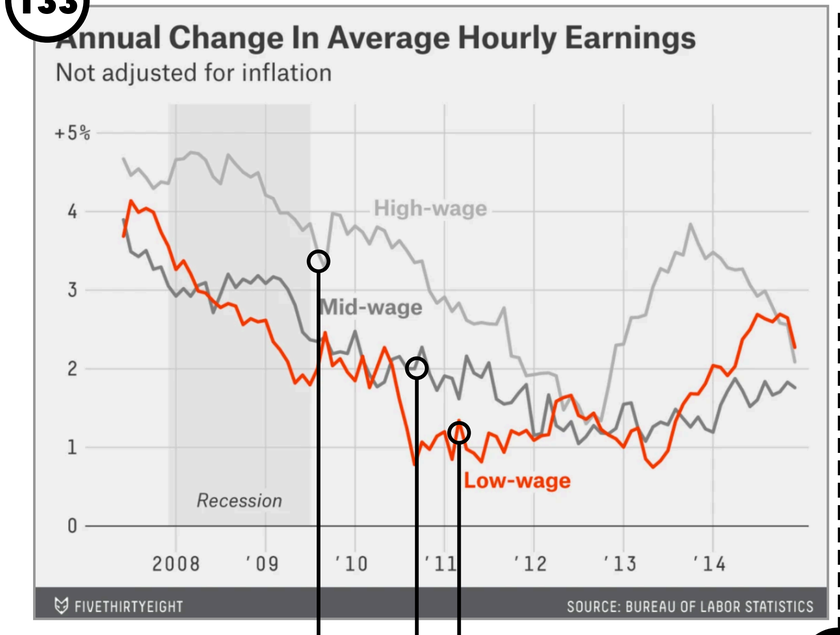

**4**

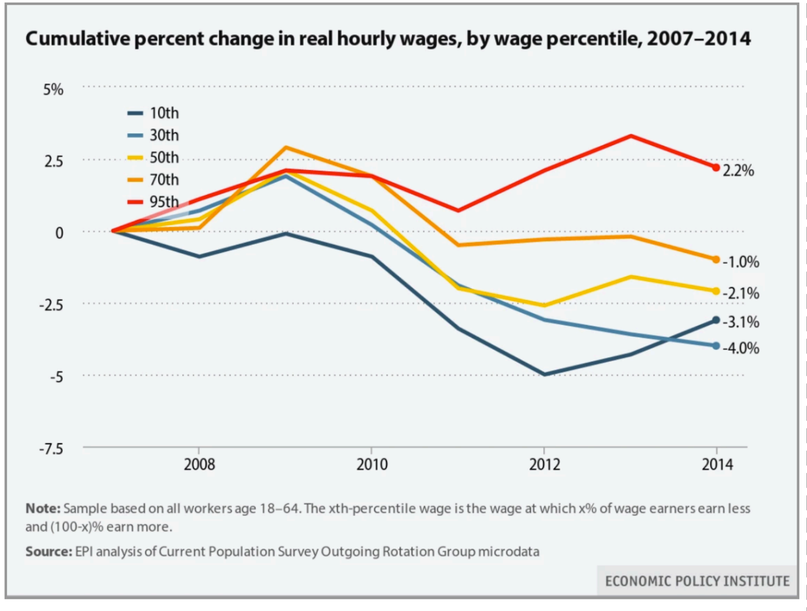
| | |
|---|---|
| char | + Infections |
| attr | Year → annual infections, relationship with antibiotics |
| ctx | - |

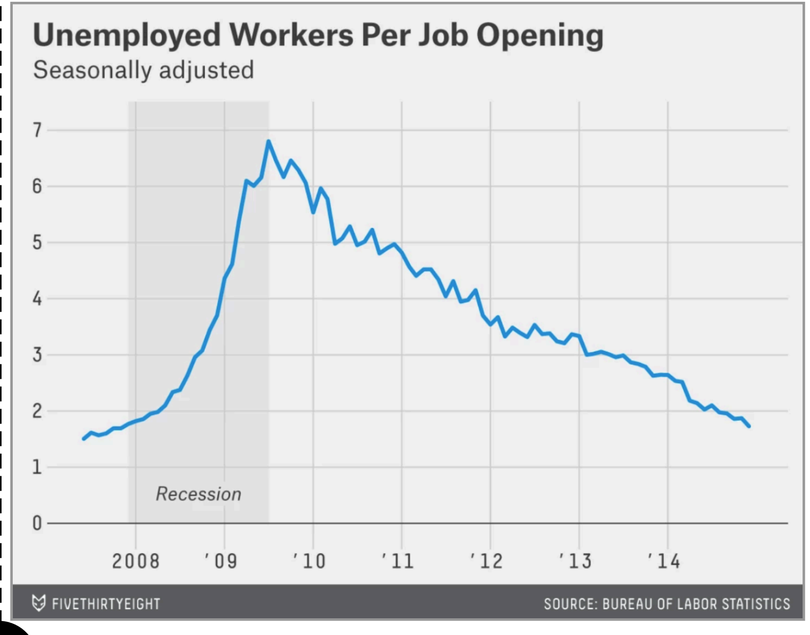



**5**

| | |
|---|---|
| char | - Infections |
| attr | Annual infections, relationship with antibiotics → spread of |
| ctx | - |




**Characters**
Wage groups

**1**

**char** -

**attr** Change → cumulative change

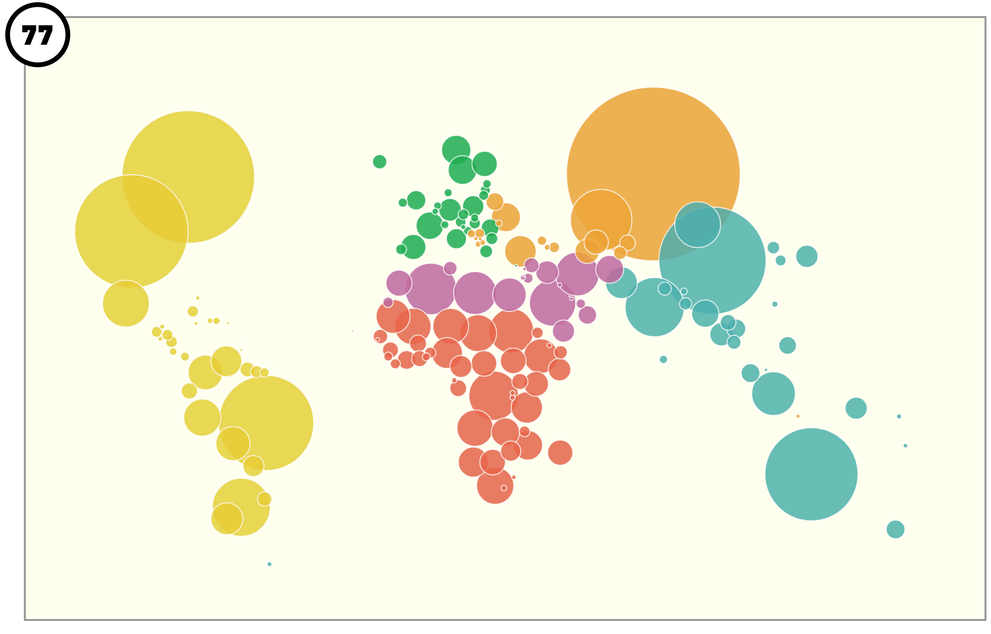
**ctx** -

**2**

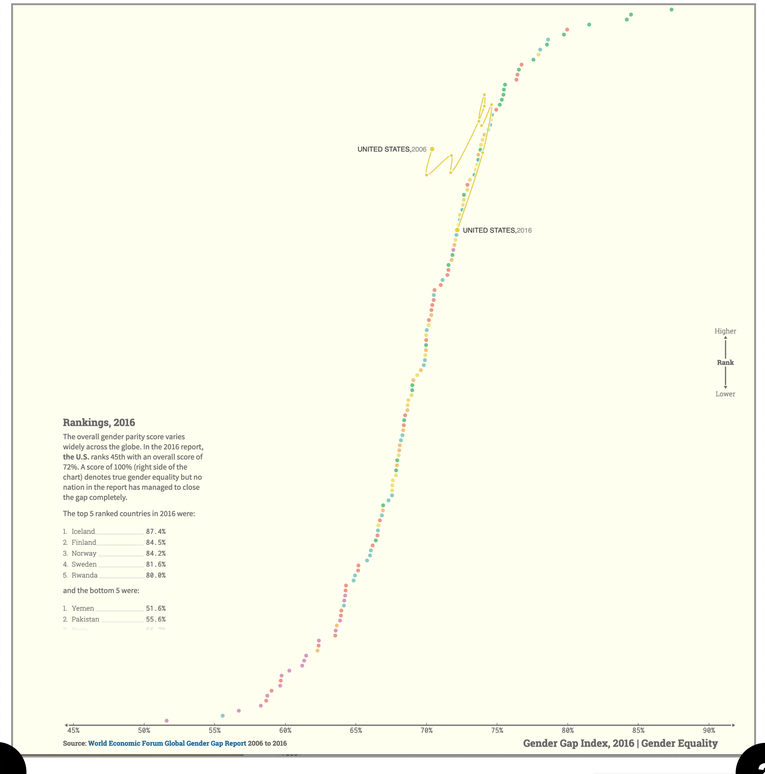
**char** Everyone

**attr** Cumulative change → unemployed per job

**ctx** -



**Characters**
Countries

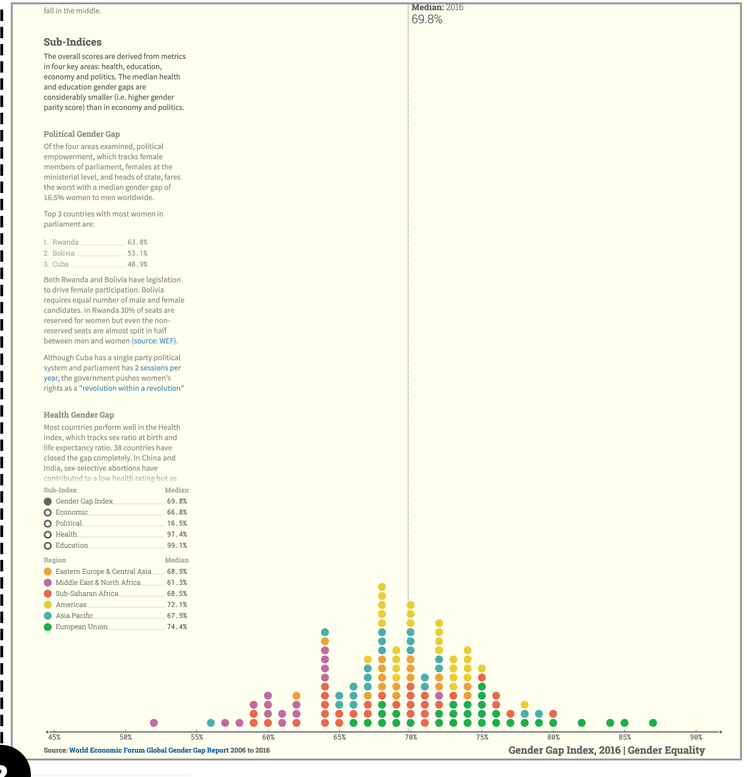



1

**char** -

**attr** Location → Gender gap index, ranking, time

**ctx** -

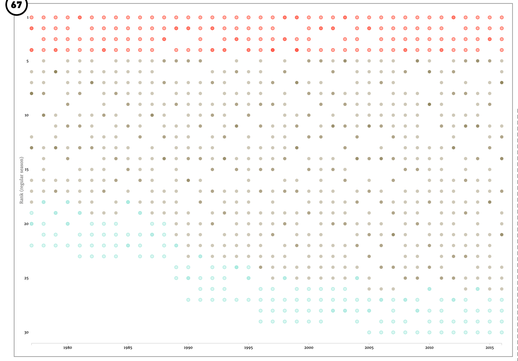



2

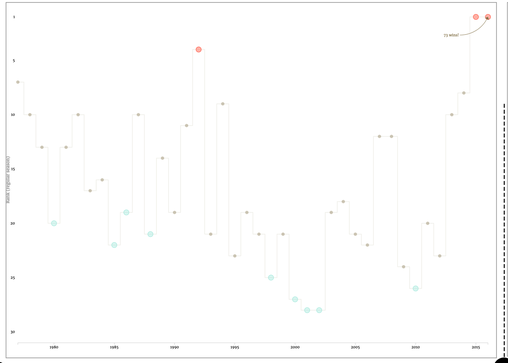
**char** -

**attr** + Economic, Political, Health and Education

**ctx** -




**Characters**
Teams

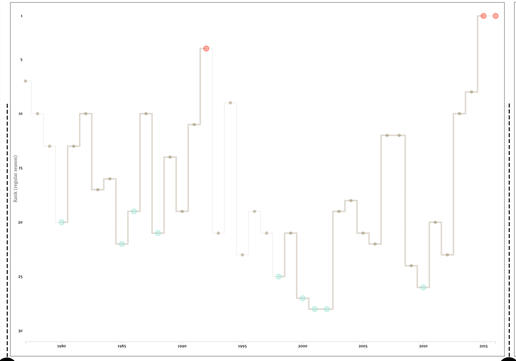



**1**

**char** Highlight Golden State Warriors

**attr** -

**ctx** -

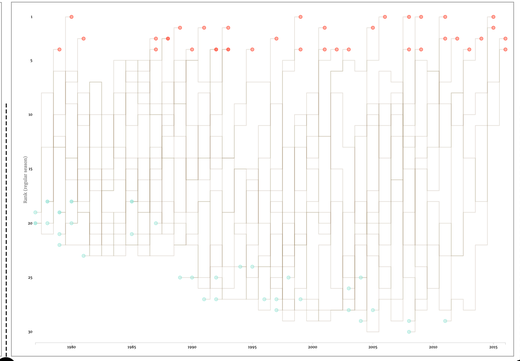



**2**

**char** Golden State Warriors → trips to the top

**attr** -

**ctx** -

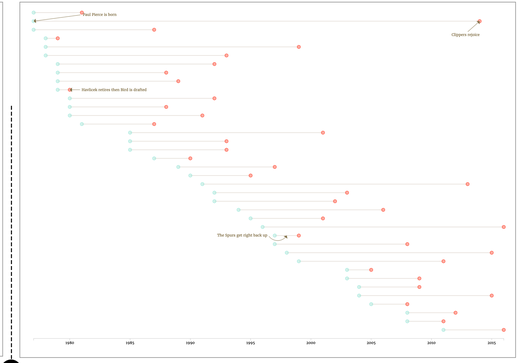



**3**

**char** Show trips to the top of other teams

**attr** -

**ctx** -




**4**

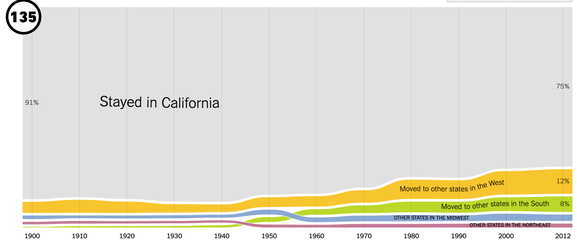
**char** -

**attr** Remove rank

**ctx** -

Where people born in California **have moved to**:

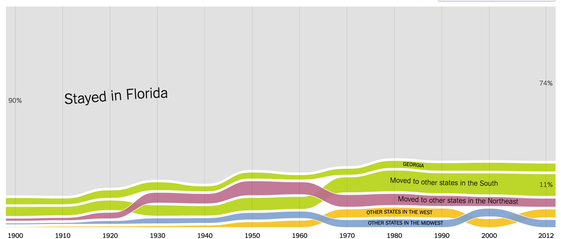
New! Switch to Migration Into California




**Characters**
Regions people moved to

Where people born in Florida **have moved to**:

New! Switch to Migration Into Florida




1

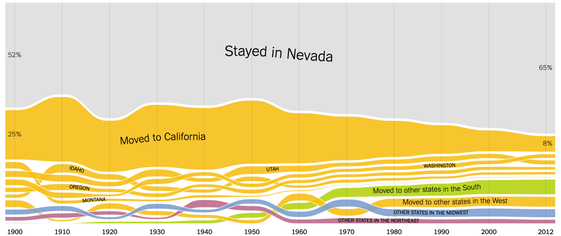
**char** + Georgia

**attr** -

**ctx** Claifornia → Florida

Where people born in Nevada **have moved to**:

New! Switch to Migration Into Nevada




2

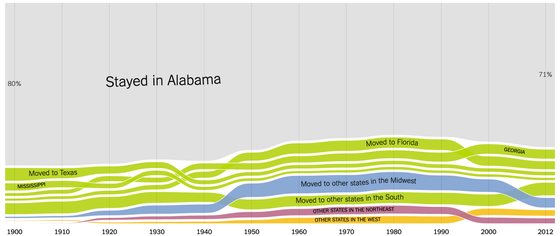
**char** Georgia → California, Utha, Washington, Idaho, Oregon, Montana

**attr** -

**ctx** Florida → Nevada

Where people born in Alabama **have moved to**:

New! Switch to Migration Into Alabama



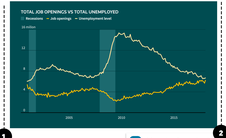

3

**char** California, Utha, Washington, Idaho, Oregon, Montana → Texas, Missisippi, Florida

**attr** -

**ctx** Nevada → Alabama

...




**Characters**
Labor force

1

**Line** Labor force → job openings & unemployed

**Bar** Percent growth → People

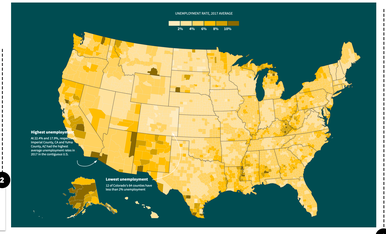
**Etc** -

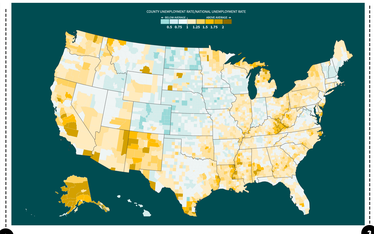
2

**Line** Job openings & unemployed → Counties

**Bar** → job openings

**Etc** -



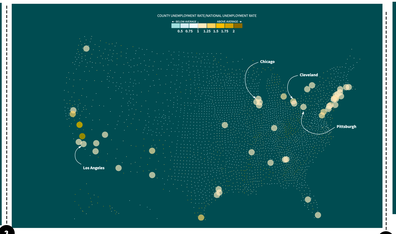




2

**Line** -

**Bar** Relative unemployement rate of county

**Etc** -

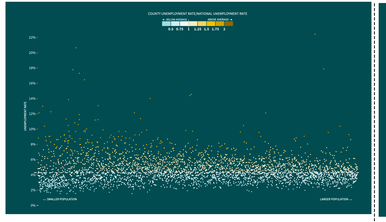



3

**Line** -

**Bar** + Population

**Etc** -

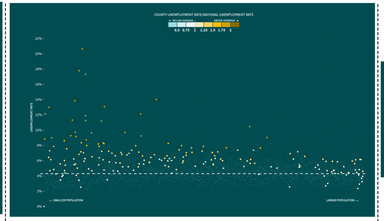



3

**Line** -

**Bar** Remap axes

**Etc** -




4

**Line** Highlight counties with majority non-white population

**Bar** -

**Etc** -

5

**Line** Counties → Total population

**Bar** Population size, unemployment rates → year, number of

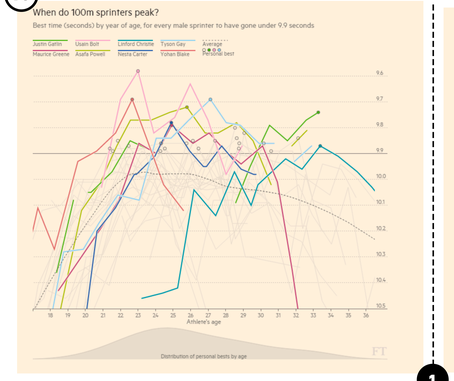
**Etc** -

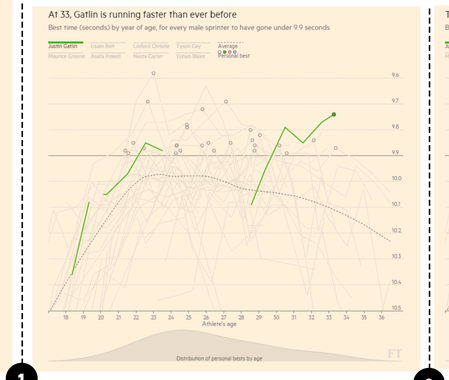
6

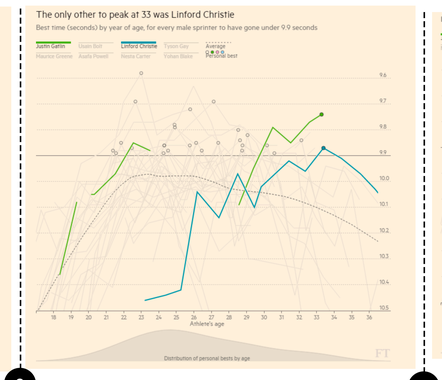
**Line** -

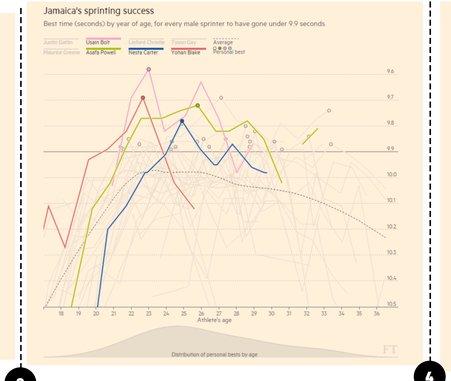
**Bar** Number of unemployedt → share of long term unemployed

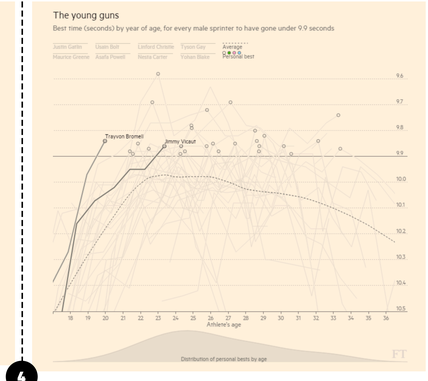
**Etc** -






**Characters**
Sprinter's careers

**1**

char Highlight Gatlin

attr -

ctx -

**2**

char Highlight Linford Christie

attr -

ctx -

**2**

char Highlight Bolt instead of Christie

attr -

ctx -

**3**

char Highlight Jamaican runners

attr -

ctx -

**4**

char Highlight young runners

attr -

ctx -

## After persistent rocket fire from Gaza, Israel **launches air campaign** and threatens ground invasion.

2008-9 **Day 1** of 23

Airstrikes hit more than 300 Palestinians — the highest one-day toll in decades. Israeli officials say the strikes are the start of an operation to force Hamas to end its rocket barrages and could include ground forces.

2012 **Day 1** of 8

Israel unleashes a ferocious air assault on Gaza, killing a top military commander of Hamas, and warns that a ground invasion could be coming.

2014 **Day 1**

Israel hits more than 200 targets — including senior Hamas officials, smuggling tunnels and rocket launch sites — and calls up army reserves in preparation for a possible ground invasion.

**Characters**
Conflicts

1

char Show more of conflict

attr -

ctx -

## The American government **publicly supports Israel's right to defend itself** but warns against civilian casualties.

2008-9 **Day 1**

Secretary of State Condoleezza Rice says the United States "strongly condemns the repeated rocket and mortar attacks against Israel" but also calls attention to the "urgent humanitarian needs of the innocent people of Gaza."

2012 **Day 1**

President Obama reiterates U.S. "support for Israel's right to self-defense in light of the barrage of rocket attacks" from Gaza, but urges Prime Minister Benjamin Netanyahu to make every effort to avoid civilian casualties.




2014 **Day 2**

Secretary of State John Kerry tells Mr. Netanyahu that no country "should be expected to stand by while rocket attacks from a terrorist organization are launching into their country." But he encourages all sides to avoid civilian casualties.

2

char Show more of conflict

attr -

ctx -

## Hamas responds with more rocket fire, and **launches rockets farther into Israel** than ever before.

2008-9 **Day 2**

A rocket falls near the major port city of Ashdod, almost 20 miles north of Gaza.

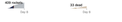
2012 **Day 3**

Palestinian militants fire at Jerusalem, about 48 miles from Gaza.




2014 **Day 2**

A Syrian-made M-302 rocket hits near Hadera, about 70 miles from Gaza. But Israel's Iron Dome missile defense system is effective in stopping many rockets from reaching populated areas.




3

char Show more of conflict

attr -

ctx -

## Israeli **ground campaign** begins.

2008-9 **Day 8**

The Israeli military says its main objective is to take control of Palestinian rocket launch sites.

2012 Israel did not begin a ground invasion in 2012.

2014 **Day 11**

The Israeli military says its main objective is to destroy tunnels Hamas has dug from Gaza into Israel.




4

char Show more of conflict

attr -

ctx -

## United Nations Secretary General **Ban Ki-moon arrives** in Cairo.

2008-9 **Day 14**

Mr. Ban presses all parties to carry out a Security Council resolution approved the previous day, calling for a cease-fire. He meets with President Hosni Mubarak of Egypt and issues a plea for peace.

2012 **Day 7**

Mr. Ban arrives to work on a cease-fire deal with Secretary of State Hillary Rodham Clinton and President Mohamed Morsi of Egypt.

2014 **Day 13**

Mr. Ban suggests a humanitarian pause might be the best path to a more durable cease-fire.

5

char Show more of conflict

attr -

ctx -

## United States **Secretary of State arrives** in the region to work on a cease-fire.

2008-9 The conflict occurs in the last month of George W. Bush's presidency, and Secretary Rice did not travel to the region.

2012 **Day 7**

Mrs. Clinton and Mr. Morsi work on a cease-fire. Mr. Morsi is also a leader in the Muslim Brotherhood, which has close ties to Hamas.




2014 **Day 14**

Mr. Kerry arrives in Cairo to work on a cease-fire, but the situation is more challenging than in 2012. With the ouster of Mr. Morsi, Egypt is seen as more aligned with Israel. As a result, Mr. Kerry turns to Qatar and Turkey as alternative mediators, a move that some say makes the United States appear less supportive of Israel.

6

char Show more of conflict

attr -

ctx -

## United Nations **Security Council takes action**.

2008-9 **Day 13**

The Security Council approves a resolution calling for an immediate cease-fire. The United States abstains from voting. Ms. Rice says, because it wants to see how efforts by Egypt play out.

2012 **Day 1**

At the request of Morocco, Egypt and the Palestinian delegate, the Security Council holds an emergency session to discuss the conflict, but does not take direct action.




2014 **Day 21**

After failing to reach consensus on a resolution, the Security Council issues a statement supporting a humanitarian cease-fire in Gaza.

7

char Show more of conflict

attr -

ctx -

## **Cease-fire** reached.

2008-9 **Day 23**

Under considerable pressure from the United States and other Western nations, Israel declares a unilateral cease-fire. Hamas follows.

2012 **Day 8**

Mrs. Clinton's diplomatic push succeeds and both sides agree to stop fighting.

2014 **Day 24**

Mr. Kerry and Mr. Ban announce that Israel and Hamas have agreed to a 72-hour humanitarian cease-fire. While this ceasefire appears to be more significant than several short humanitarian truces that fell apart in the preceding week, it too collapses, shortly after it starts.

char Show more of conflict

attr -

ctx -