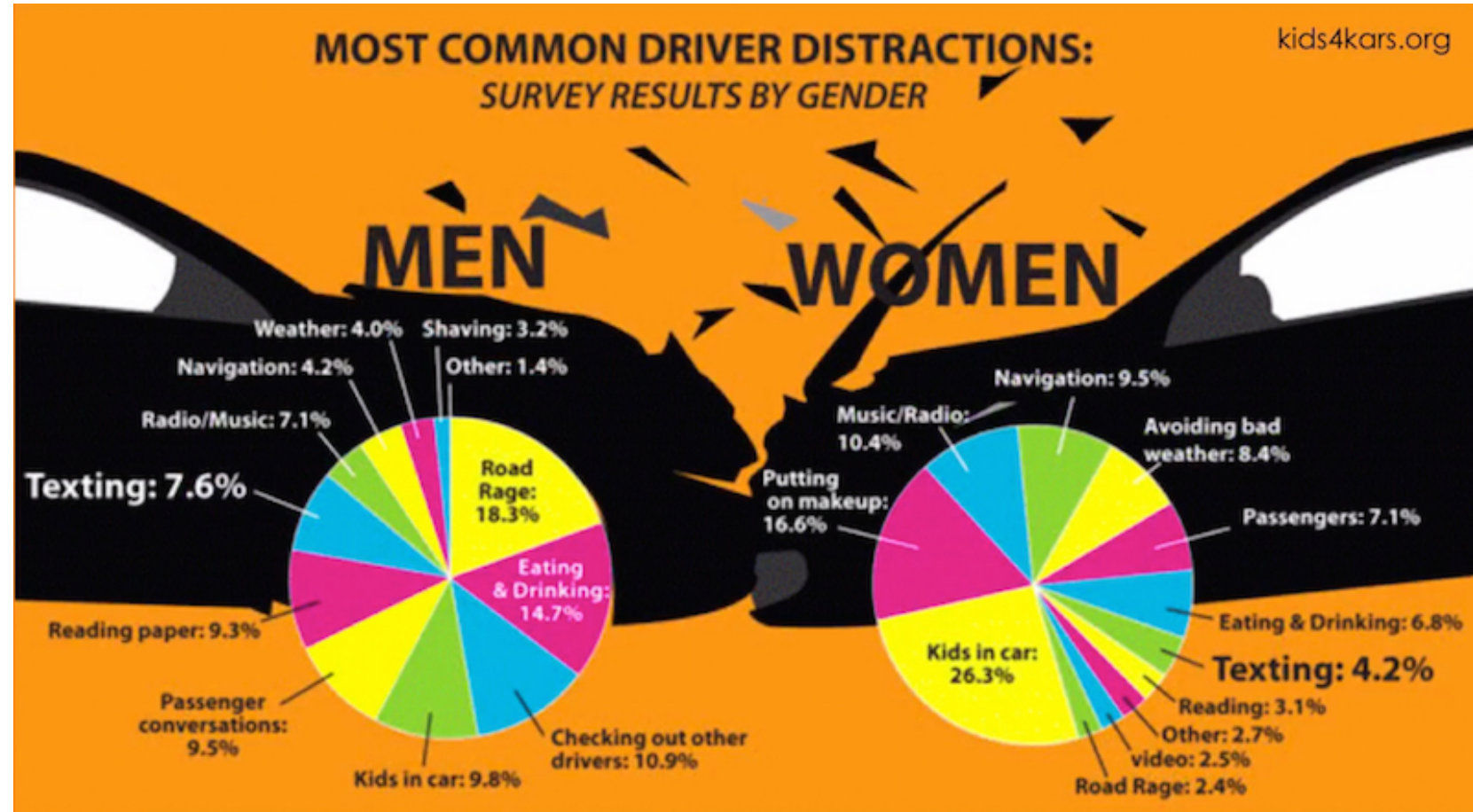


Clutter & focus

Telling Stories with Data
November 6, 2017



Plan for today

Miscellanea

Visual perception

Attention and focus

Practice

Miscellanea

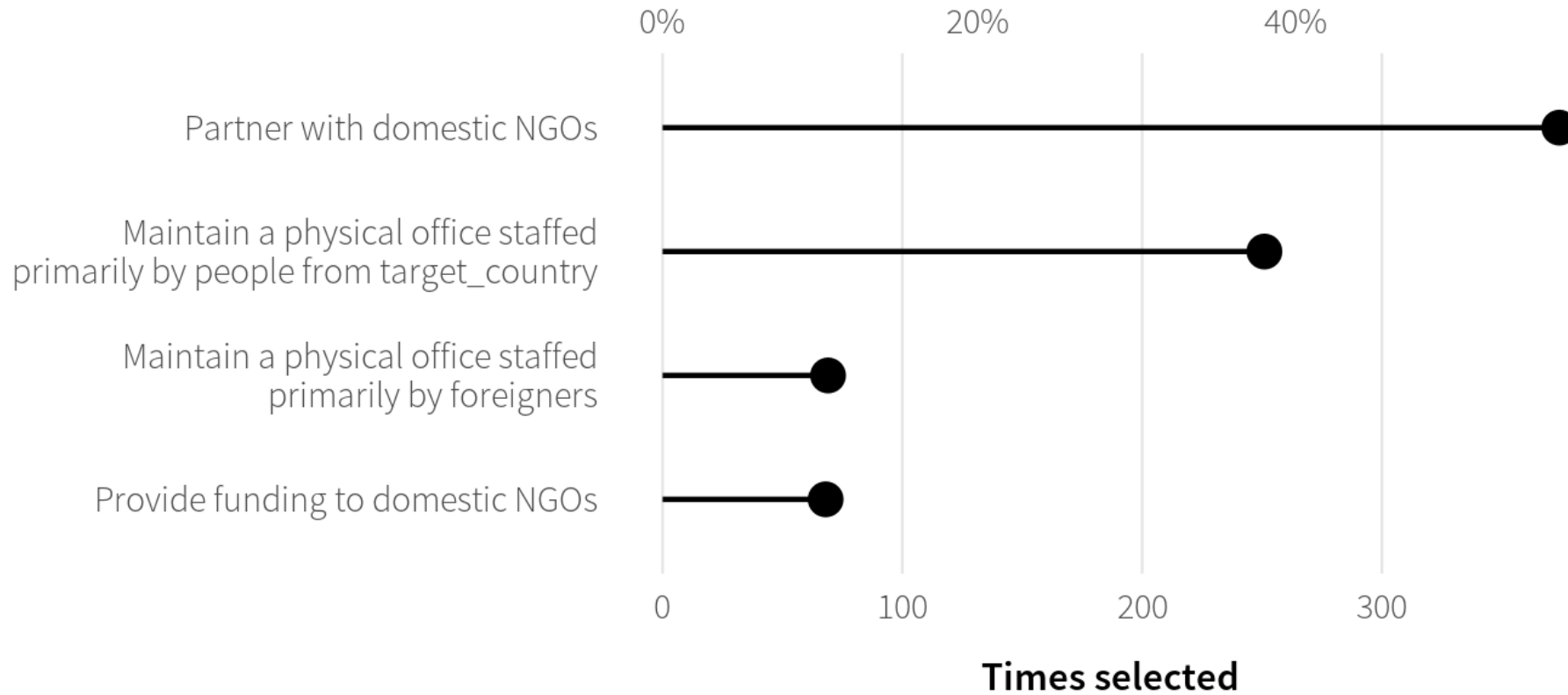
General issues

Feedback for assignments

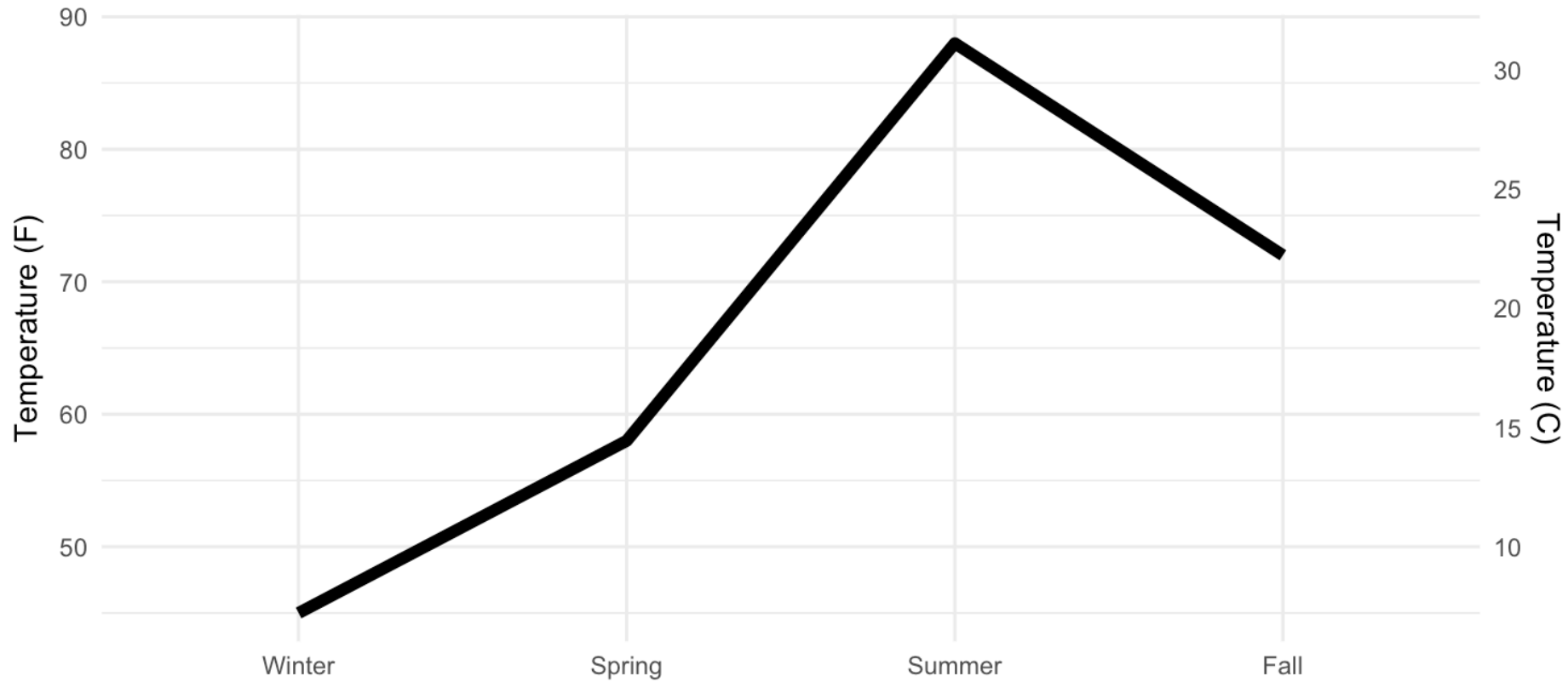
Project 1 changes

Late work

Dual y-axes



Dual y-axes





How do you know when
you've done enough CRAP?

Which elements of CRAP
are most important?

Quick practice

Families Can Be Together Forever

1. I have a fam'ly here on earth.
They are so good to me.
I want to share my life with them through all
eternity.
2. While I am in my early years,
I'll prepare most carefully,
So I can marry in God's temple for eternity.

Chorus:

Fam'lies can be together forever
Through Heav'nly Father's plan.
I always want to be with my own family,
And the Lord has shown me how I can.
The Lord has shown me how I can.

When I Am Baptized

1. I like to look for rainbows whenever there is
rain
And ponder on the beauty of an earth made
clean again.
2. I know when I am baptized my wrongs are
washed away,
And I can be forgiven and improve myself
each day.

Chorus:

I want my life to be as clean as earth right
after rain.
I want to be the best I can and live with God
again.

Baptismal Service
Miriam Heiss and Jack Murri

November 4, 2017

Conducting	Daniel Pittman
Pianist	Lisa Murri
Chorister	Peggy Shadel
Opening Song	<i>Families Can Be Together Forever</i>
Opening Prayer	Kate Murri
Talk on Baptism	Wayne Murri
Musical Number	<i>Baptism, A New Birth</i>
Composed by	Pearl H. Conrad
Accompanist	Karen Heiss
Talk on the Holy Ghost	Reid Heiss

Baptism and Confirmation

Miriam - Performed by Andrew Heiss
Witnesses - Bruce Layton and Patrick Layton

Jack - Performed by Dale Murri
Witnesses - Derrick Shadel and Wayne Murri

Closing Song	<i>When I Am Baptized</i>
Closing Prayer	Rachel Heiss



INSIGHTS

**4 IN 5 PEOPLE
WORLDWIDE SAY:**

**WE WELCOME
REFUGEES!**

An amazing 80% of people worldwide would welcome refugees with open arms – leaving their governments badly out of touch with reality.

When Amnesty asked more than 27,000 people across 27 countries if they would welcome refugees, the response was incredible: 4 in 5 people replied with a resounding “yes, we will”!

All over the world, people are watching in horror as the global refugee crisis goes from bad to worse. Our survey shows that while many governments still claim they simply can't find room for refugees, their citizens feel the opposite way.

The UK and Australian governments are probably more out of touch than any other leaders globally: an astonishing 87% of British people and 85% of Australians are ready to invite refugees into their countries, communities – even their own homes.

MOST WELCOMING: CHINA, GERMANY AND THE UK

We created a ranking based on our survey results, called the Refugees Welcome Index. China comes out on top, with almost half of those we spoke to saying they would accept refugees in their own home. Russia, Indonesia and Thailand – which thousands tried to reach by boat after fleeing Myanmar last year – came bottom of the list.

People in Germany and the UK are also taking the refugee crisis particularly personally, ranking second and third as the most welcoming.

Almost a third of people in the UK – 29% – are willing to open up their own homes to refugees. Another 47% would let refugees live in their neighbourhoods.

An incredible 96% of Germans, whose nation made room for 1 million people in the last year, are still open to the idea of hosting more. In Jordan, a small country already hosting over 600,000 refugees from Syria, 94% feel the same way.

GOVERNMENTS SHOULD HELP MUCH MORE

Almost 3 in 4 people worldwide – 73% – agree that people should be able to take refuge in other countries to escape war and persecution. This feeling is particularly strong in Spain (78%), Germany (69%) and Greece (64%).

Across the globe, 2 in 3 people, or 66%, say their governments should do more to help refugees. They include countries that have already welcomed huge numbers: 84% feel this way in Jordan, 76% in Germany and 74% in Greece. In Kenya, which hosts nearly 600,000 refugees – including 413,000 people from Somalia – 65% agree.

Others are waiting impatiently for their country to start pulling their weight: 86% of those we spoke to in China, for example, 85% in Nigeria, and 82% in Spain.

MAKE YOUR POLITICIANS LISTEN

Our survey results are overwhelmingly positive – but most governments still just aren't listening.

Only nine of the 27 countries covered by our survey have committed to taking in any of Syria's 4.8 million refugees. But they have only agreed to share fewer than 174,000 people between them.

Another four countries in our survey – Turkey, Jordan, Greece and Germany – are hosting millions, with very little help from other countries. Because most governments still pretend that protecting refugees is somebody else's problem.

Their attitude is badly out of touch with the inspiring “can do” attitude among their citizens.

Our survey shows that politicians have run out of excuses not to do their fair share: Instead of chasing headlines with anti-refugee rhetoric, they should be making brave decisions.

They can start by agreeing to share responsibility for those refugees who need help most.

Amnesty is pushing for more than 1 million refugees to be resettled by the end of 2017. It's not going to be simple, or easy, but as our survey shows, thousands of people stand ready to roll up their sleeves and pitch in to welcome refugees.



Children play in Ifo refugee camp, Dadaab, Kenya, December 2008.



Activists in the Netherlands lay out welcome mats for refugees.



TAKE ACTION:

Stand #WithRefugees <http://bit.ly/RefugeePledge>



80%

would welcome refugees in their country, community or home



73%

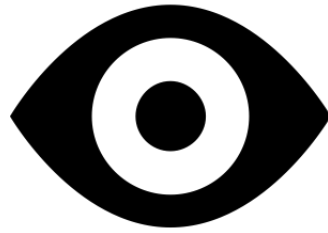
say people fleeing war or persecution should be able to take refuge in other countries



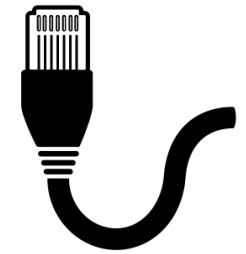
66%

want their governments to do more to help refugees

Visual perception



10 Mbps
(10 million bits per second)

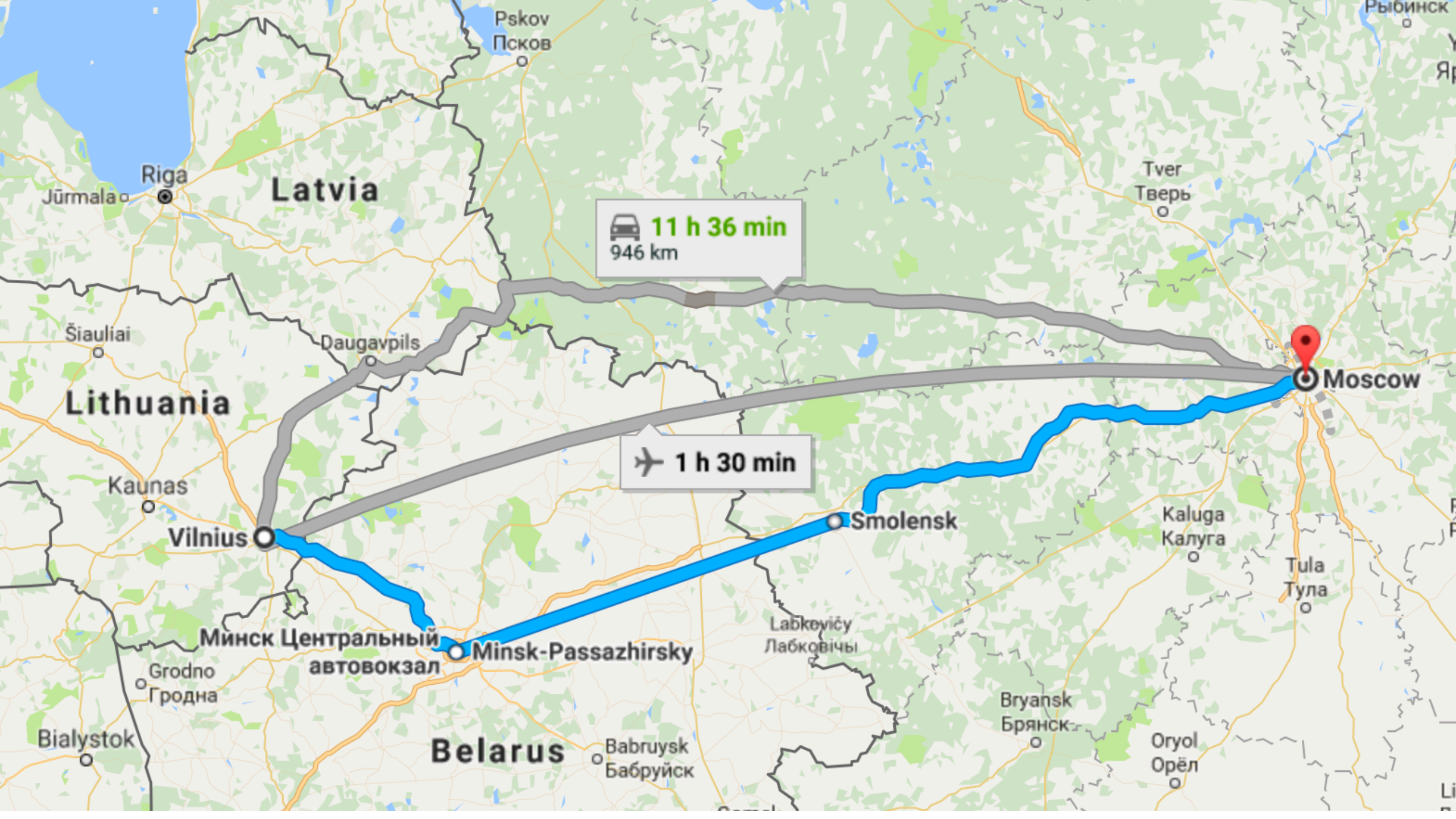


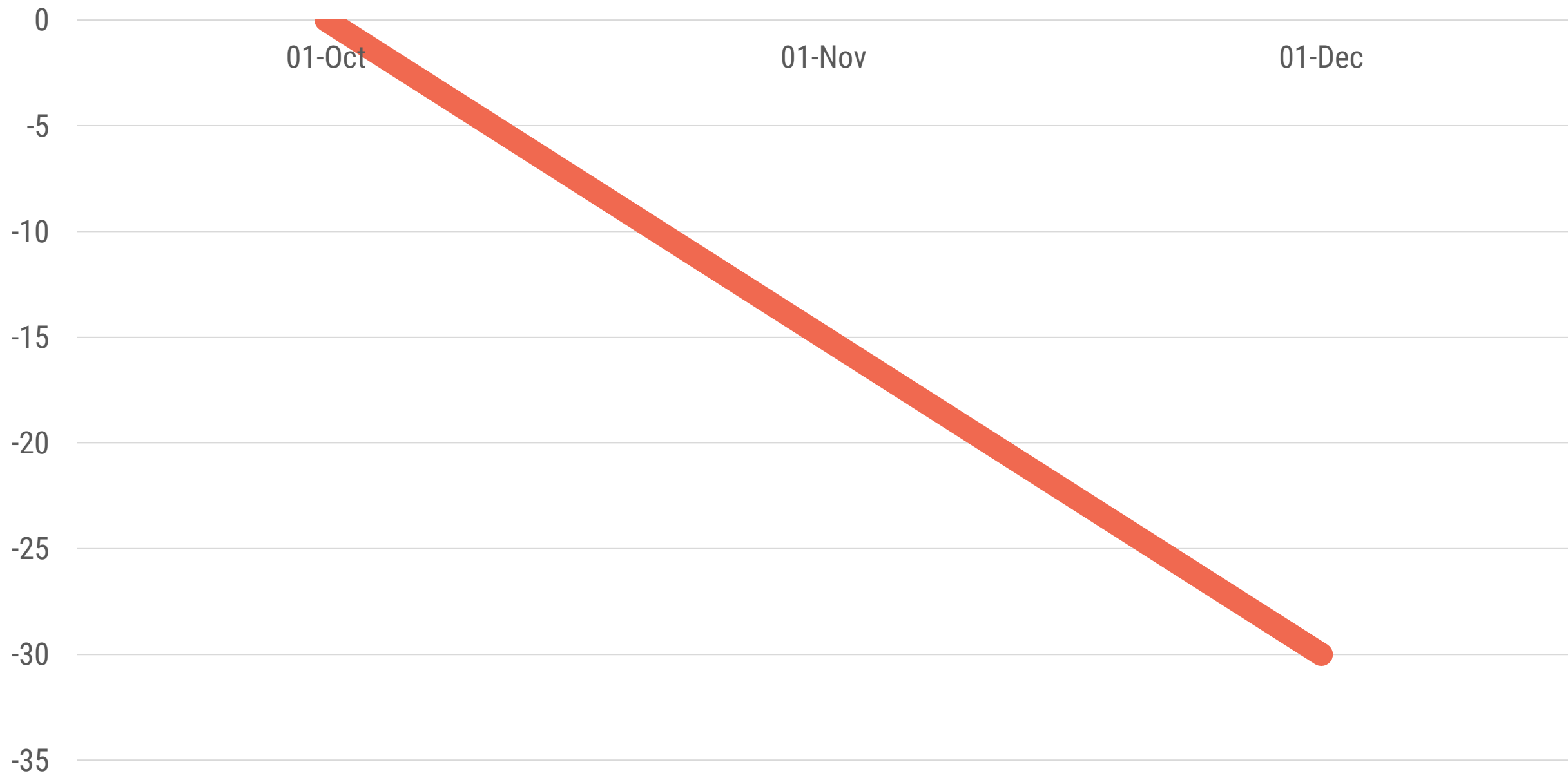
40 words • 60 seconds
≈ 2,000 bits • 33 bps



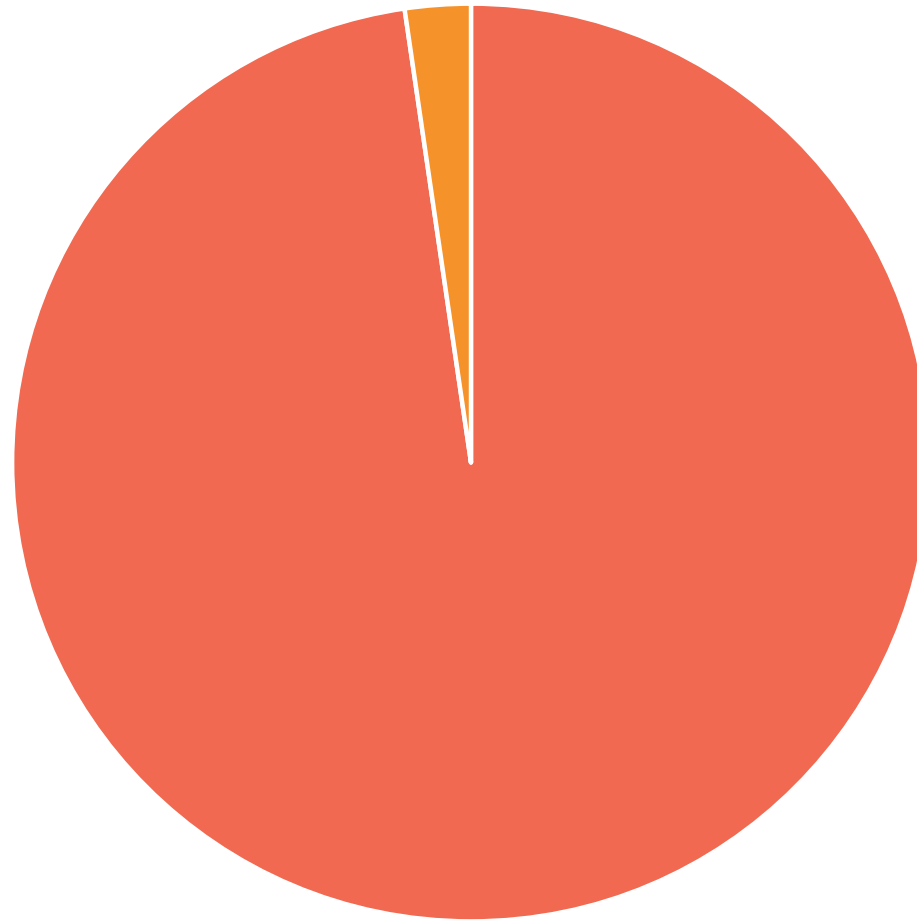
500 words • 110 seconds
12.5 slides
≈ 24,400 bits • 222 bps







Napoleon's Grande Armée



■ Died ■ Survived

Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite. Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui entrent en Russie, le noir ceux qui en sortent. — Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M.M. Chiers, de L'égur, de Fezensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davoust qui avaient été détachés sur Minsk et Mohilow et ont rejoint vers Orscha et Witebsk, avaient toujours marché avec l'armée.

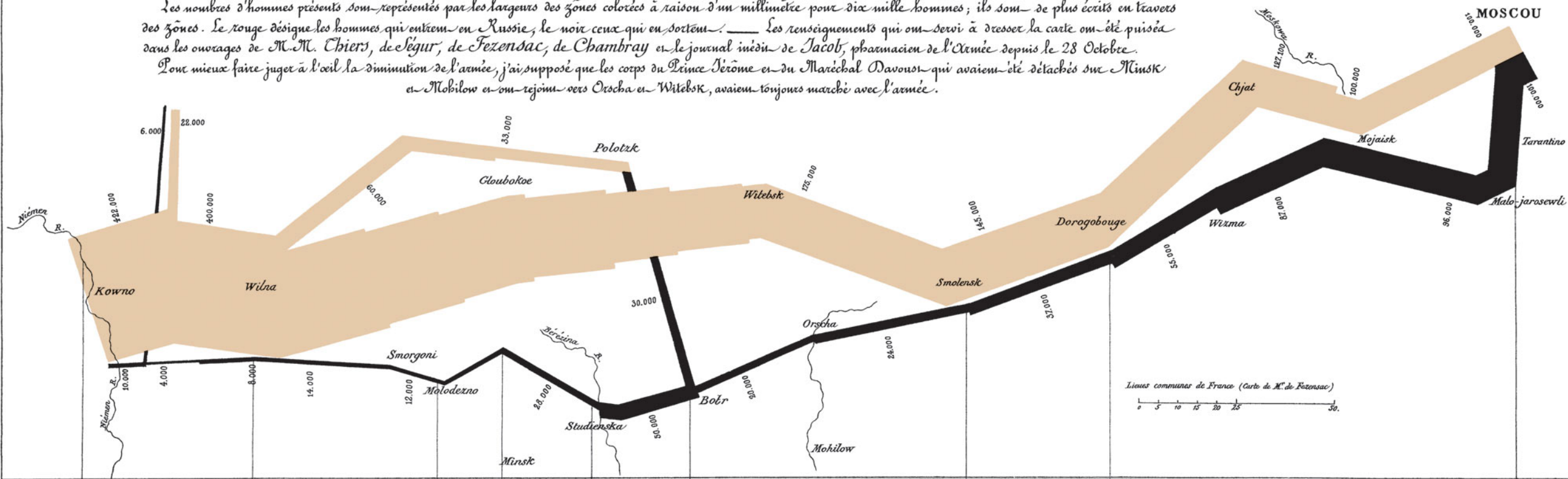
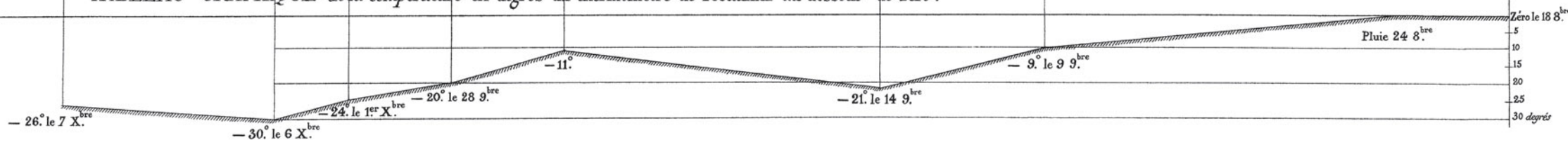


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.

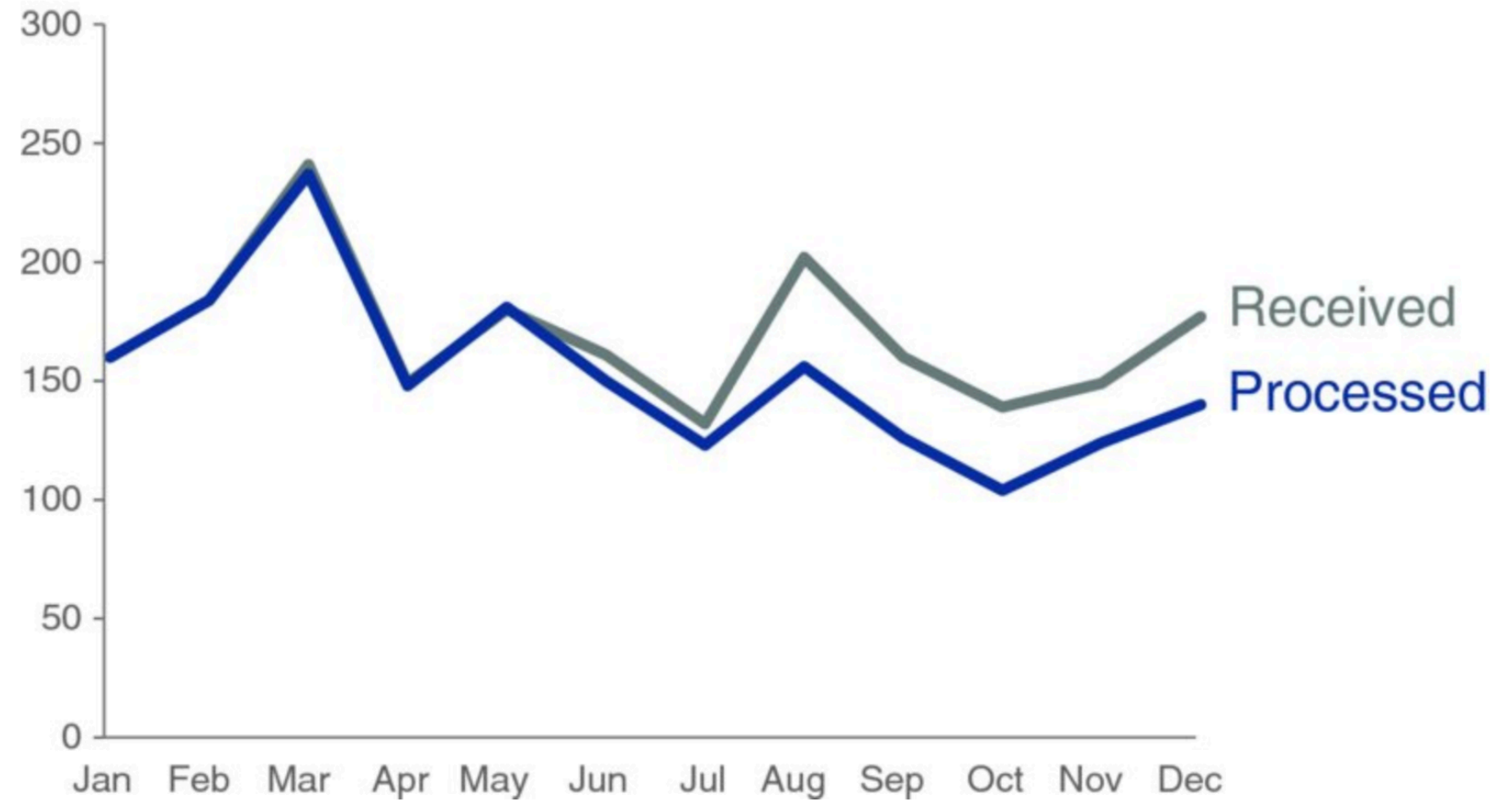
Les Cosaques passent au galop le Niémen gelé.



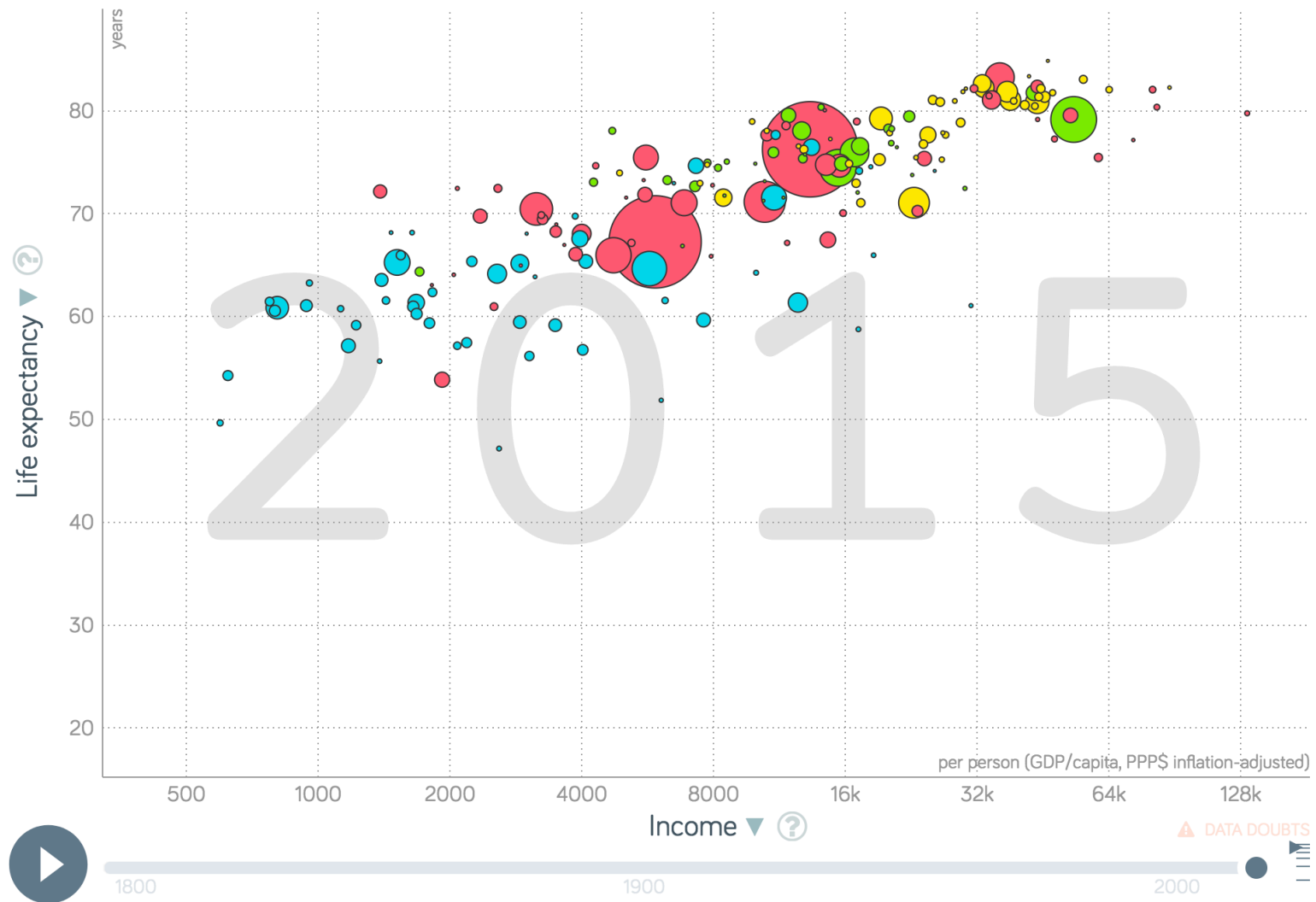
$$d - i \text{ ratio} = \frac{\textit{data ink}}{\textit{total ink}}$$

“That which gives the viewer the greatest number of ideas in the shortest time with the least ink in the smallest space.”

Data-ink ratio vs. clutter



Data-ink ratio vs. clutter



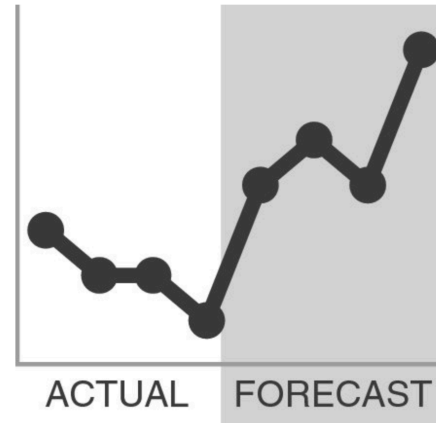
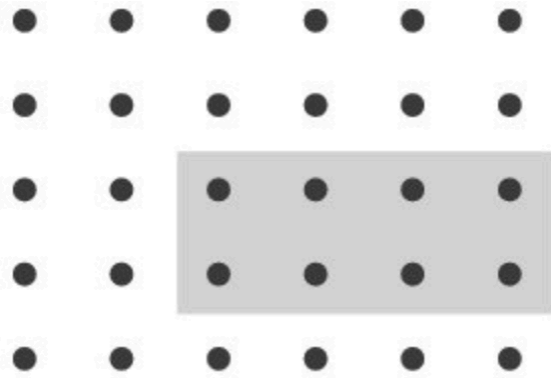
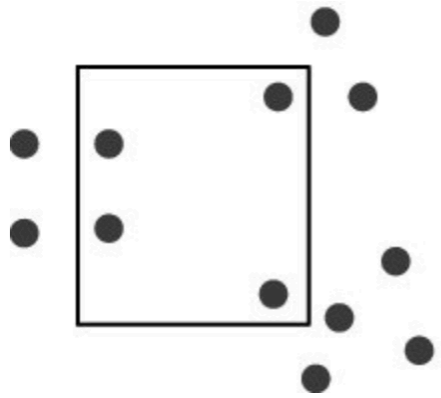
Proximity



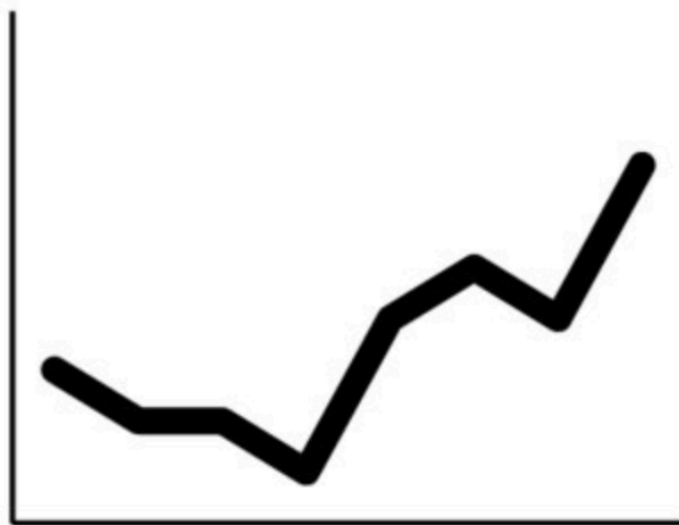
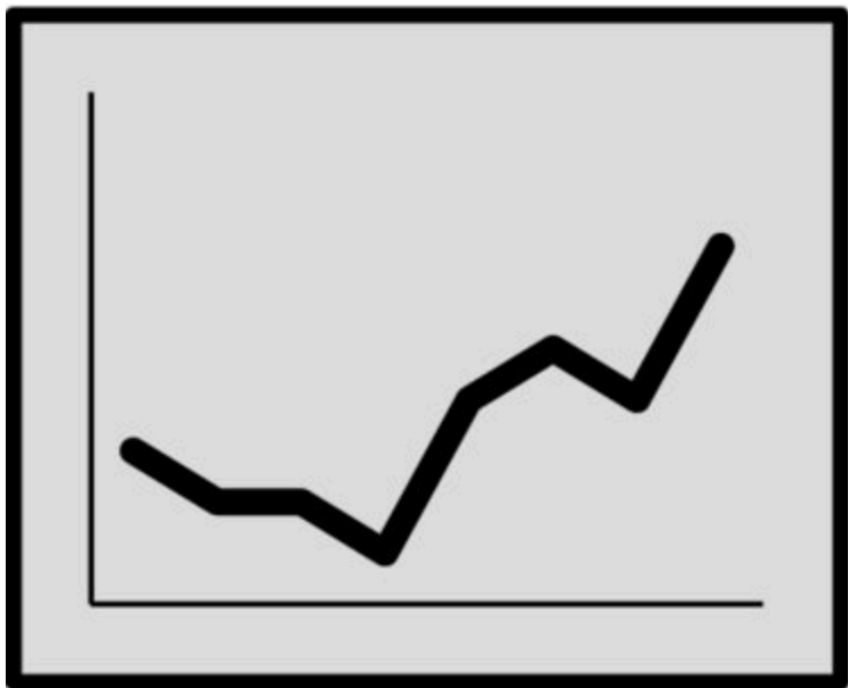
Similarity



Enclosure



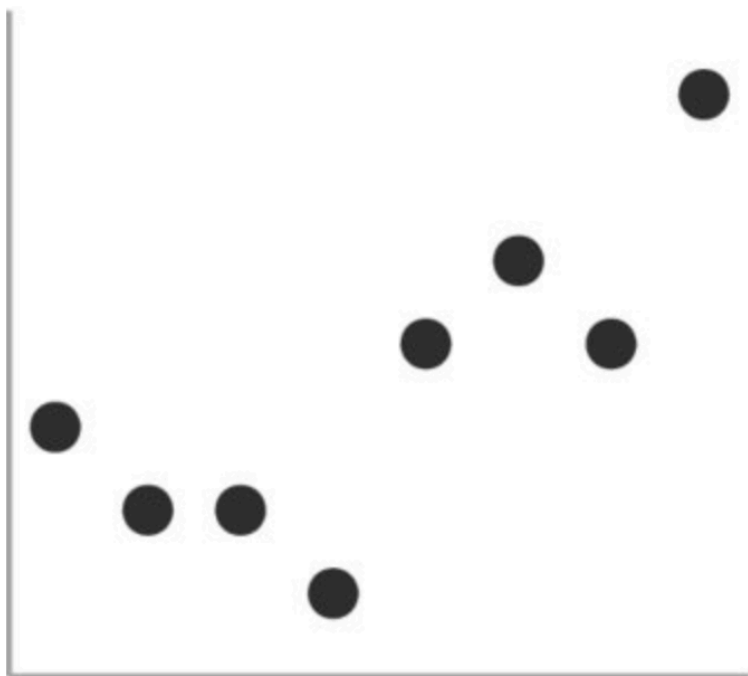
Closure



Continuity



Connection



Does this work?

Proximity

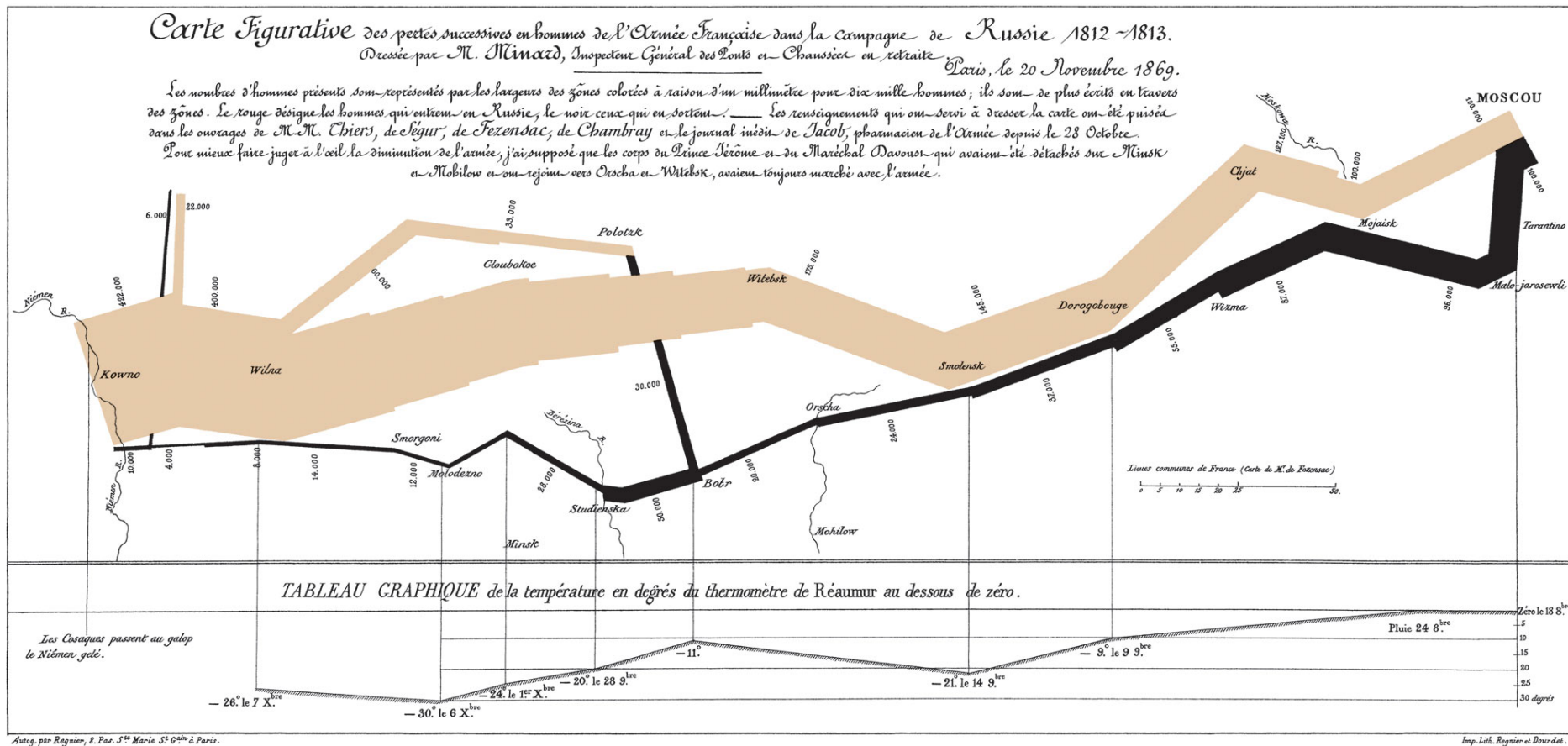
Similarity

Enclosure

Closure

Continuity

Connection



Attention and focus

Use contrast to influence attention



Orientation



Shape



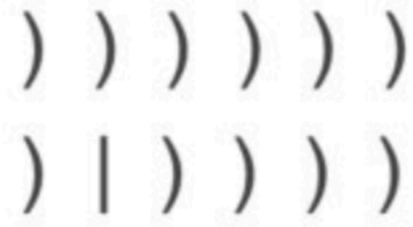
Line length



Line width



Size



Curvature



Added marks



Enclosure



Hue



Intensity



Spatial position



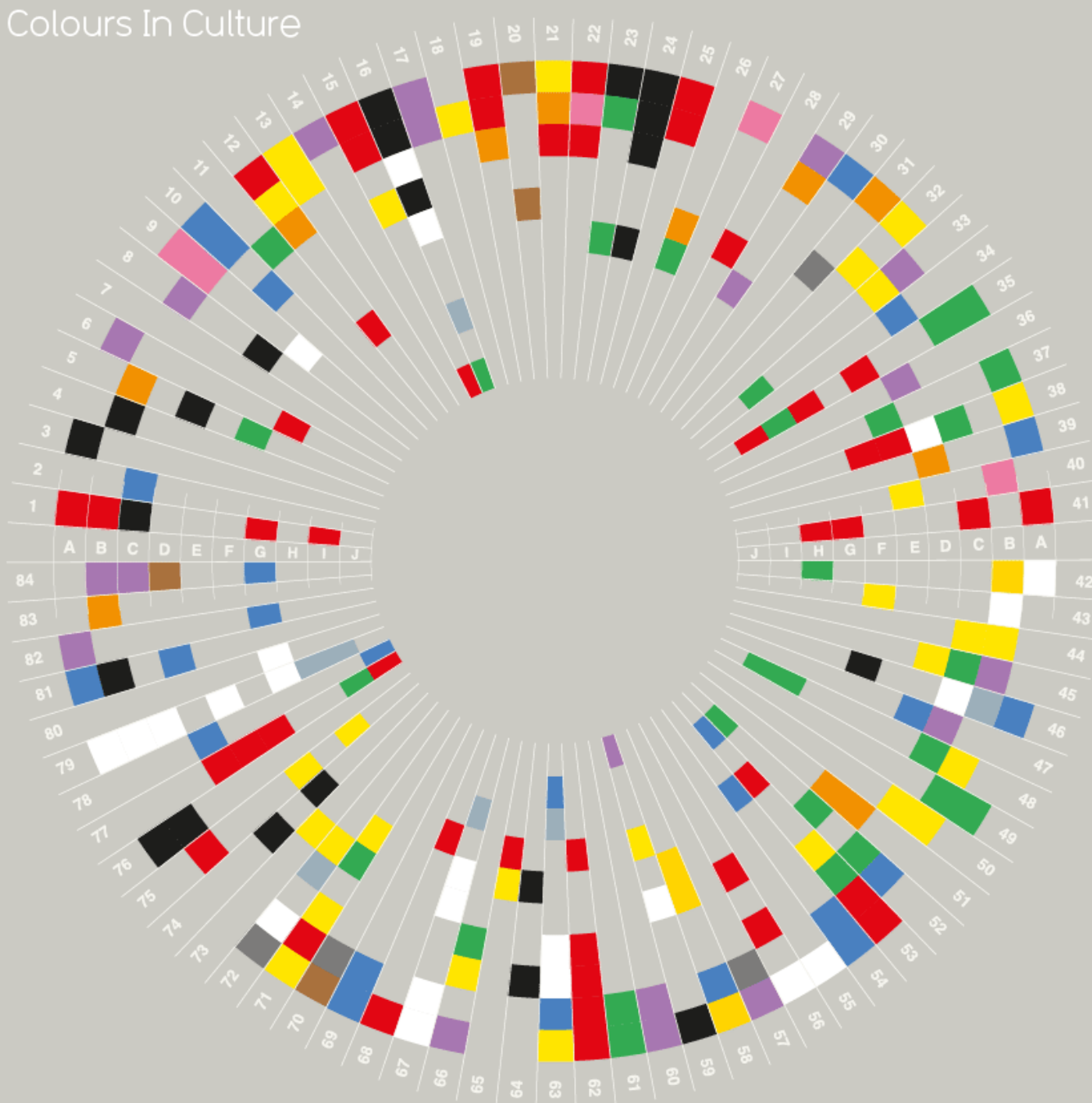
Motion

Notes on color

Cultural connotations

Colorblindness

Colours In Culture



- | | | |
|----------------------|--------------------|----------------|
| A Western / American | 1 Anger | 19 Desire |
| B Japanese | 2 Art / Creativity | 20 Earthy |
| C Hindu | 3 Authority | 21 Energy |
| D Native American | 4 Bad Luck | 22 Erotic |
| E Chinese | 5 Balance | 23 Eternity |
| F Asian | 6 Beauty | 24 Evil |
| G Eastern European | 7 Calm | 25 Excitement |
| H Muslim | 8 Celebration | 26 Family |
| I African | 9 Children | 27 Femininity |
| J South American | 10 Cold | 28 Fertility |
| | 11 Compassion | 29 Flamboyance |
| | 12 Courage | 30 Freedom |
| | 13 Cowardice | 31 Friendly |
| | 14 Cruelty | 32 Fun |
| | 15 Danger | 33 God |
| | 16 Death | 34 Gods |
| | 17 Decadence | 35 Good Luck |
| | 18 Deceit | 36 Gratitude |

- | | | |
|-----------------|-------------------|---------------------|
| 37 Growth | 55 Luxury | 73 Royalty |
| 38 Happiness | 56 Marriage | 74 Self-cultivation |
| 39 Healing | 57 Modesty | 75 Strength |
| 40 Healthy | 58 Money | 76 Style |
| 41 Heat | 59 Mourning | 77 Success |
| 42 Heaven | 60 Mystery | 78 Trouble |
| 43 Holiness | 61 Nature | 79 Truce |
| 44 Illness | 62 Passion | 80 Trust |
| 45 Insight | 63 Peace | 81 Unhappiness |
| 46 Intelligence | 64 Penance | 82 Virtue |
| 47 Intuition | 65 Power | 83 Warmth |
| 48 Religion | 66 Personal power | 84 Wisdom |
| 49 Jealousy | 67 Purity | |
| 50 Joy | 68 Radicalism | |
| 51 Learning | 69 Rational | |
| 52 Life | 70 Reliable | |
| 53 Love | 71 Repels Evil | |
| 54 Loyalty | 72 Respect | |

- Yellow
- Grey
- Gold
- Silver

Colorblindness

Chart Title

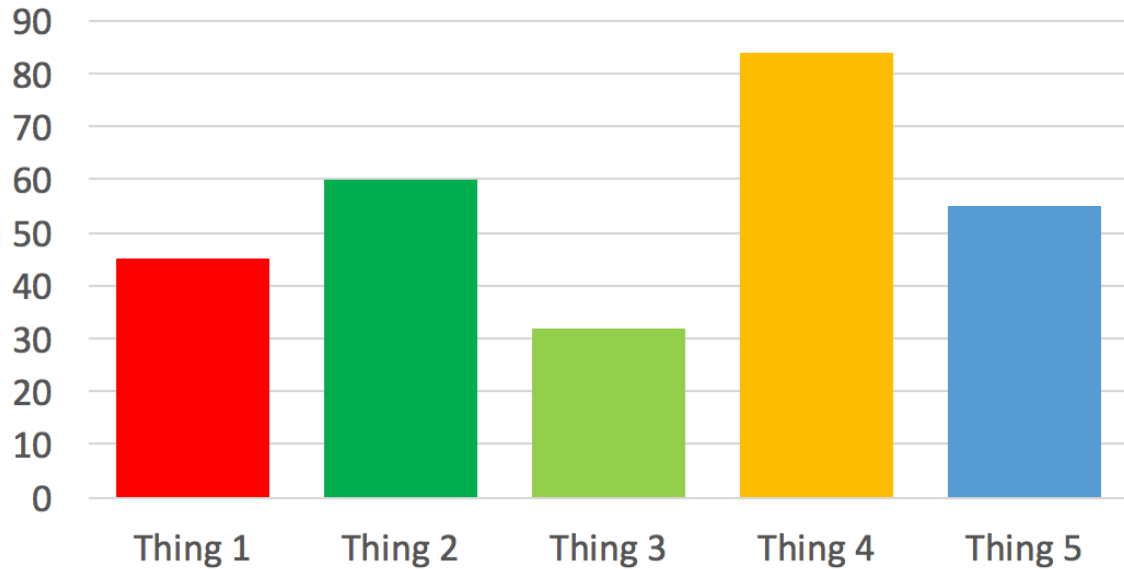
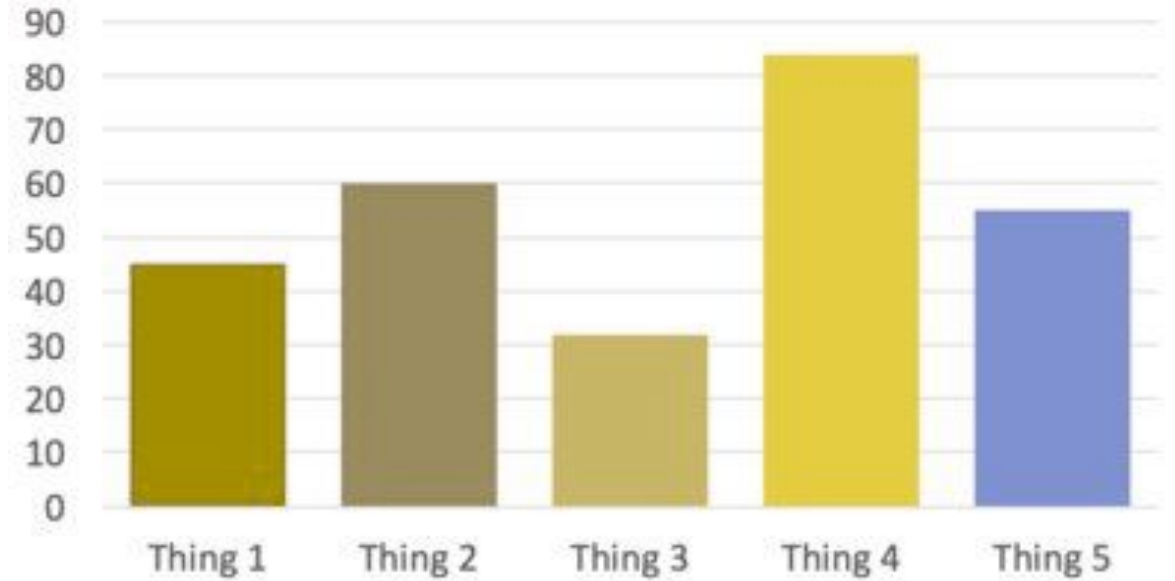


Chart Title



Deuteranope
Red/Green

viridis palettes



rainbow



heat



ggplot default



brewer blues



brewer yellow-green-blue



viridis



magma



rainbow



heat



ggplot default



brewer blues



brewer yellow-green-blue



viridis



magma



Practice

Workflow for working with data graphics

