

Static viz: suggesting order

- In oral or written communication, we can point at important things and say “LOOK! THIS IS THE COOL PART!”
- Or we can reveal things in a mysterious way
- Static visual communication is harder – we want to show everything for context, but highlight the cool part

Preattentive attributes

See what we want you to see
before you even know it's
happening

756395068473

658663037576

860372658602

846589107830

756**3**95068473

65866**3**0**3**7576

860**3**72658602

8465891078**3**0

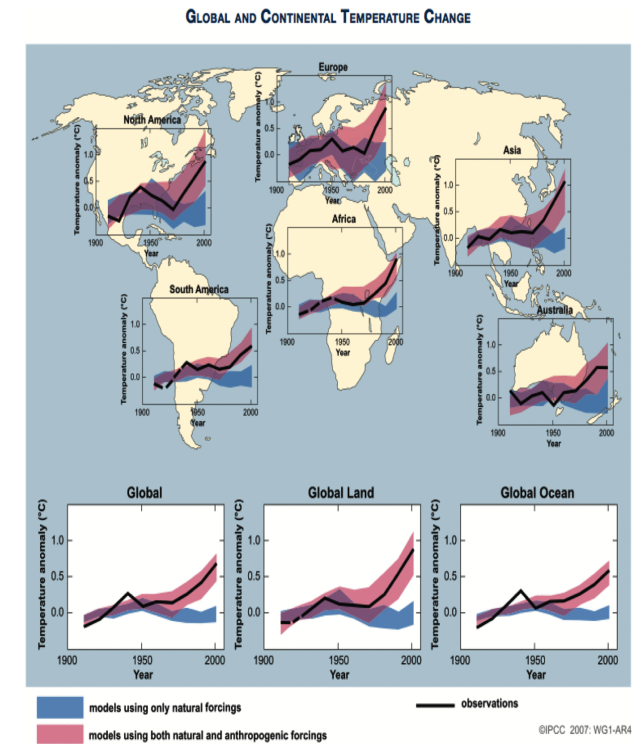
Preattentive attributes

- Signal where to look
- Emphasise important parts – what is the take-away?
- Show hierarchy – lead audience through information in the right order

Preattentive attributes

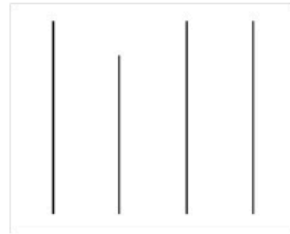
In **text**, we know how to **emphasise** different *elements*

What about in symbols or
visualisations?

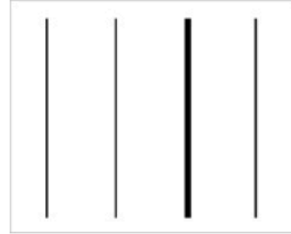


Preattentive attributes of visual perception

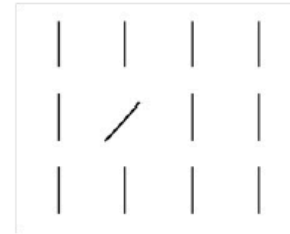
Form



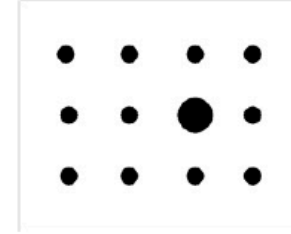
Length



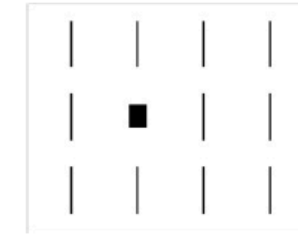
Width



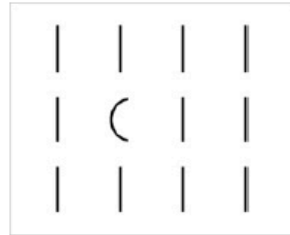
Orientation



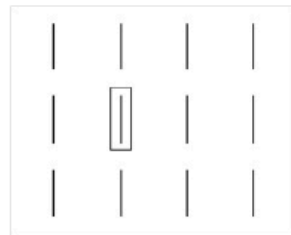
Size



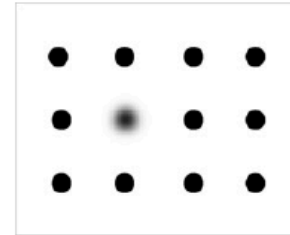
Shape



Curvature

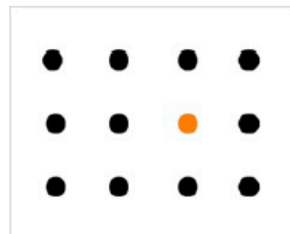


Enclosure

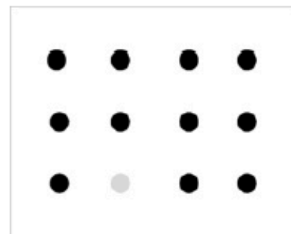


Blur

Color

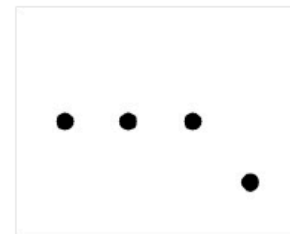


Hue

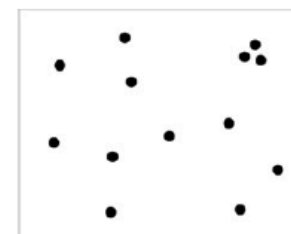


Intensity

Position



2-D position



Spatial Grouping

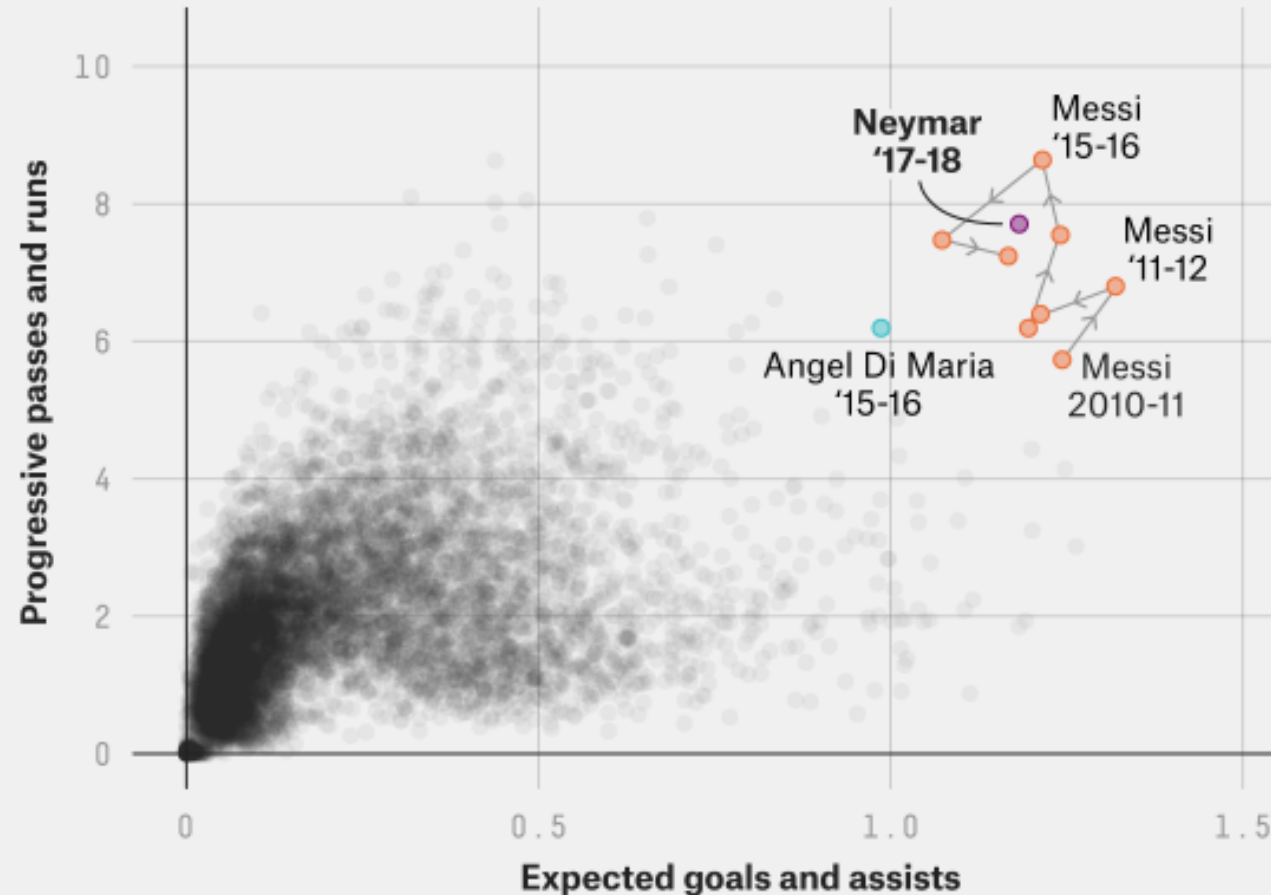
Motion



Direction of Motion

Neymar has been playing like Lionel Messi

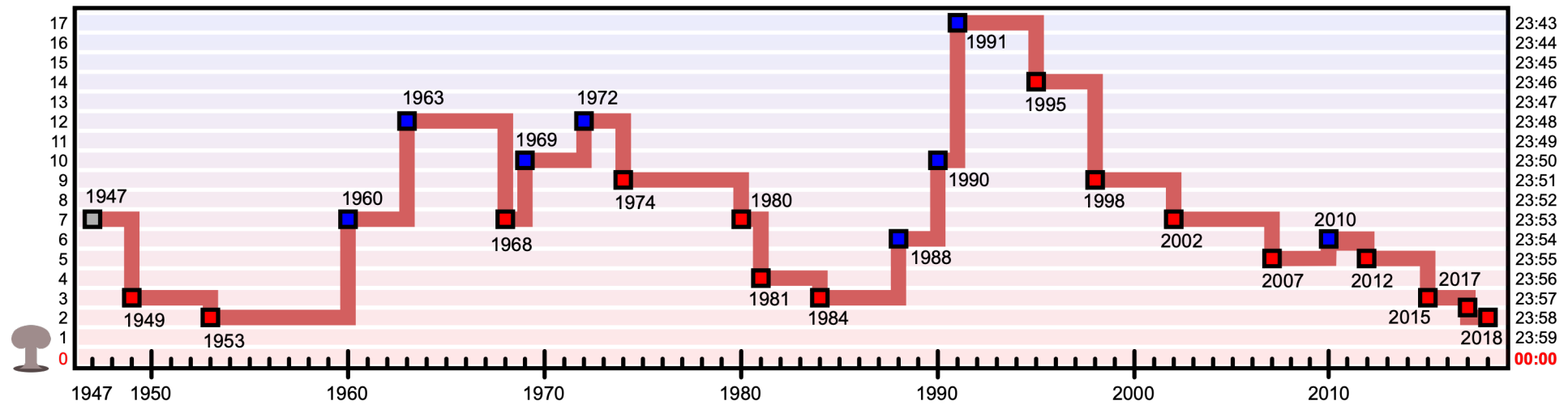
Every player-season in Europe's big five leagues by progressive passes and runs* per 90 minutes vs. expected goals and assists per 90 minutes, 2010-18



*When a player moves the attack forward by 10+ yards beyond its furthest point of progression or moves the ball into the penalty area for the first time in a possession.

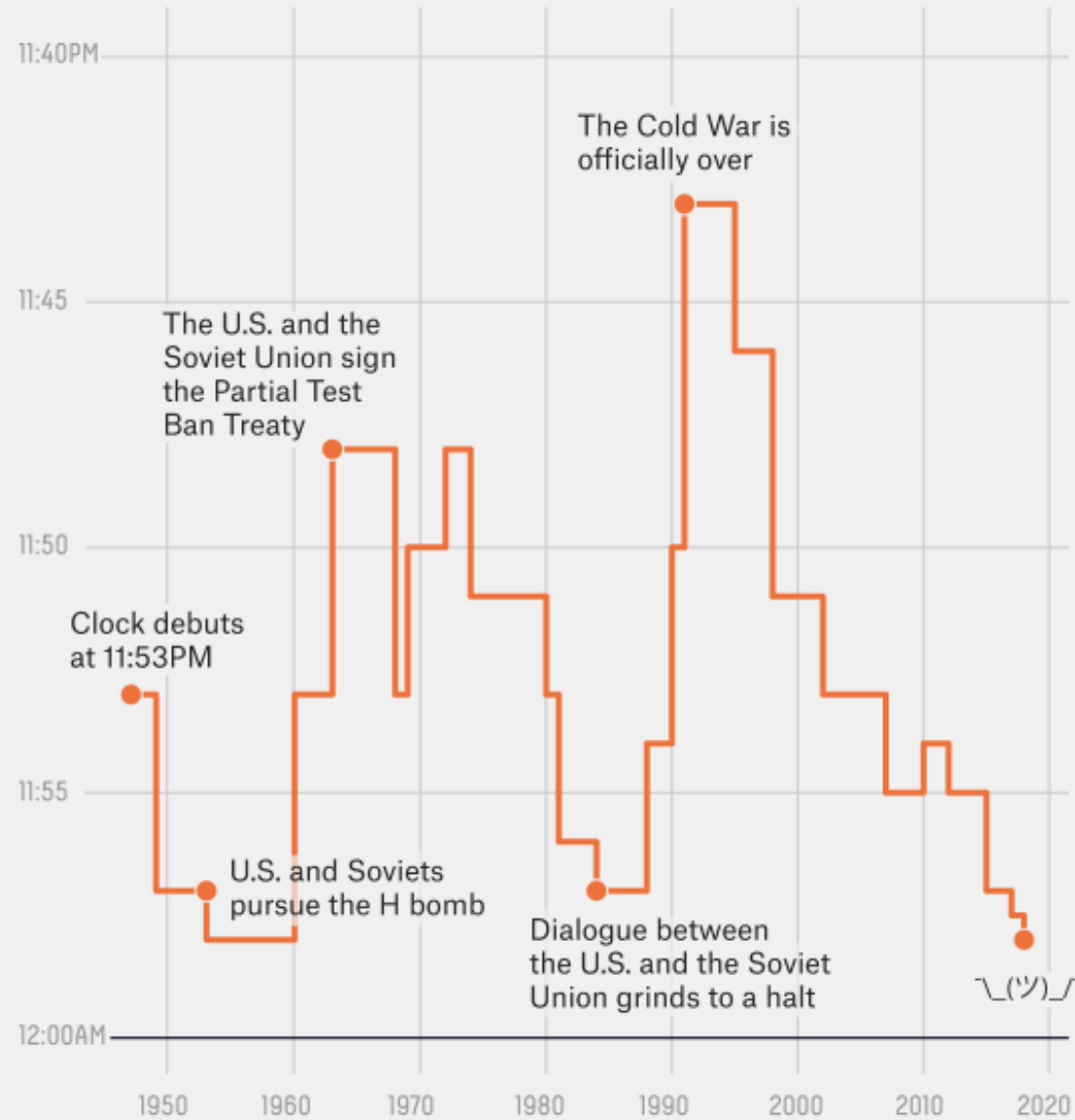
Excluding players' seasons in which they played less than 1,500 minutes.

Doomsday clock: minutes to midnight, 1947-2018



The clock strikes at midnight

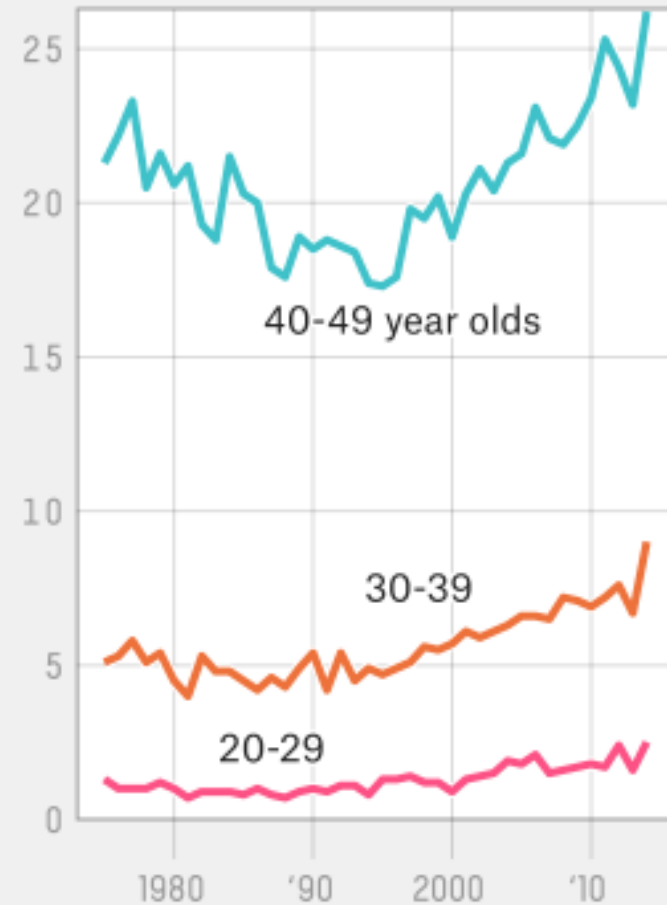
The position of the Doomsday Clock since 1947



More younger people are getting colorectal cancer, but it's still relatively rare

Cases of colorectal cancer per 100,000 people, by age group

Age groups under 50



Preattentive attributes

In future effective data viz lecture, we will talk about how to lean on preattentive attribute theory to

make better graphics

(and how to implement them in ggplot2 & R)