

# Evolution of Economic Behavior

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TSE M1 – Semester 1

September 2022

Paul Seabright

Week 3

# What is difficult to explain about human cooperation?

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- Although the benefits of cooperation in human societies are large, the costs of being cheated are also very large
  - These include not just loss of resources but loss of life
  - Rates of violent death in prehistoric populations were very high
  - This was partly because humans have interacted with non-relatives on a large scale, since before the development of agriculture and settled populations
  - As we'll see later, since Hamilton's work in biology we have come to understand that cooperation between relatives is easy to understand, cooperation between non-relatives is harder, with strangers harder still
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# How far we've come: a historical perspective on risk in human societies

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- The Forty-ninth World Health Assembly (1996, in Resolution WHA49.25), noted “with great concern the dramatic worldwide increase in the incidence of intentional injuries affecting people of all ages and both sexes, but especially women and children”
- “The twentieth century will be remembered as a century marked by violence” - Nelson Mandela, preface to *World Report on Violence and Health*



## ...provoking speculative explanations?

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- “On Sunday former House Speaker Newt Gingrich blamed 40 years of liberalism for an increasingly violent and vicious society.” – ABC News interview, April 23<sup>rd</sup> 2007



# A historical perspective on risk in human society

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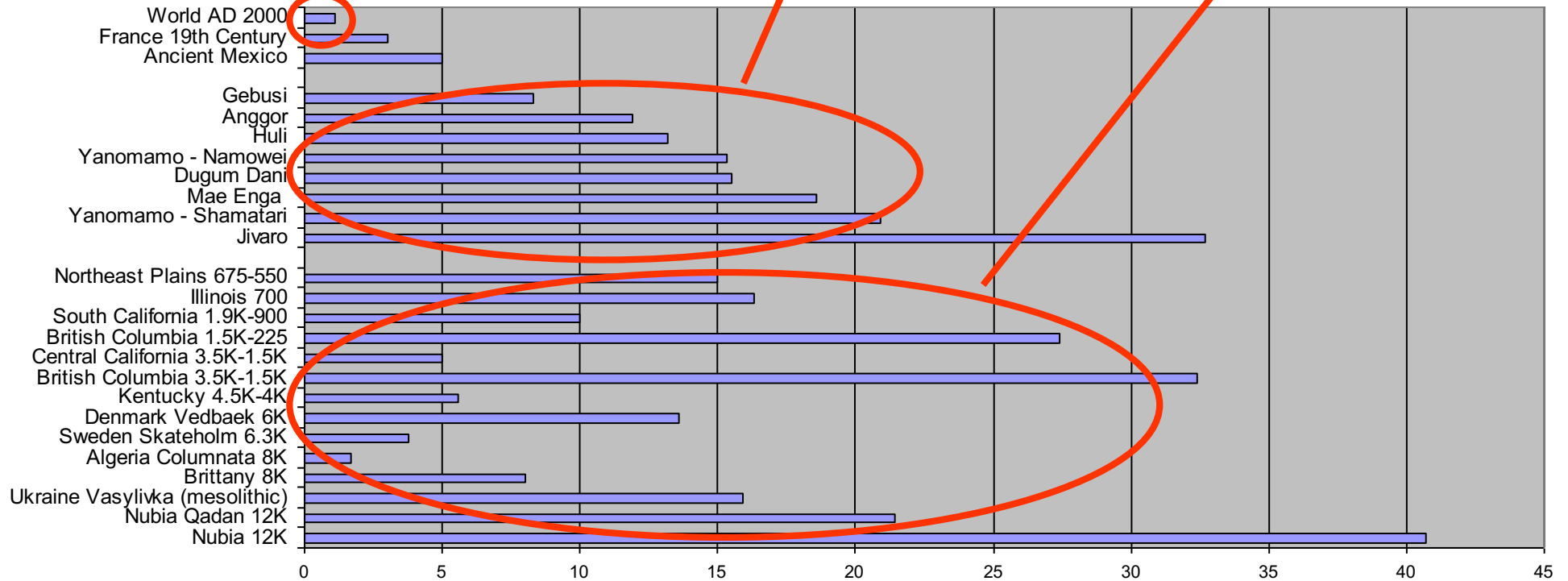
- There were 56.9 million deaths worldwide in 2016; of these 184,000 (0.3%) were in war and 477,000 (0.8%) in interpersonal violence.
  - Compare this with 793,000 suicides (1.4%), 1,454,000 (2.5%) in road accidents, 322,000 (0.6%) from drowning and 660,00 (1.2%) from falls.
  - Even in Africa the rates were 0.2% war, 1.2% interpersonal violence, 0.9% suicide, 3.2% road accidents (cf. 8.1% AIDS and 4.6% malaria).
  - For the 20th century as a whole (including two world wars), war and violence caused around 3.7% of all deaths.
  - In hunter gatherer societies violence is estimated (Bowles 2009) to have caused 14% of deaths – more than ten times today's rate!
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Today

Ethnographic evidence

Archaeological evidence

**Percentage of Deaths Due to Warfare**  
various studies (source: Keeley 1996)



**Name of Society and Time before Present**

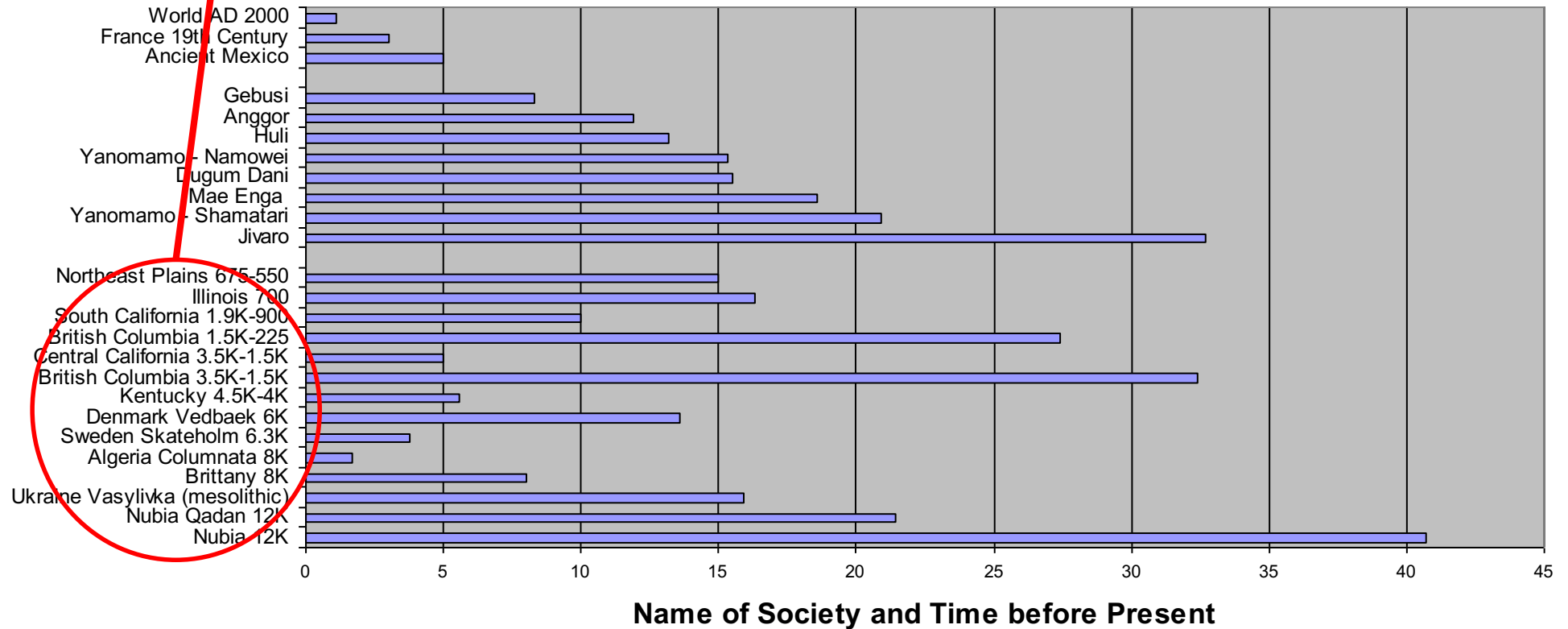


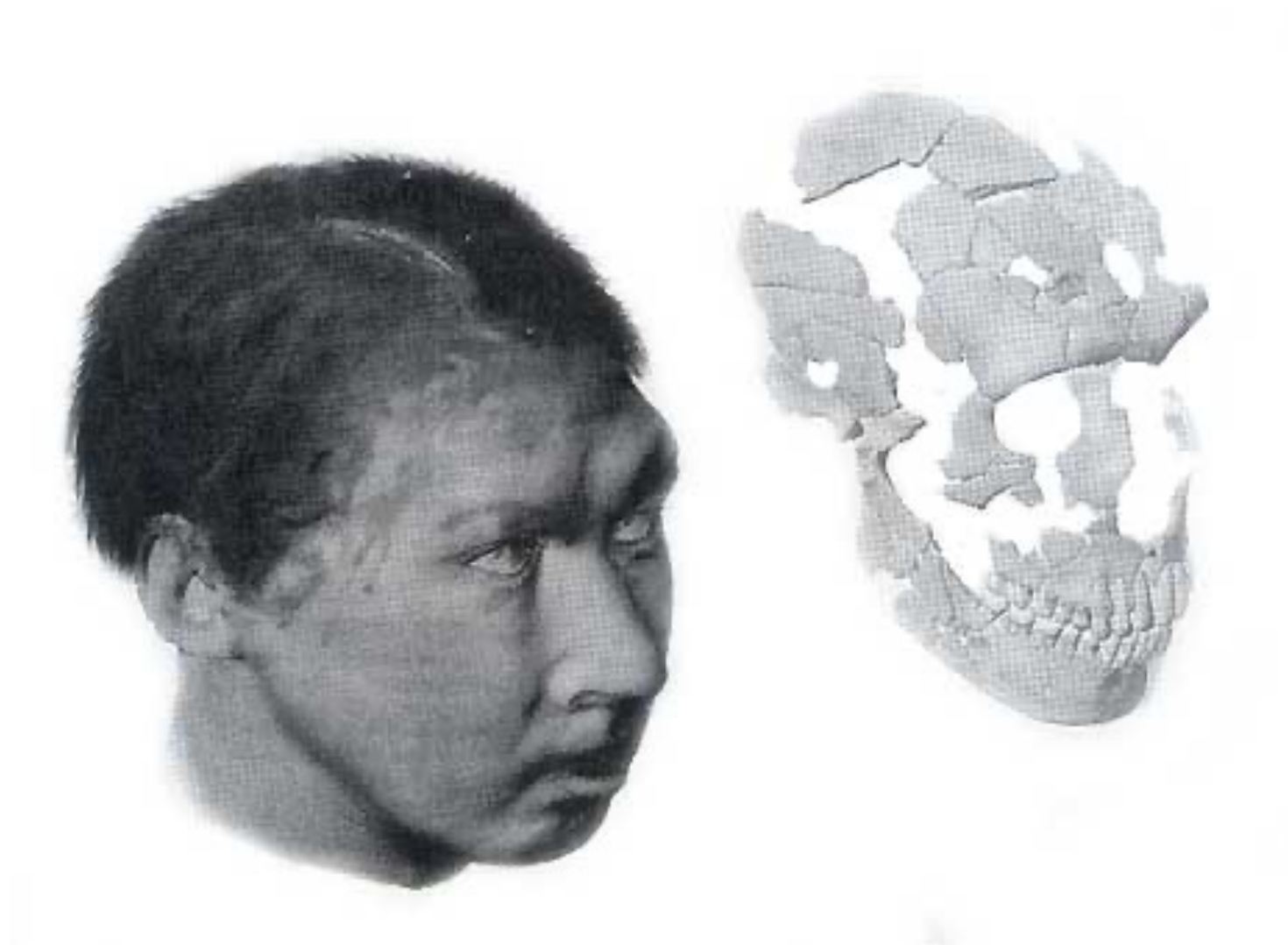




# Prehistoric societies based on archaeological records

**Percentage of Deaths Due to Warfare**  
various studies (source: Keeley 1996)





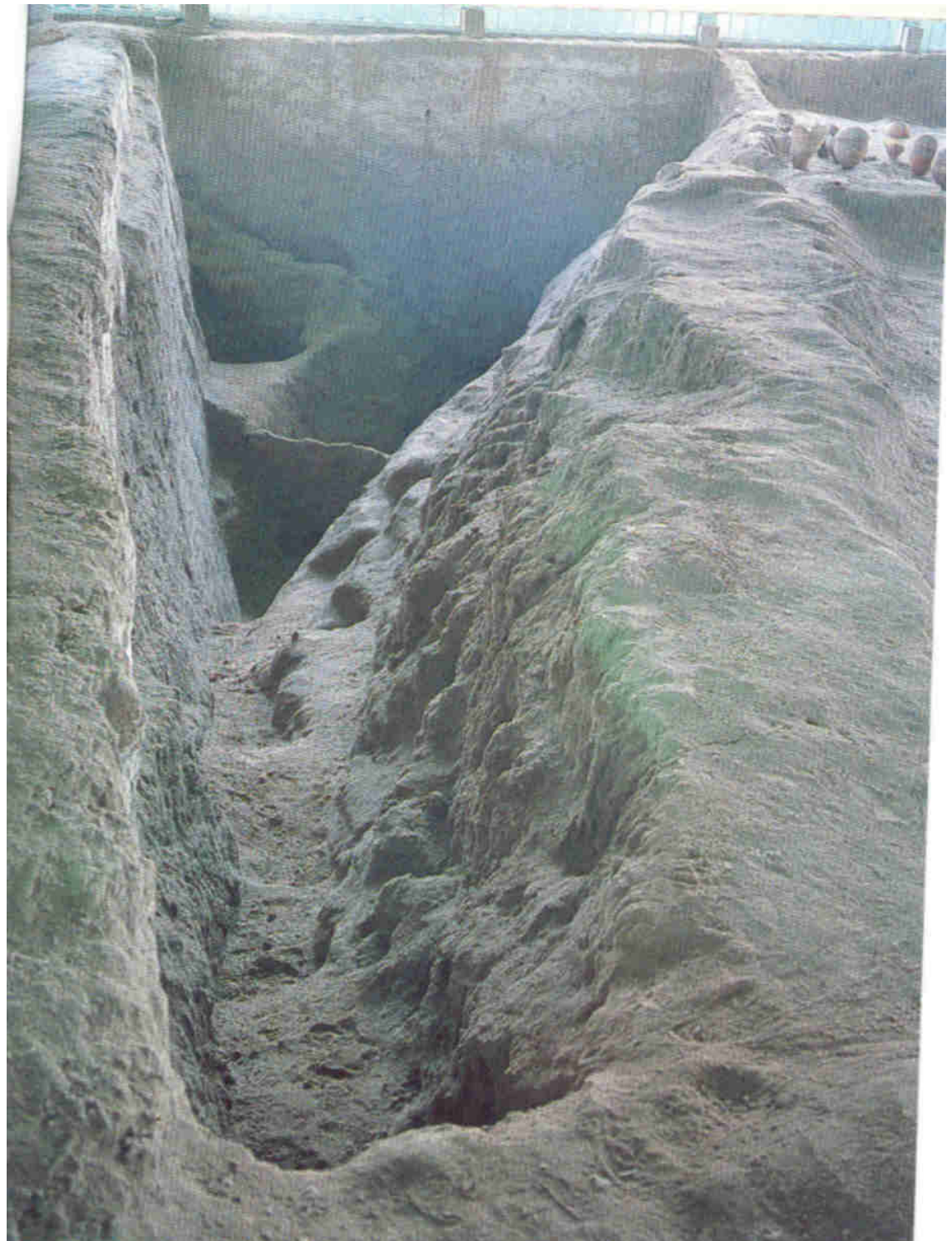
A COMPUTER-ASSISTED RECONSTRUCTION of a Neanderthal skull from St. Césaire, France, shows that the young adult suffered a blow to the head, probably from a machetelike knife or sword, in an act of violence.

Date c.36,000 years BCE  
See Zollikofer et.al.(2002)



Cahokia point embedded in human sacrum  
Schild site, Illinois; date 600-900 AD

This ditch, at Banpo neolithic village, near Xian in central China, is 300 meters long, 5-6 meters deep and 6-8 meters wide at the top. Digging it required moving 10,000 cubic meters of earth – not a casual undertaking for people living on limited calorie supplies







A model reconstruction of the ditch at Banpo,  
built c. 6000 years ago



# What do we know about the pattern of violence over the centuries?

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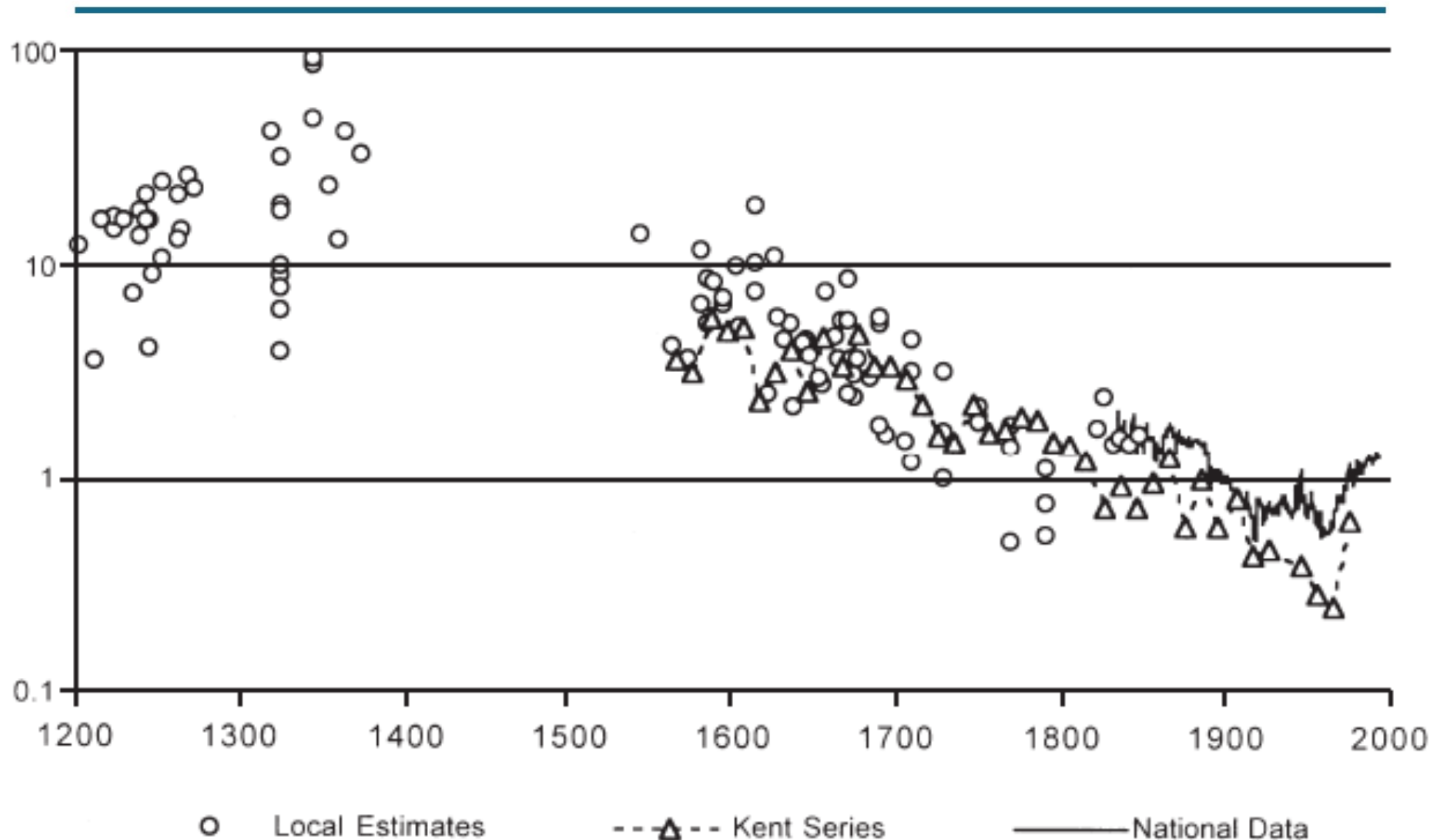
- In historical times the violence has declined gradually and relatively continuously since the middle ages – no earlier evidence available



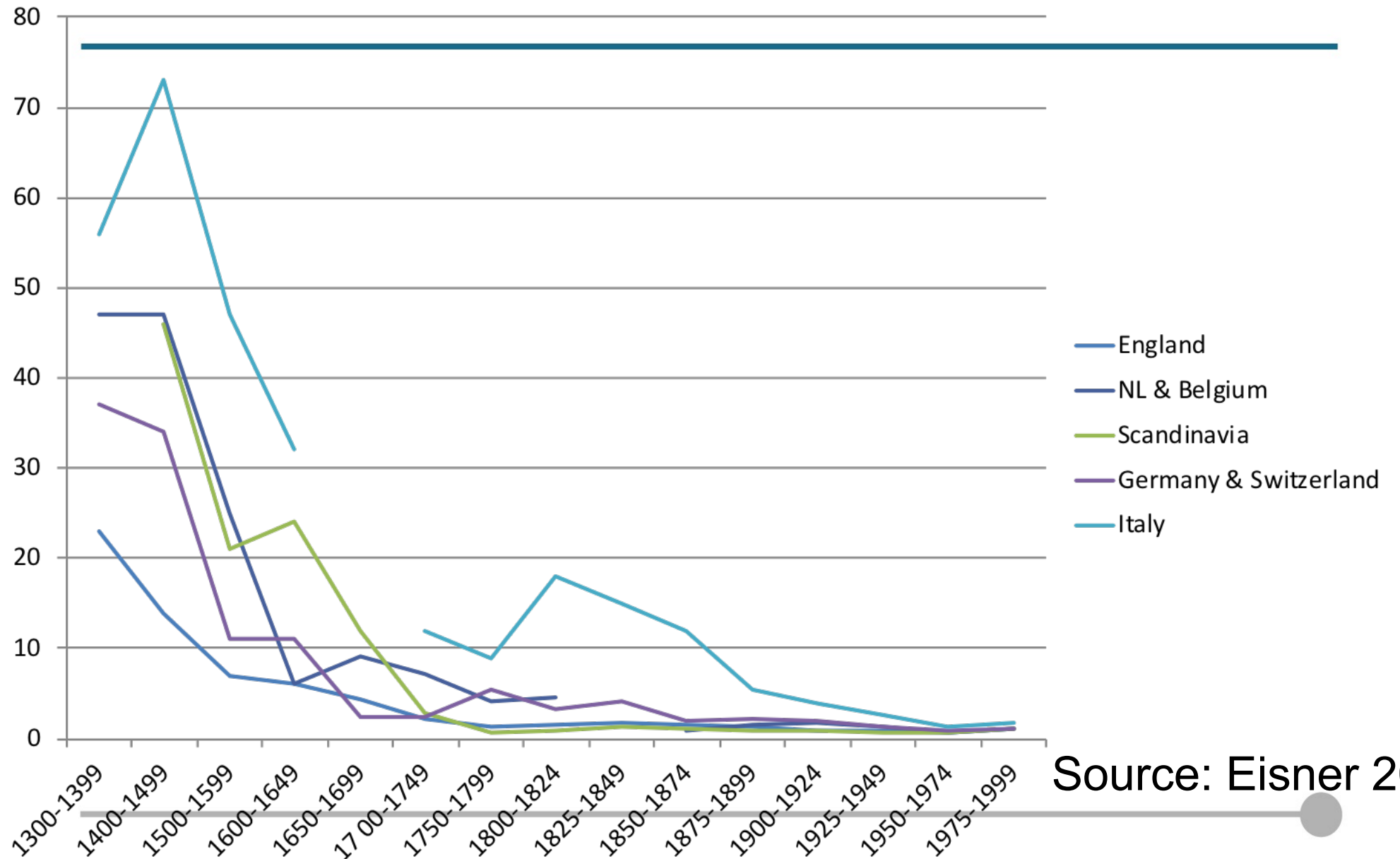


# Eight centuries of English homicide rates

Source: Eisner 2001



# Seven centuries of European homicide rates

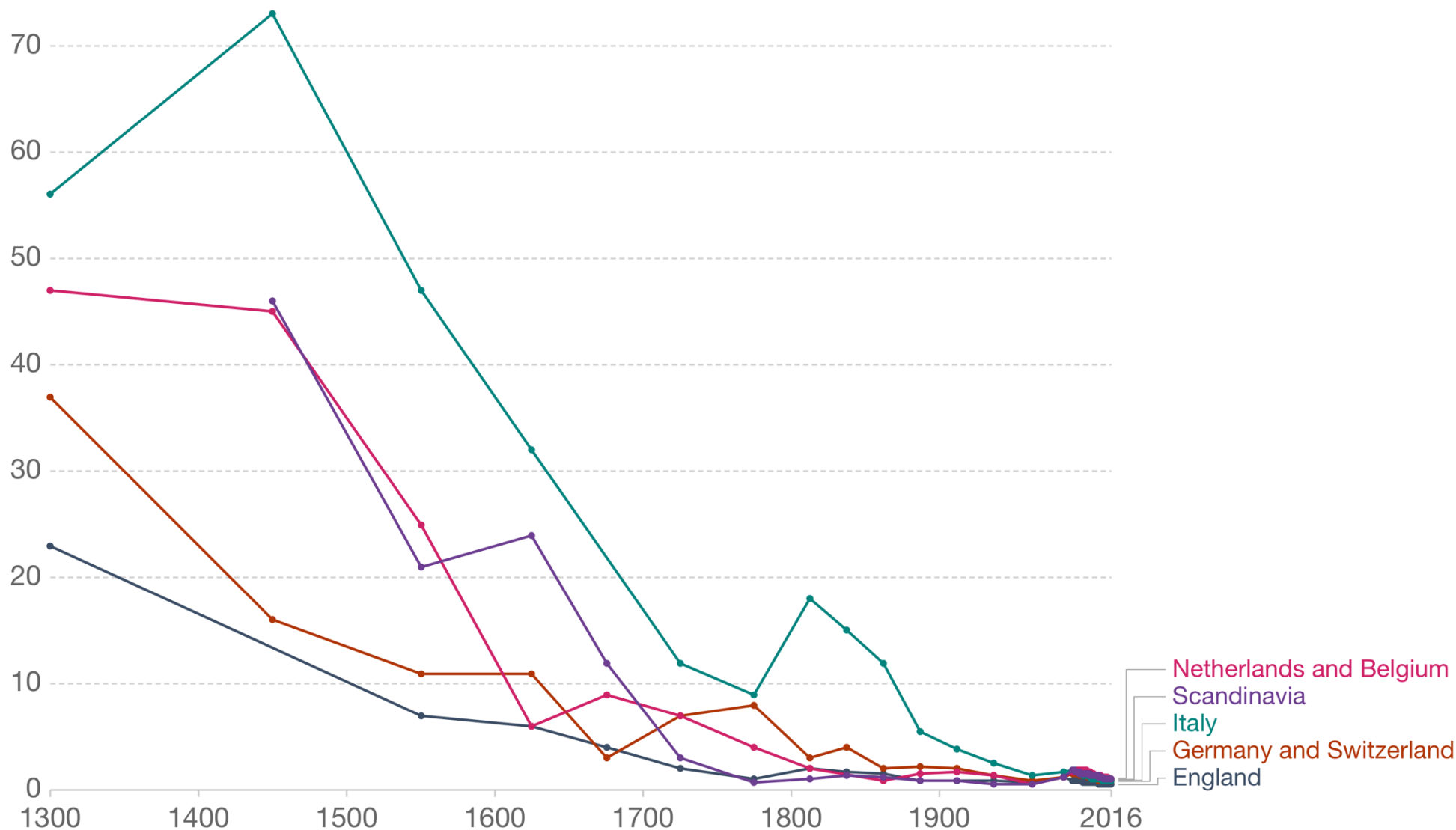


Source: Eisner 2



# Long-term homicide rates across Western Europe, 1300 to 2016

Long-term homicide rates across a select number of countries or regional groups in Western Europe. This is measured as the number of homicides per 100,000 individuals in a given population.

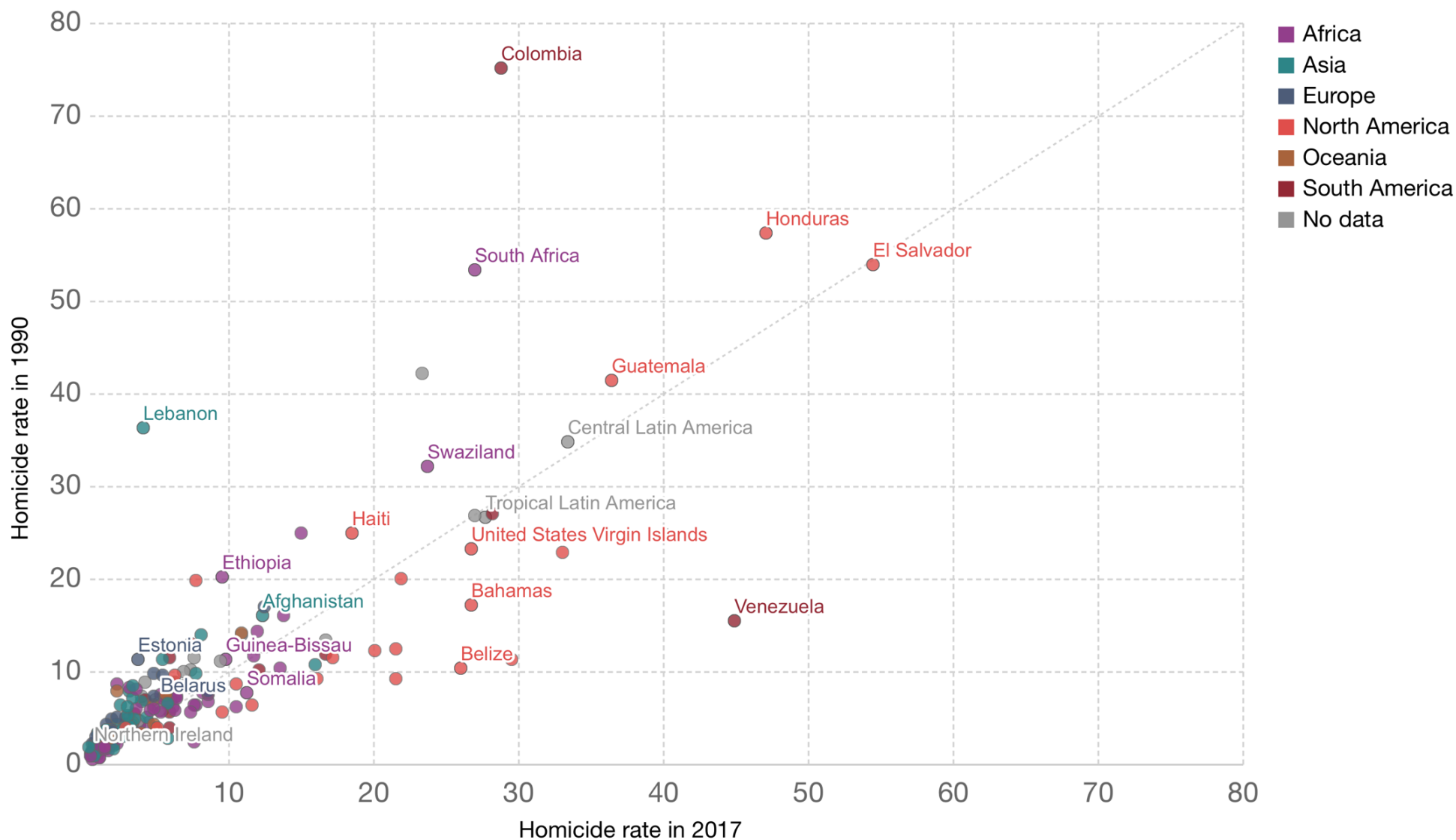


Source: Eisner (2003) & IHME

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# Homicide rate in 1990 vs. 2017

Homicide rates are measured as the number of deaths from homicide per 100,000 individuals in a given population.



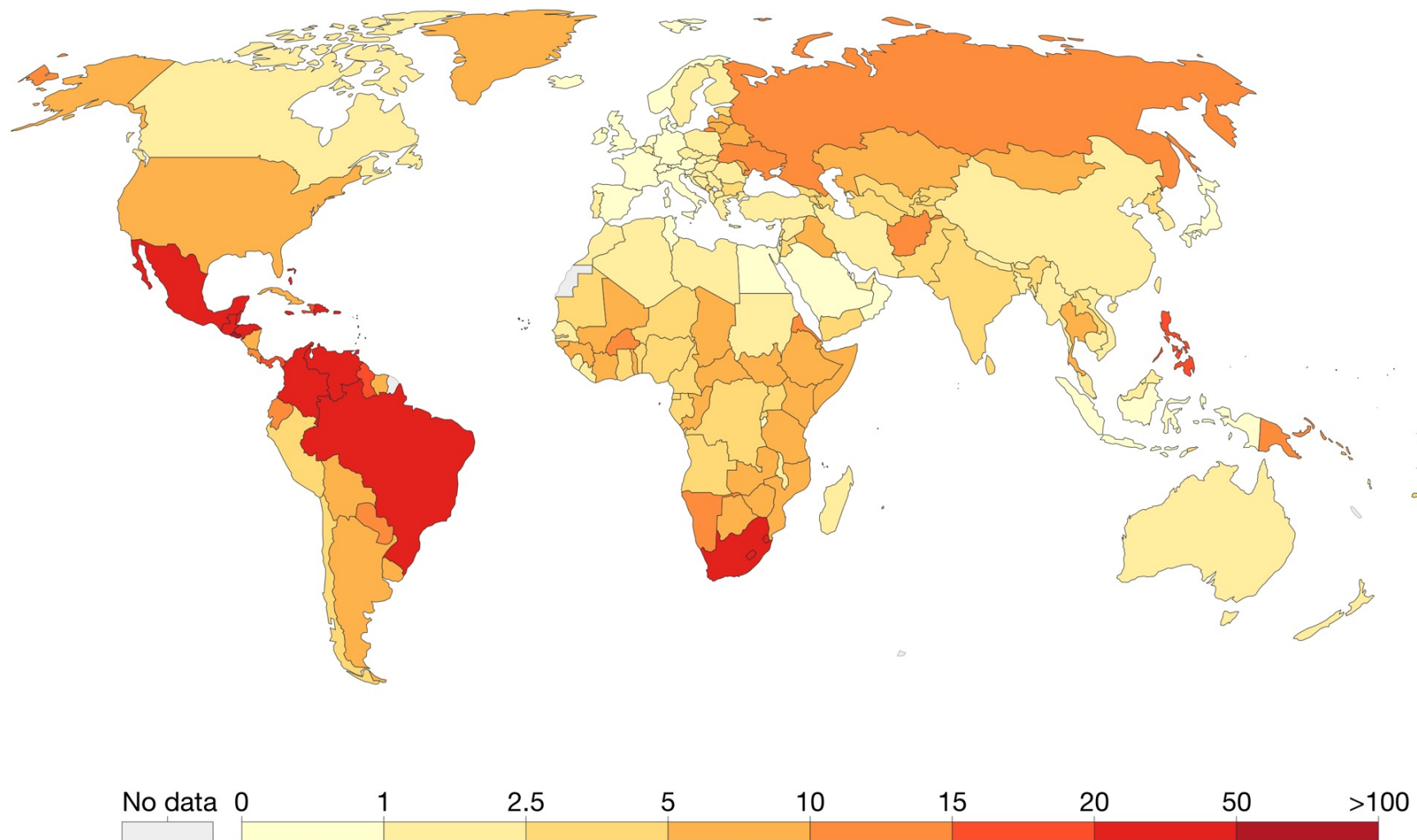
Source: IHME, Global Burden of Disease

Note: To allow comparisons between countries and over time this metric is age-standardized.

[OurWorldInData.org/homicides](https://OurWorldInData.org/homicides) • CC BY

# Homicide rate, 1990 to 2017

Homicide rate is measured as the number of homicide deaths per 100,000 people.

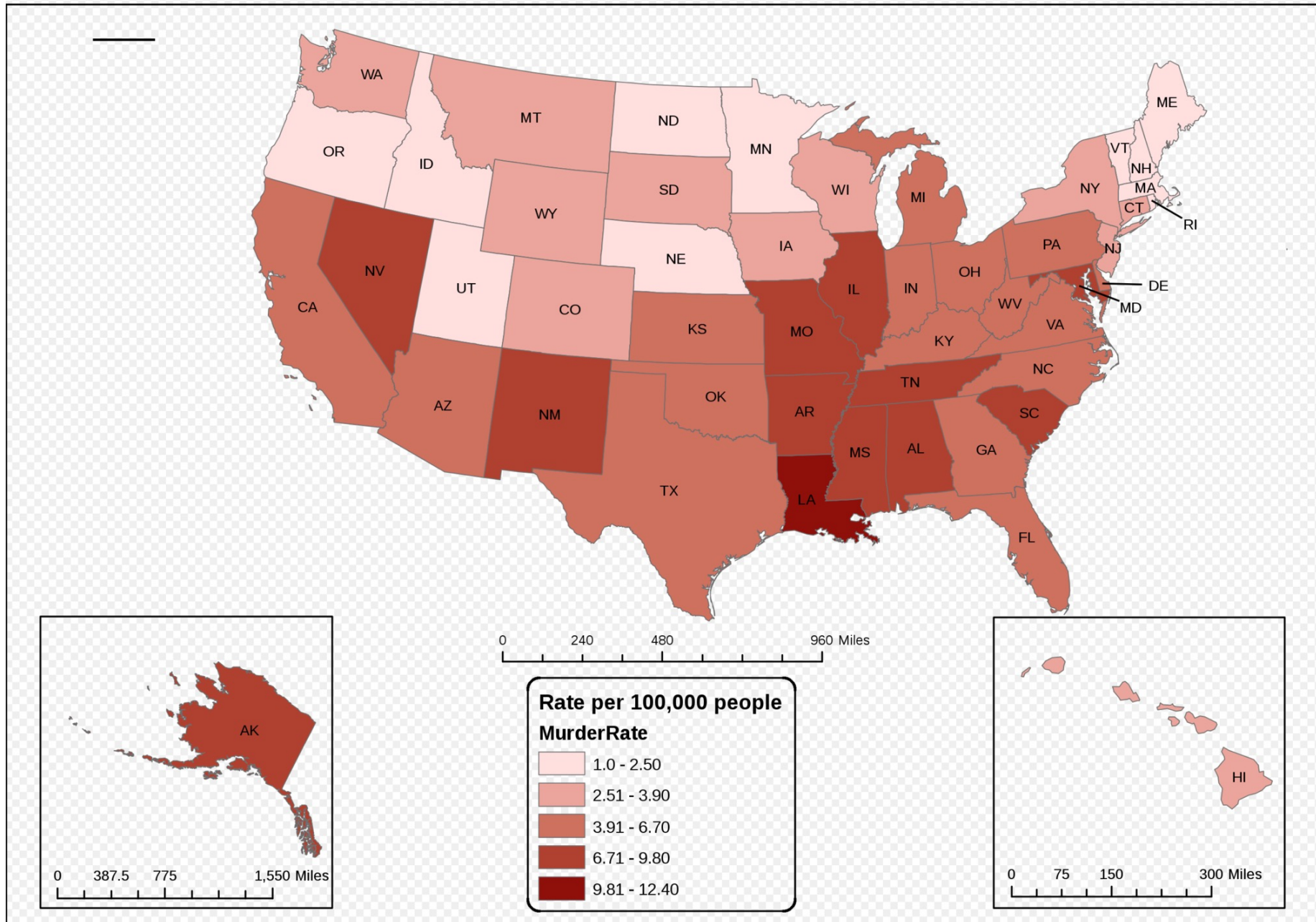


Source: IHME, Global Burden of Disease

Note: To allow comparisons between countries and over time this metric is age-standardized.

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# United States Murder Rates (2017)



# What's the explanation? The accepted view

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- Norbert Elias, *Über den Prozeß der Zivilisation* (1939) developed an answer which is broadly accepted by historians and social scientists today
- The elements:
  - Growing influence of institutions (courts, armies, firms) on individual behaviour
  - Extension of ideals of behaviour (self-control, manners, prudence, etc) from higher to lower classes of society



# What's the explanation? The accepted view

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- Gradual replacement in the determination of behaviour of
  - honour by prudence
  - kinship by impartiality
  - emotion by reason
  - revenge by justice
- Others (eg Azar Gat, *War in Human Civilization*, 2006) add the large benefits from peace in the post-Malthusian world
- This view is not wrong – but it is incomplete!

# An alternative view from behavioral economics and neuroscience

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- Reason has not *replaced* emotion but has *harnessed* it
- Purely cognitive approaches to the enforcement of trust cannot work (the reliability of the reprisal mechanisms depends on emotional components)
- In particular, trust is more effective in the presence of strong reciprocity
- But effectively designed institutions can make a little reciprocity go a long way





# What are the mechanisms?

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- Until recently the emphasis has been on cultural factors, in line with the Elias story.
  - However, Wrangham (2019) has revived the debate over genetic factors, notably through the “domestication” hypothesis.
  - To understand this, note that humans compare very differently to other species on “reactive” versus “proactive” violence: we score low on reactive and high on proactive violence compared to (for example) chimpanzees.
  - He suggests that by deliberately executing men who were unable to control their reactive violence, human societies domesticated us, with symptoms familiar from the domestication of other species like wolves and foxes.
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