

Stability and Change mid Aug '22 to mid June '23



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Themes, ideas, fellows, workshops, plans ...

N.L. Hjort and H. Hegre lead the CAS project

Stability and Change, from mid Aug '22 to mid June '23:

- ♠ 45% peace-, war-, conflict researchers
- ♠ 45% statisticians (theoreticians and appliedniks)
- ♠ 10% others

Statisticians:

datasamlere, datavitenskapere, registerbyggere, registerkoplere, tallknusere, datasyntetikere, sannsynlighetsteoretikere, dataanalytikere, modellbyggere, algoritmikere, maskinlærere, informasjonskondensører, informasjonskombinasjonsfolk, prediksjonskonstruktører, mønstergjenkjennerere, kunstigintelligensianere, metaanalytikere, generalister, generaliserere – med matematikk, filosofi, numerikk, m.m.

Statisticians in Stability and Change

The Two Cultures: 'to explain or to predict'.

Statisticians may use **the same data** (and partly the same models) for different purposes:

Statistician A aims at fine models, fine analyses, clear interpretations, understanding, achieving fine control over claims about the world (and uses this to **change it**¹, when needed).

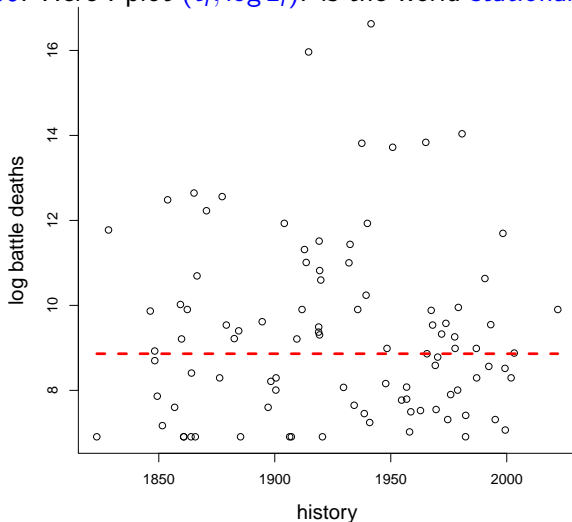
Statistician B constructs models that to reasonable degree fit lots of data, often without clear interpretation, and delivers clever methods for **classification** ('this is a conflict of Type III') and for **prediction** ('here are prognoses for conflicts if Types I, II, III for 2025–2040').

Stability and Change project: **yes please, both**.

¹es kommt darauf an, sie zu verändern

Large interstate wars, deaths in battle

From [Correlates of War](#) database, with (t_i, z_i) , startpoint and no. of fallen, for 95 interstate wars from 1823 to 2014, those with $z_i \geq 1000$. Here I plot $(t_i, \log z_i)$: is the world stationary?



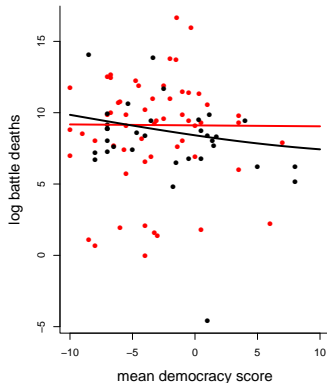
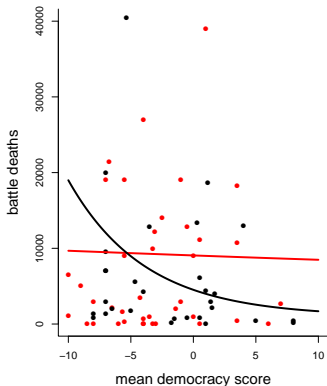
Lots o' questions

From different angles and perspectives (statistical and statistical-political-science):

- Has the world been more or less constant? What are appropriate statistical tests?
- What are **distributions of violence** like, and why?
- What are **contributing factors** (covariates), and if present, **how important** have they been (and will they be)?
- Can we **predict** levels of war, conflict, violence, for the coming years (under what sets of assumptions)?
- Are there (visible, identifiable, verifiable) **changepoints** or **trends**?
- Are there **early warnings**, statistical alarm bells?
- Can we model (understand, interpret, estimate, predict) **escalation** and **descalation**?

How does 'degree of democracy' influence sizes of wars?

Each country has its **democracy score** (big and endless topic, also for CAS project) – and these can be put into our models:



Before Korea: little effect; after Korea: **democracy helps**.

A number of further 'Stability and Change' themes

'Everyone who has been murdered should be remembered' – says [Human Rights Data Analysis Group](#) Director of Research, [Patrick Ball](#) (winner of the Rafto Prize 2021). How to get hold of good data? – If two data sources give list of deads: we observe N_{01} , N_{10} , N_{11} .. can we estimate

N_{00} = no. of deads not present in any of the two lists?

What do we measure, and what do we really wish to measure?

What do people [really mean](#), before, during, after conflict?

What can machineries of [statistical causality](#) tell us?

How to act in a conflict, when to give up (cf. preface to my 1935 copy of [Vom Kriege](#), by [A. Hitler](#))? [Bayesian statisticians](#) know the answer to [Decline of War](#): put up a full loss function, put priors on all unknowns, and minimise posterior expected loss.