

What Actually Makes a Civilisation Work

Six findings from scoring 238 societies on how well they coordinate — ranked by how much each one changes the picture

What's actually being measured here

This project scores societies — from Bronze Age Anatolia to today's roughly 190 countries — on how well they function as *coordination systems*. Not how admirable they are, not how famous, not how militarily dominant. Just: how well do the institutions hold together, how effectively is a society turning its resources into durable organisation, and how well does it recover when something goes wrong. A society can score well while being an unpleasant place to live, and score modestly while being perfectly decent. The measure is mechanical, not moral.

With that ground rule in place, here are the six biggest things the comparison has turned up, from most to least significant.

1. The one trait that separates a civilisation from a population: writing things down

Across two completely independent rounds of scoring — 127 historical societies and, separately, 28 modern states — the single strongest predictor of overall system health wasn't land, climate, or population. It was what you could call **fixation capacity**: the ability to record coordination in a form that outlives any individual — law codes, ledgers, contracts, currency, bureaucratic paperwork. It correlated with overall system health at 0.976 and 0.979 in the two passes respectively, which in social-science terms is about as strong and as repeatable as this kind of relationship gets.

The logic is simple once you see it. A fertile floodplain or a busy trade route hands a society *energy* — food, goods, revenue. That's necessary but not sufficient. What turns a lucky population into something that outlasts the generation that got lucky is whether it can bank the surplus into a form the next generation inherits automatically, instead of re-learning from scratch. A child raised under a functioning legal system absorbs centuries of accumulated problem-solving without personally re-deriving any of it. That inheritance mechanism — not the original resource — is the thing that compounds.

2. Civilisational "types" are strategies, not a ladder

It's tempting to arrange societies on a single scale from "primitive" to "advanced." The data doesn't support that. Four genuinely distinct, internally coherent strategies show up, each suited to a different kind of environment, and none of them dominates the others once you account for what problem each was actually solving:

- **River-based bureaucracies** (Egypt, Han China, Angkor) — a predictable, high-volume resource (annual floodwater) rewards heavy permanent infrastructure and administration. This is the strategy that "compounds" fastest, but it puts everything through one channel, so when that channel fails — as with Angkor's water system — there's no backup.
- **Trading and seafaring societies** (Phoenicia, Venice, the Dutch Republic) — the resource here isn't a stockpile but a price gap between two places, and profit comes from bridging it. Pair this with record-keeping (double-entry bookkeeping, chartered companies) and it produces enormous reach for a small population. Without record-keeping — Polynesian wayfaring is the clean example — you get real mobility and regional influence, but a hard ceiling on how much can ever be banked.
- **Mobile, low-infrastructure societies** (Bedouin, Berber, the Mongols before their imperial phase) — deliberately holding no fixed structure that a raid or a drought can destroy in one strike. This trades administrative depth for the ability to absorb a hit and keep going. It's a genuine strength, not a deficiency: it's the same logic nature uses in weed species and bacterial spores.
- **Defended enclaves** (Tibet, the Andean highlands, small alpine states) — low output, but also low interest from anyone else in conquering them. The terrain itself is the defence, and the strategy optimises for not being worth attacking rather than for scale.

None of these "wins" outright. Each is a locally correct answer to a different question, and the historical cost of getting locked into one — the river-based empires that later collapsed hard (Aztec, Inca, Carthage, Songhai all combined strong administrative capacity with weak shock-absorption) — is itself part of the pattern.

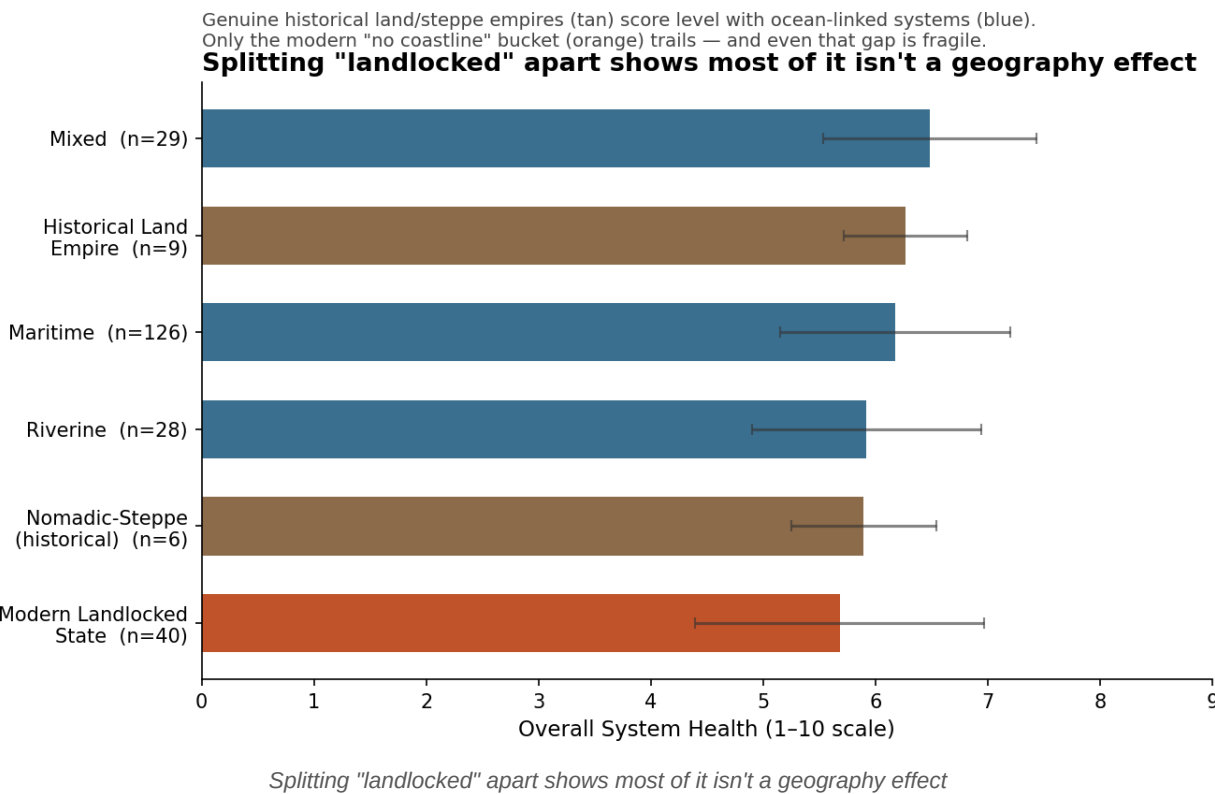
3. A geography-based penalty looked solid — and mostly wasn't, once checked properly

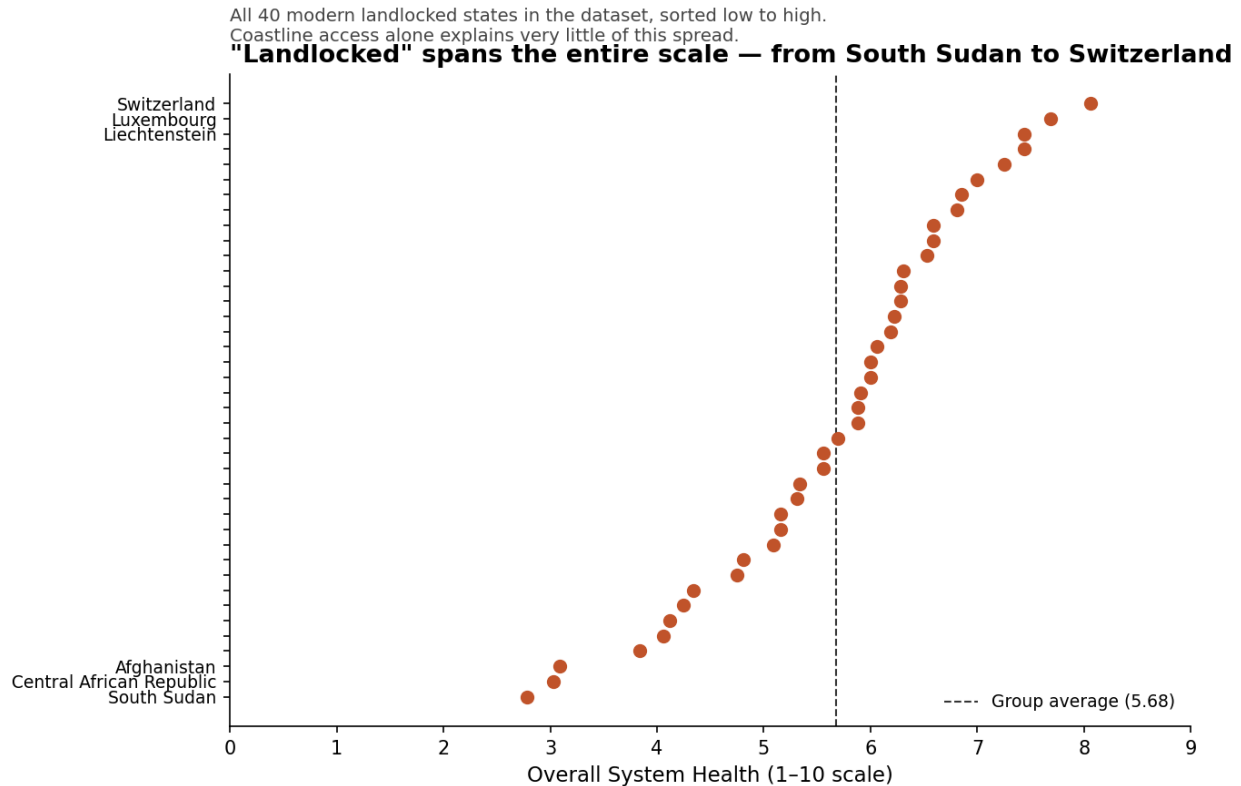
This is the newest finding, and arguably the most important one methodologically, because it's a story about the project correcting itself in real time.

A four-category classification (Maritime / River-based / Landlocked-Continental / Mixed) was applied to all 238 entities, and landlocked-continental societies came out lower on average (5.80) than maritime ones (6.18) — a gap unlikely to be chance ($p = 0.028$ in a formal significance test, meaning there's roughly a 3% probability a gap this size would show up if there were really no difference at all). That looked like a real, if modest, geography effect.

But "landlocked-continental" turned out to be doing a lot of hidden work. Looking at *why* each entity got that label, only a small number were actually ancient nomadic or steppe empires — Mongols, Xiongnu, various Central Asian khanates. The other 40 out of 55 were modern countries tagged purely because they have no ocean coastline, by a UN/CIA reference list — a category that sweeps together Switzerland, Austria, and Luxembourg (some of the highest scorers in the entire dataset) with Chad, South Sudan, and the Central African Republic (some of the lowest). "No coastline"

spans the *entire* range of the scale — Switzerland at 8.06, South Sudan at 2.78 — a spread bigger than the gap between any two geographic categories. Coastline access alone explains almost nothing about that group.





"Landlocked" spans the entire scale — from South Sudan to Switzerland

Once genuine historical land-based and steppe societies were separated out from that modern "no coastline" catch-all and re-tested on their own, the picture changed substantially: real historical land-and-steppe societies scored, on average, statistically identical to maritime ones (6.12 vs 6.18 — a gap so small it's almost certainly noise). The only piece of the original penalty that survived was the modern landlocked-states bucket, and even that stopped clearing the bar once the maths accounted for the fact that several comparisons were being run at once (a standard correction for exactly this situation). What had looked like a finding about *civilisational strategy* turned out to be, mostly, a finding about which contemporary countries happen to be poor or in conflict and also happen to be landlocked — a different and much less interesting fact.

4. Land-based empires aren't structurally disadvantaged

A direct consequence of #3: historical land empires — Persia, the Hittites, the Parthians, Safavid Persia, the Austro-Hungarian Empire, the Soviet Union, the Inca — show no reliable disadvantage against seafaring, trade-based societies once tested properly. Coordination capacity, not access to an ocean, is what predicts how well a society functions. This matters because it's easy to slide from "maritime trading states had outsized influence" (true, and visible in the data) into "societies without ocean access are inherently worse at organising themselves" (not supported once you look closely).

5. Under this framework, China and Russia score above average — not below

This is worth stating plainly because a lot of casual commentary assumes the opposite. In the current dataset, both modern China and modern Russia land in the "Mixed" geographic category, not "landlocked" — and both score comfortably above the overall sample average. Even the one entity from that historical lineage that *does* fall into the land-empire category — the Soviet Union at its postwar peak — still scores above the average for the group it's grouped with. Whatever pattern this data does support, it isn't "Eurasian land power is a structural handicap." That's a real finding, not a diplomatic hedge — it's what a geography-blind, methodology-first scoring system produces when you run China and Russia through the same test as everyone else.

6. Even a pattern that held up once doesn't always hold up twice

The original historical scoring found that mobile, low-infrastructure societies had unusually strong shock-recovery ability — Mongols, Bedouin, and Berber groups all scored near the top of the scale for it. That's a genuinely interesting and plausible pattern. But when a different, independent set of steppe societies (Uyghur, Xiongnu, the Liao/Khitan dynasty, the Timurid Empire, the Kara-Khanid Khanate) was tested for the same trait, only the Mongol Empire at its administrative peak repeated the pattern — the other five scored in the middle of the pack, not near the top. The Bedouin and Berber cases that anchored the original finding simply aren't part of this second dataset, so the two results aren't strictly a contradiction — but they are a reminder that "mobile societies are unusually resilient" shouldn't yet be treated as a settled law. It's a real pattern in some evidence, not a universal one, and it deserves the same scepticism this project applies to everyone else's claims.

The throughline

Put the six together and a single idea runs underneath all of them: **the specific mechanism of coordination matters far more than the raw materials a society started with — and claims about which environments or peoples are "naturally" disadvantaged rarely survive being checked against the actual data.** That applies to river valleys versus coastlines, to nomads versus settlers, and to whichever contemporary country someone currently has a political opinion about. The data doesn't care about the opinion. It's usually messier, and more interesting, than the story that gets told about it.

A note on method, for anyone who wants it

Findings 1–2 draw on two earlier, independent scoring rounds (127 historical societies; 28 contemporary states), each using a 16-metric functional framework. Findings 3–6 come from a separate, larger classification of 238 entities by geographic category, re-tested in this pass by splitting the "Landlocked-Continental" label into three text-grounded subgroups: genuine nomadic/steppe empires (n=6), other historical land empires (n=9), and modern landlocked states (n=40), based on the documented rationale behind each entity's original classification rather than its outcome score. All comparisons used a standard two-group significance test plus a non-parametric cross-check, and a correction was applied for running multiple comparisons at once. Two of the six subgroups involved in this

re-test are small ($n=6$ and $n=9$), so those specific results should be read as suggestive rather than conclusive — a limitation stated here rather than smoothed over.