Success and Failure in State-Building by Armed Groups: a Research Proposal

Peter Turchin

Harvey Whitehouse

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Guide to the Syrian rebels

13 December 2013

There are believed to be as many as 1,000 armed opposition groups in Syria, commanding an estimated 100,000 fighters.

ISLAMIC FRONT

FSA INDEPENDENT GROUPS

Ahfad al-Rasoul Brigades
Asala wa al-Tanmiya Front
Durou al-Thawra Commission
Tajammu Ansar al-Islam
Yarmouk Martyrs' Brigade
….

Harakat Ahrar al-Sham al-Islamiyya

Al Nusra Front

….

Jaysh al-Islam

New York Times

Al Qaeda Turns to Syria, With a Plan to Challenge ISIS

By ERIC SCHMITT

May 15, 2016

The group's leader-ship in Pakistan has secretly dispatched seasoned veterans to Syria to create an alternate head-quarters and compete with the Islamic State.

Success and failure of armed groups is an evolutionary process

and it can be profitably studied using

explicitly evolutionary approaches

Problems so far in study of civil wars:

- Disparate data: there many databases but they are not organized in a way that we can test evolutionary theories and they are focused only on post war period
- Static groups and states: groups and states adapt, but existent datasets treat them as unchanging
- Case studies rather than general patterns
- The ‘social-liberal’ bias: treat the world as states with individuals — whereas most of the world works based on groups and alliances

Essence of our approach: we tackle these problems conjointly

- Disparate data: our data platform Seshat combines all sorts of data
- Static groups and states: both our data platform and our models are longitudinal, different time scales, different precision
- Case studies: we have large-N samples and do rigorous statistical analyses
- ‘Social-liberal bias’: we use multi-level evolution theory to make links: individual — group — ethnicity — state — world system. Moreover, we compare and test different theories based on data to find the best candidate.

Essence of our approach: cultural evolution theory

- Interdisciplinary: link history, anthropology, psychology, mathematics, databases, statistics
- Evolutionary models, esp. group selection
  - Armed groups evolve, just like bacteria. They can become resistant against their treatment.

We investigate:

- How the characteristics of groups affect their chances of surviving
- How they acquire such successful characteristics
- How their capacity for success evolves under various selection pressures

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SESHAT: Global History Databank

The huge corpus of knowledge about past societies collectively possessed by academic historians is almost entirely in a form that is inaccessible to scientific analysis, stored in historians' brains or scattered over heterogeneous notes and publications. The huge potential of this knowledge for testing theories about political and economic development has been largely untapped.

Project goals:

- Build a web of facts about past societies, connected along spatial, temporal, thematic, and conceptual dimensions
- Test and reject theories of sociocultural evolution
- Be *relatively* 'theory free'

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SESHAT: Global History Databank

Seshat Databank covers the time period between the Agricultural Revolution and Industrial Revolution (from c.9,000 BCE to c.1800).

Deep history – why interesting?

- Evolution – long term
  - same principles long term
  - more data if long term is studied
  - super-large pool of analogies for war, societal development, …
- Where are we going?
  - temporary blips? or robust trends?
- What are conditions under which a (proto)state evolves? Recurring patterns?
- “Why the West rules — for now”
- Embed / contextualize fine-grained db’s (e.g. “Tolstoy”)

Raw data versus facts

Seshat Status, May 2016

1. World —> 10 major regions
   - Per region: three NGAs (Natural Geographic Areas)
     - 1 early complex society
     - 1 free of centralized polities
     - 1 of intermediate complexity

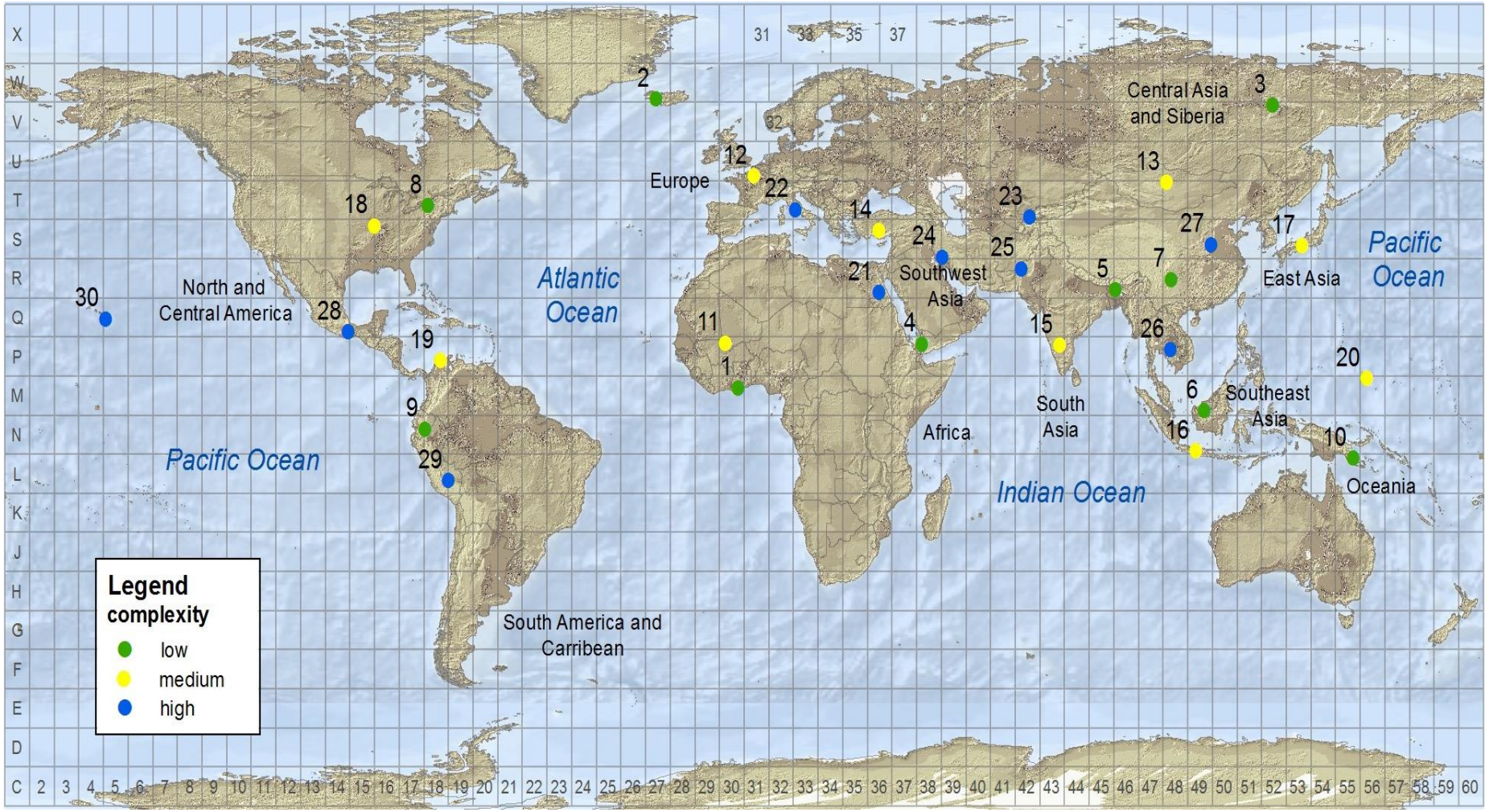
   Total of 30 NGAs

2. 1500 variables
3. 125,000 facts

Seshat

Seshat: The Global History Databank

1. World Sample-30 NGAs



1. World Sample-30 NGAs

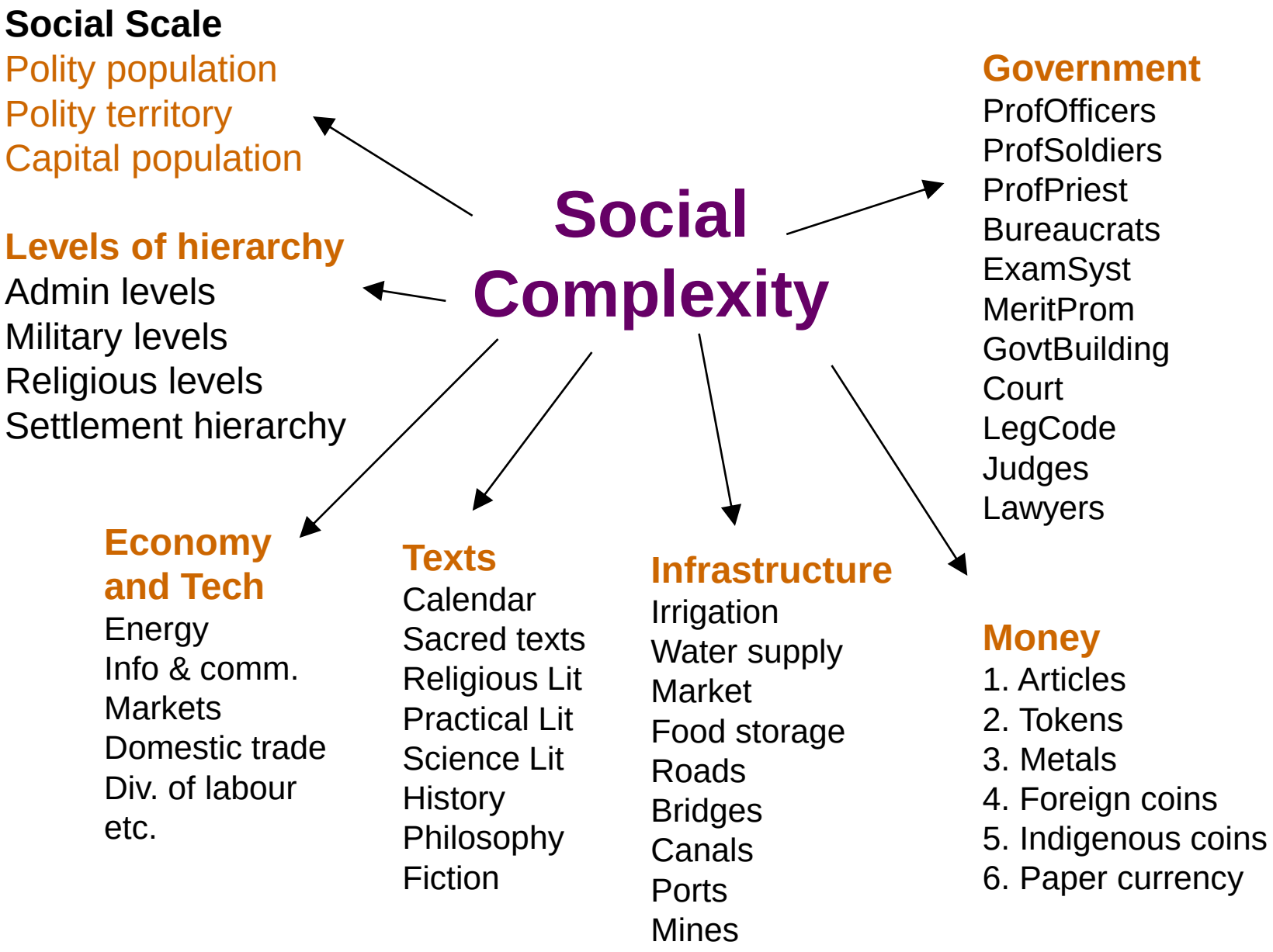
World Region	Low Complexity		Medium Complexity		High Complexity	
Africa	1	Ghanaian Coast	11	Niger Inland Delta	21	Upper Egypt
Europe	2	Iceland	12	Paris Basin	22	Latium
Central Eurasia	3	Lena River Valley	13	Orkhon Valley	23	Sogdiana
Southwest Asia	4	Yemeni Coastal Plain	14	Konya Plain	24	Susiana
South Asia	5	Garo Hills	15	Deccan	25	Kachi Plain
Southeast Asia	6	Kapuasi Basin	16	Central Java	26	Cambodian Basin
East Asia	7	Southern China Hills	17	Kansai	27	Middle Yellow River Valley
North America	8	Finger Lakes	18	Cahokia	28	Valley of Oaxaca
South America	9	Lowland Andes	19	North Colombia	29	Cuzco
Oceania-Australia	10	Oro, PNG	20	Chuuk Islands	30	Big Island Hawaii

1. World Sample-30 NGAs

Upper Egypt NGA: (quasi)polities

Polity	Polity ID	Start date	End date
Badarian	EgBadar	-4400	-3801
Naqada IA-IIB	EgNaqa1	-3800	-3551
Naqada IIC-D	EgNaqa2	-3550	-3301
Dynasty 0 (Naqada IIIA-B)	EgNaqa3	-3300	-3101
Dynasty I (Naqada IIIC)	EgDyn1*	-3100	-2901
Dynasty II (Early Dynastic)	EgDyn2*	-2900	-2651
Classic Old Kingdom	EgOldK1	-2650	-2351
Late Old Kingdom	EgOldK2	-2350	-2151
First Intermediate (“Regions”)	EgRegns	-2150	-2017
Middle Kingdom	EgMidKg	-2016	-1700
Second Intermerdiate (Thebes)	EgThebH	-1720	-1567
New Kingdom-Thutmosid	EgNKThu	-1550	-1294
New Kingdom-Ramesside	EgNKRam	-1293	-1071

2. 1500 variables

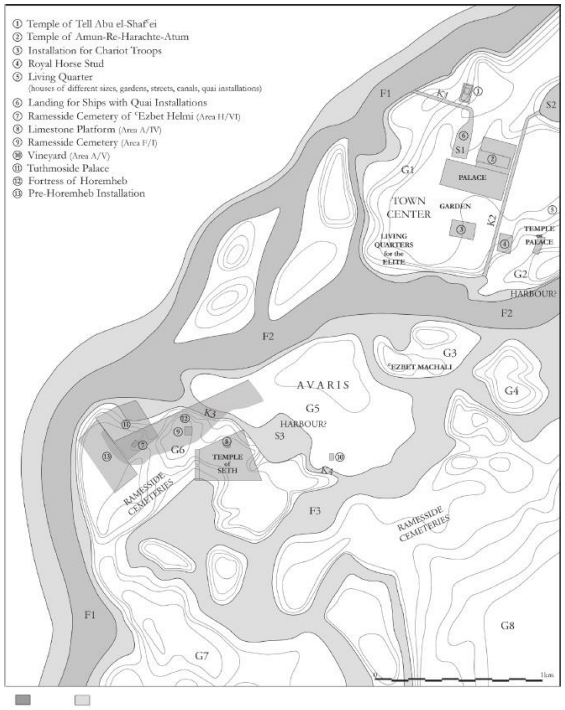


3. 125,000 facts

Example of a ‘fact’:
CapPop value for EgNKRam

♠ Population of the largest settlement ♣ [250,000-300,000] ♥

"the later Ramesside period marked a new era, when Pi-Ramesses, in the eastern Delta, became the main capital of the kingdom. The Austrian excavations are gradually revealing the huge dimensions and complexity of this metropolis of about 18km2 and 250,000–300,000 dwellers." [68]



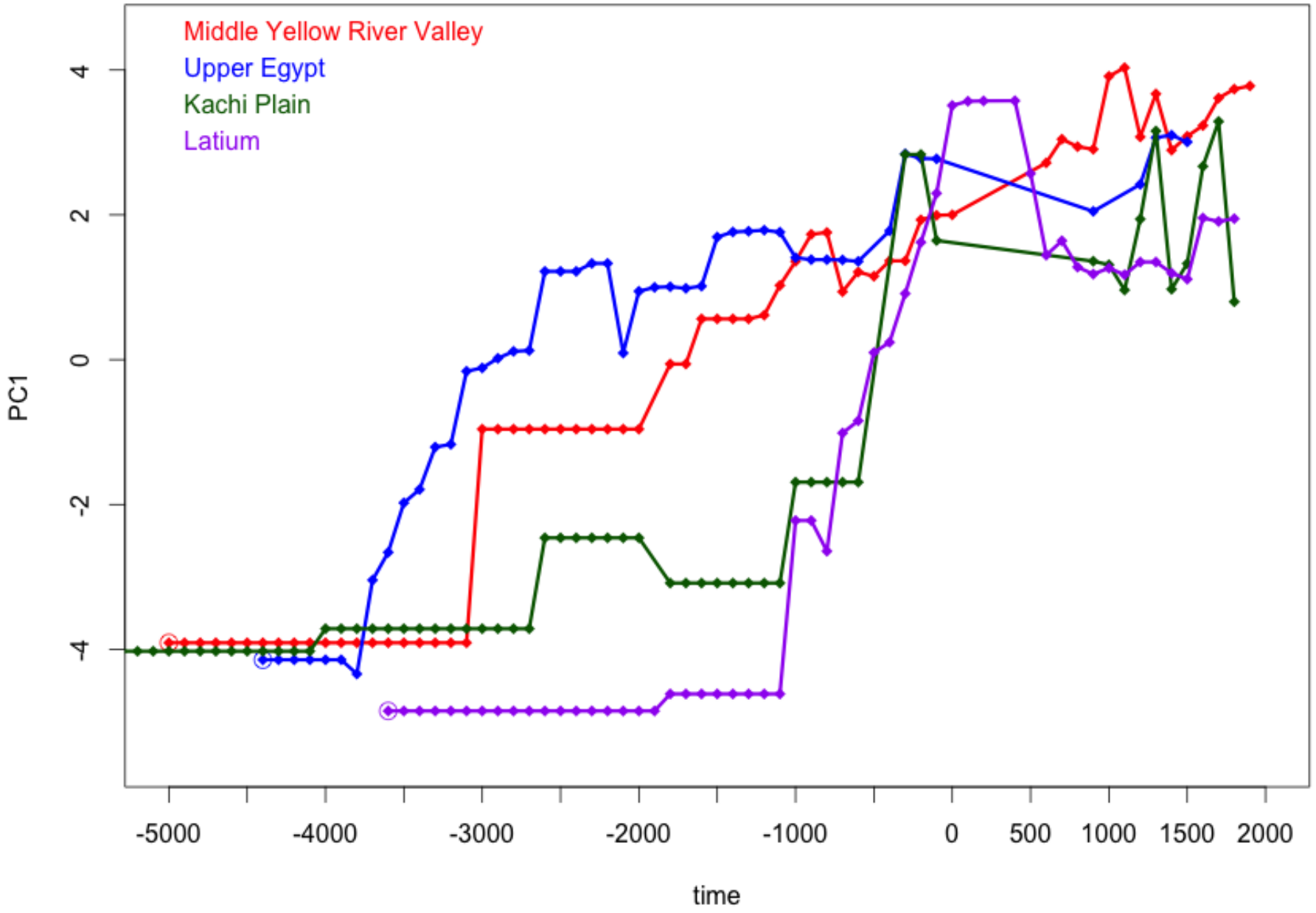
Per-Ramesses topography - should be up-to-date hectare estimates in [69] →

Seshat Workshop on Egypt (Oxford, 2014): Bietak estimates that the population of Pi-Ramesses was around 250,000. He also states 18 square km for the site size. Juan-Carlos will provide ref. No data on Memphis. Thebes around 20,000 to 30,000.

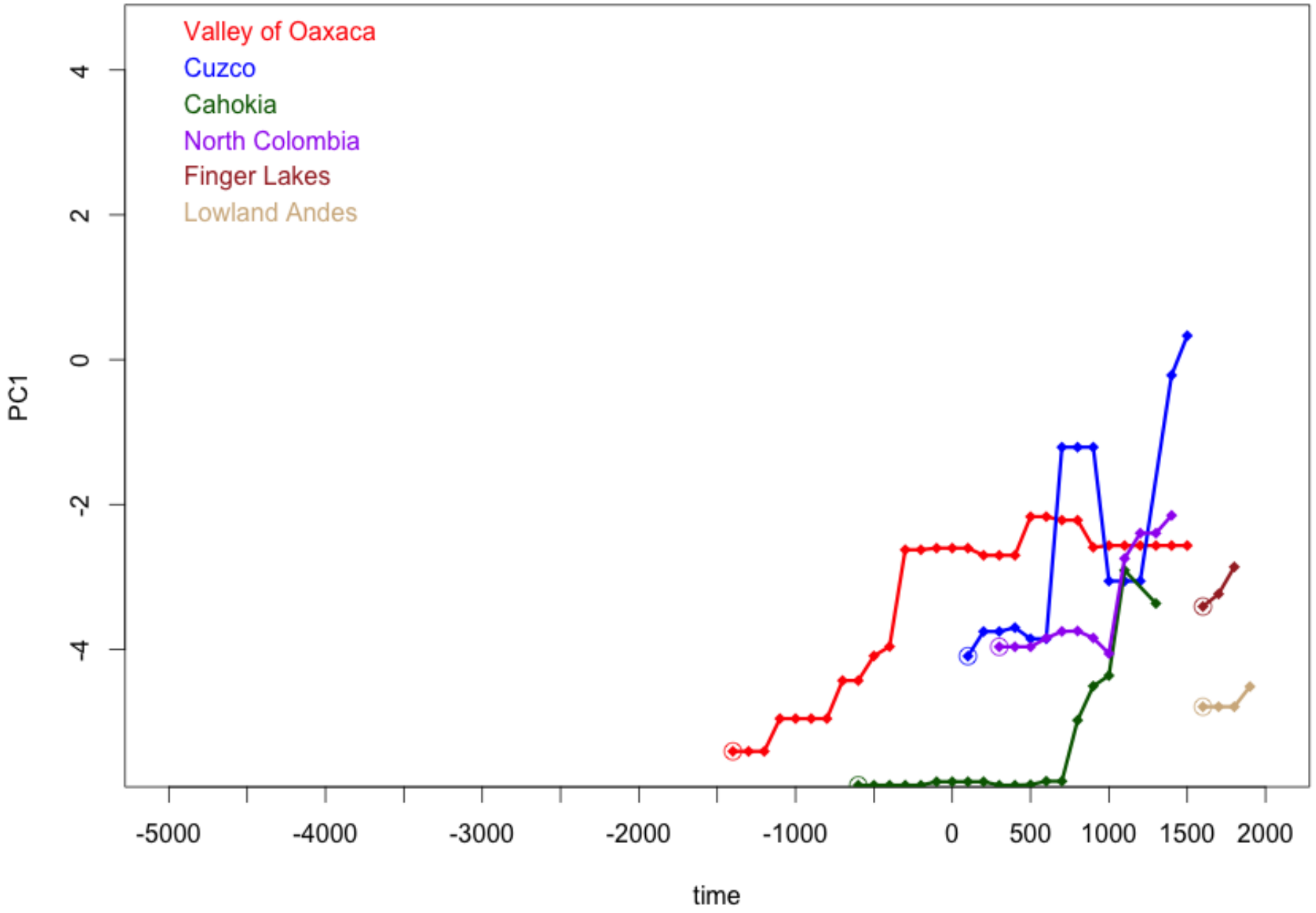
Current focus in Seshat: Social Scale

Social scale (people)	Polity Types	Time (kya)
10s	Foraging bands	200
100s	Farming villages	10
1,000s	Simple chiefdoms	7.5
10,000s	Complex chiefdoms	7
100,000s	Archaic states	5
1,000,000s	Macrostates	4.5
10,000,000s	Mega-empires	2.5
100,000,000s	Large nation-states	0.2

Principal Component 1: explains 75% of variation



Principal Component 1: explains 75% of variation



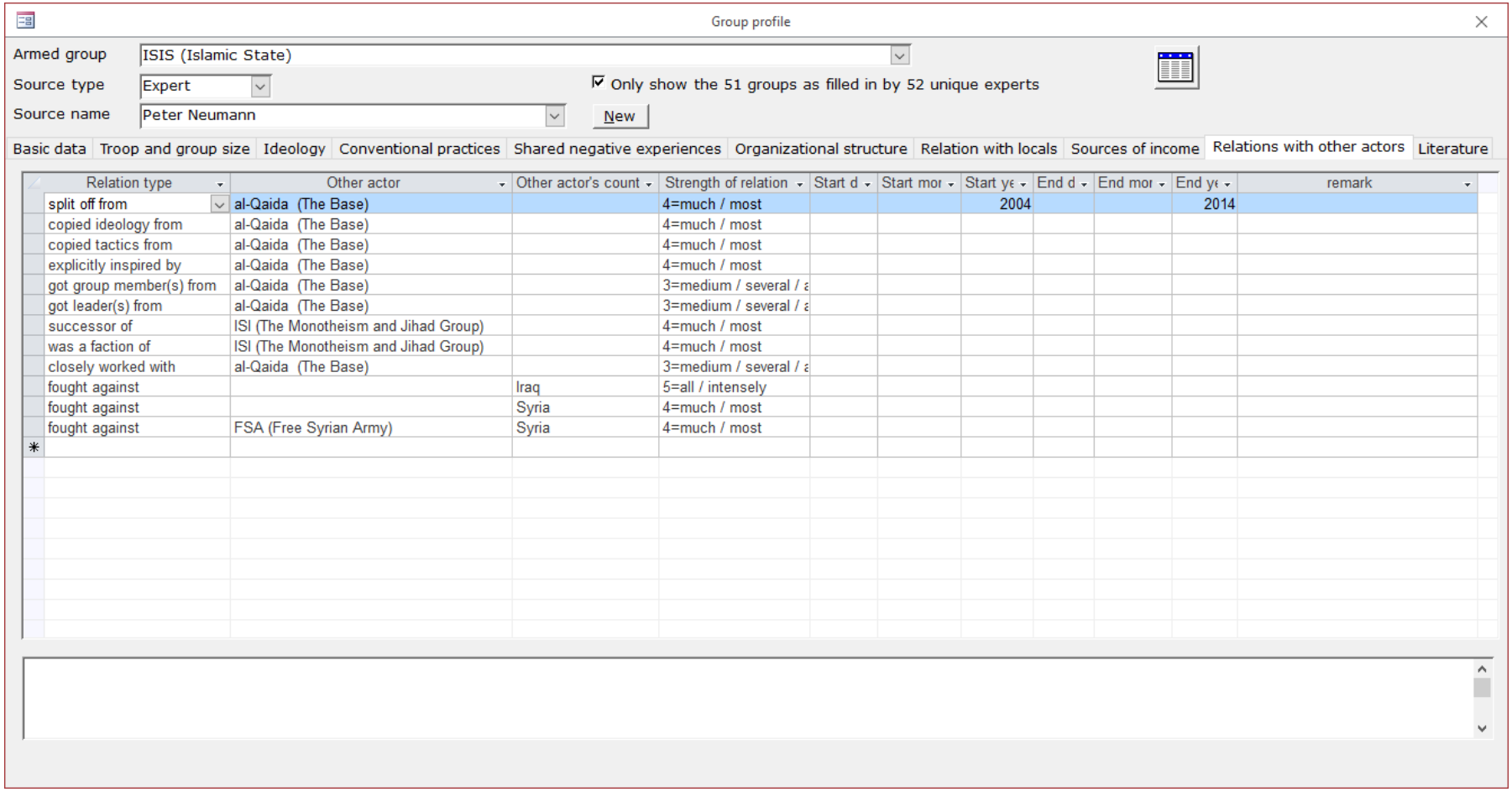
So what?

- Social scale: armed groups need to scale up to become successful and a proto-state
- Social complexity variables might be predictors to ‘upscaling’ of armed groups
- Given 75% prediction of variation, apparently certain variables must be in place, concerted, to be able to make the step

Tolstoy: war and peace db

- Currently: armed group data
- Developed to facilitate integration of various flat-files
- Later: Multi-level, i.e. state, groups, ideally individuals
- Hence: multi-level selection
- Variables resemble Seshat's variables
- Similar questions possible
- May be fed into Seshat? At least linked to

Tolstoy: war and peace db



Tolstoy: linking disparate data

- **UCDP** Actor Dataset: armed groups as actors http://www.pcr.uu.se/research/ucdp/datasets/ucdp_actor_dataset/
- Correlates of War project (http://www.correlatesofwar.org/),
- Peace Research Institute Oslo (http://www.prio.no),
- EPR-ETH database (http://www.icr.ethz.ch/data
- The Battle Deaths Dataset: Battle deaths 1946-2008 https://www.prio.org/Data/Armed-Conflict/Battle-Deaths/The-Battle-Deaths-Dataset-version-30/
- Significant Acts (SIGACT): Declassified subsections of the Afghan War Diary and the Iraq war log
- Konstanz One-Sided Violence Event Dataset (KOSVED): detailing 21,458 attacks against civilians in Bosnia
- National Counterterrorism Center (NCTC) Worldwide Incidents Tracking System (WITS) - http://wits.nctc.gov/
- Wikileaks Afghanistan Files: detailed incident reports of insurgency in Afghanistan
- The Armed Group Institutions Database: covers conflicts 1980-2010. http://ameliahoovergreen.com/?agid
- 10 Million International Dyadic Events - coded by computer from millions of Reuters news reports. https://dataverse.harvard.edu/dataset.xhtml?persistentId=hdl:1902.1/FYXLAWZRIA
- MAROB dataset: run by the Minorities At Risk project http://www.cidcm.umd.edu/mar/mar_data.asp#marob .
- **Cunningham e.a.** (2012) have Non State Actor data; useful stuff. http://privatewww.essex.ac.uk/~ksg/eacd.html
- GROWup data: info on armed groups linked to state level data http://www.icr.ethz.ch/data
- Organizational Structure of Armed Movements (**OSAM**): compiled a dataset on armed groups http://www.polver.uni-konstanz.de/en/holzinger/team/roos-van-der-haer/data/
- Armed Conflict Data, ACD: IISS (International Institute for Strategic Studies) database on conflicts and groups http://acd.iiss.org/en
- Armed Group Database (MAG)
- **Svensson** (2007) on ‘Religion and conflict resolution in civil wars’
- etc., etc., etc…

So what?

- Combined datasets:
  - No longer anyone's personal research interest, but rather, conducive for many researches and theories in War and Peace
  - Maximizing return on data collection effort
  - Uncovering links between processes, variables, actors, that were hitherto out of reach
  - Fine-grained version of Seshat; bigger picture *and* detail!

The road ahead

- Our research will reveal the environmental pressures that affect the evolution of armed groups
- One factor is the amount of military pressure exerted on the group. This could lead to it collapsing or, vice versa getting stronger. This is an empirical question that we will address with our database.
- Another issue is the ability of the group to generate revenue. How important is it for its long-term success? Again, historical data will be invaluable in answering this question.
- What collective goods the group produces in addition to success in battle? Again, how important is it to its survival and ability to transform into a state?

The road ahead

- These were just example: what do YOU want to know? There are so many things we could measure using this database…
- What can be improved in our approach?

SESHAT: Global History Databank

Acknowledgments

Bernard Winograd
Jim Bennett

Tricoastal Foundation

E·S·R·C ECONOMIC & SOCIAL RESEARCH COUNCIL

JOHN TEMPLETON FOUNDATION
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