

Folklore

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What we Would Like to Know

1. Beliefs and attitudes of pre-industrial societies

Ideal Data

- ▶ World Values Surveys of Pre-Industrial Societies

Ideal Data

- ▶ World Values Surveys of Pre-Industrial Societies

- ▶ not there yet

What we Would Like to Know

2. Economic and social characteristics of pre-industrial societies

Current State of Affairs

- ▶ Ethnographic Atlas (EA)

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 - ▶ an additional proxy would reduce measurement error
 - ▶ recover groups not covered by the EA
 - ▶ reconstruct traits not coded by the EA

An Unexplored Discipline

- ▶ How can we shed light on these questions?

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- ▶ How can we shed light on these questions?
- ▶ Leverage the oral tradition of a group: **Folklore**.
 - ▶ On the rising importance of narratives, see Shiller's Presidential address at the AEA Meetings, 2017 on "Narrative Economics",
 - ▶ See also Benabou, Falk, Tirole (2018)

Folklore as a Window into our Past

- ▶ **Folklore** is the collection of fictional stories, myths, jokes, proverbs, songs, tales, quotes, forms and rituals of celebrations, folk dances and initiation rites.
 - ▶ It is a description of culture, which is passed along informally from one individual to another either through verbal instruction or demonstration.

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 - ▶ It is a description of culture, which is passed along informally from one individual to another either through verbal instruction or demonstration.
 - ▶ Folklore is usually not part of the school curriculum or studied in the fine arts

Folklore the Academic Field

- ▶ Folklore studies is also an academic discipline
 - ▶ is the field of scholarship devoted to the documentation, classification, and interpretation of folklore and folklife.
 - ▶ It is a hybrid, straddling humanities and social sciences.

Folklore the Academic Field

- ▶ A brief history of the field
 - ▶ Folklore studies began in the early 19th century focusing on peasants. Folklorists' aim was to document archaic customs and beliefs and trace them to their remote origins.
 - ▶ Inspired by the Grimm Brothers, whose first collection of fairy tales appeared in 1812, scholars all over Europe began recording and publishing oral literature of many genres. Large collections were amassed over the course of the century.

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 - ▶ Inspired by the Grimm Brothers, whose first collection of fairy tales appeared in 1812, scholars all over Europe began recording and publishing oral literature of many genres. Large collections were amassed over the course of the century.
- ▶ An important advance in the early 20th century was the classification of material for comparative analysis.

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- ▶ Late 20th century folklorists, influenced by the wave of post-modernism sweeping the humanities, largely abandon comparative work. Focus on “contextual” analysis.

Road Map

1. Introduce and describe a novel dataset of oral traditions across roughly 1,000 pre-industrial societies.
 - 1.1 underlying data is text with a matrix showing the presence/absence of 2,500 themes (motifs)

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 - 2.1 natural environment, institutional framework, and mode of subsistence
 - 2.1.1 folklore-derived features are in accordance with the ethnographic record; useful to recover traits that are not recorded in the EA.

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3.3 Importance of family for groups organized along extended family lines

3.4 The abundance of leisure among foraging societies, Sahlins (1972)

Road Map: Historical Values and Contemporary Attitudes

4. Attitudes persist because they are informally transmitted across generations. However, this is hard to empirically evaluate.

Our great-great-great grandparents are not around to ask.

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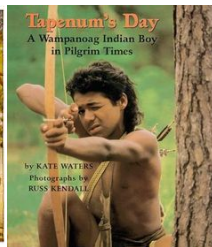
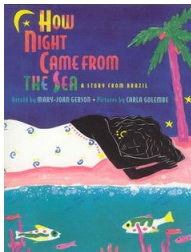
- 4.1 folklore (group-specific narratives and images) as a vehicle of transmission of norms across generations

- 4.1.1 Explore what type of stories predict contemporary preferences:
altruism, trust, risk taking

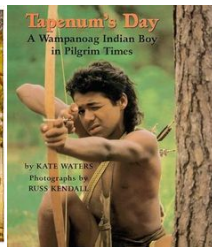
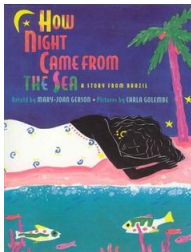
Folklore in Transmission



Folklore: Examples of Fables, Tales and Legends



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- How do folklorists make sense of all this information?

How Is Information from Folklore Codified?

- ▶ Folklorists classify oral traditions into motifs
- ▶ What is a motif?
 - ▶ is a recurrent image, idea or a symbol that develops or explains a tale
 - ▶ it often takes the form (actor, item, incident)
 - ▶ Note: A tale can map into multiple motifs and vice versa.

Classifying Folklore

- ▶ Two existing folklore classifications:

1. Aarne-Thompson-Uthe (ATU) classification of folk tales into 2,399 tale types: available for 144 groups

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- ▶ Pros: commonly used among folklorists interested in Indo-European oral traditions
- ▶ Cons: European focus

Classifying Folklore

2. Berezkin's categorization, 2,500 motifs: available for 945 groups

- ▶ Two broad categories
 - ▶ cosmological and etiological motifs (origin of earth, sky, moon, water, death, plants, diseases, etc.): 48.7%
 - ▶ non-cosmological (society, animal stories, adventures, tricks and competitions): 51.3%
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- ▶ Cons: Partially follows the ATU categorization (because the ATU has a European focus)
- ▶ Pros: over 900 pre-industrial societies (spanning a wide spectrum of economic, societal and institutional arrangements)

Examples of Motifs in Berezkin

- ▶ Title: Task-giver is a king or a chief
 - ▶ Description: Person who gives difficult tasks to the hero is a prominent figure in social hierarchy, i.e., a head of political unit of community- or higher level and not a mythical being; 219 groups

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- ▶ Title: Kind and Unkind Girl;
 - ▶ Description: A girl meets a powerful person, behaves herself in a right way and is successful. Another behaves in a wrong way and is punished; 160 groups

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- ▶ Title: Earth grows big
 - ▶ Description: Original earth was small and later increased in size or the fertile soil grew from a small amount of original substance; 280 groups.

Cosmological Motifs

- ▶ Title: **Thunder** in trouble falls to earth
 - ▶ Description: Thunder falls to earth, cannot return to the sky. Usually a human person helps him to do it; Count: 26

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- ▶ Title: The **flood** and the wet tails
 - ▶ Description: During the flood birds or animals escape to some place (mountain, tree, boat, sky). Tips of their tails or other body parts get covered with water or foam and acquire their present color and form; Count: 24

Non-Cosmological Motifs

- ▶ Title: Grazing animals to be preserved by a **herdsman**
 - ▶ Description: A man had to graze animals. If at least one is lost, the master would kill (not reward) him; Count: 27

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- ▶ Title: Expedition to the upper world
 - ▶ Description: People regularly ascend to the sky for hunting, fishing or gathering; do not give honey, fish or proper meat to the old person remained below; she or he makes their return impossible, they remain in the sky; Count: 7
- ▶ Title: Hook from the sky
 - ▶ Description: The sky dwellers fish human beings who live on earth with a line and a hook; Count: 15

Sources of Berezkin

- ▶ Berezkin utilizes a wide range of materials: 5,007 references
 - ▶ 3,338 books and 1,669 journal articles (The Folk-Lore Journal, Journal of American Folklore, Journal of Latin American Lore, Latin American Indian Literature Journal, The Journal of the Polynesian Society, Journal de la Societe des Americanistes, The Journal of the Anthropological Institute of Great Britain and Ireland, The Journal of Indo-European Studies, Journal de la Societe Finno-Ougrienne, Oral Traditions)

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 - ▶ Language of Publication:
 - ▶ English: 38%
 - ▶ Russian: 28%
 - ▶ Spanish: 9%
 - ▶ German: 7%
 - ▶ French: 6%
 - ▶ Other Languages: Breton, Quechua, Sanskrit, Tagalog, etc. (these are from translations)

Sources per Group

- ▶ The median society in Berezkin's corpus has:
 - ▶ 11 references
 - ▶ 10 authors
 - ▶ 11 publishers
 - ▶ 4 languages
 - ▶ Median publication date is 1970
 - ▶ Median date of first publication is 1900

The Laos Oral Tradition - Sources

A list of sources:

- Fleeson 1899: Laos Folk-Lore of Farther India. New York, Chicago, Toronto: Fleming H. Revell Co.
- Bourlet 1907: "Les Thay". *Anthropos* 2(6), 921-932.
- Walk 1949: "Das Flut-Geschwisterpaar als Ur- und Stammelternpaar der Menschheit. Ein Beitrag zur Mythengeschichte Süd- und Südostasiens". *Mitteilungen des Österreichischen Gesellschaft für Anthropologie, Ethnologie und Prähistorie* 78-79(1-3), 60-115.
- Archaimbault 1959: « La naissance du monde selon les traditions lao : le mythe de Khun Bulom », dans *La naissance du monde*, Paris, Seuil (Sources orientales), p. 383-416.
- Chesnov 1982: "Пху Нго и Не Нгам". *Мифы народов мира*. Т.2. М.: Советская энциклопедия. С. 354.
- Nikulin 1988: *Сказки народов Азии*. Составитель тома, автор вступительной статьи и примечаний Н.И. Никулин. М.: Детская литература. 718 с. (Сказки народов мира, т. 3).
- Yamada 2014: "Forager prototype or high-culture influence for Hainuwele myths?" *Route de la soie dans la mythologie*. P. 461-477.
- Terwiel, B. J. 1994: "Ahom Ritual: A Brand-New Ancient Tradition."
- http://www.hobobo.ru/catalog/narodnye_skazki_byliny_skazaniya/laosskie-skazki;

Laos Folk-Lore of Farther India

BY

Katherine Neville Fleeson

With Illustrations from Photographs taken by
W. A. Briggs, M. D.



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Publishers of Evangelical Literature

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Introduction

THESE Folk-Tales from the Laos country, a part of the kingdom of Siam, in addition to their intrinsic merit have the charm of complete novelty. Until the translator of this volume collected these stories, they were even unwritten, with a single exception which was found in a Laos manuscript. They are orally preserved in the provinces which constitute the Laos country, just as they have been handed down from generations of ancestors, with slight variations in words or incidents. The elders among the people tell the stories at their merrymakings around the camp-fires and within their primitive houses, to amuse and instruct the youth and children.

Living among the Laos in the friendly and intimate relation of a missionary, the translator has had the advantage of long residence and unrivalled opportunity for understanding the history, customs, religious ideas and aspirations of this interesting people. Aptness in use of their colloquial speech gave her special facility for gathering the stories with exactness, as they

Laos Folklore of Farther India, Fleeson 1899

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Fleeson 1899 - Tale

IN the far north country there lived a father, mother, and son. So poor and desolate were they that their only possession was an old ax. Each morning, as the eye of day opened on the earth, they went to the woods and there remained until the evening, cutting the wood, which, when sold, furnished their only source of a living.

Upon a day, when the cutting was done, they placed the ax near the wood and went deeper into the jungle for vines to bind the wood. It happened the chow of the province came that way with twelve of his men; one of whom bore an ax of gold, another bore an ax of silver and both belonged to the chow. Yet, when the chow saw the old, wooden-handled ax lying near the wood, he commanded that it be taken home with them.

The family returning found their ax gone. Deeply distressed, they sat down and wept, and

thus in trouble, did the chow and his men find them as they came that way again.

"Why are your hearts thus troubled?" inquired the chow.

They answered: "O chow, we had but one ax and it is gone and no other means of earning food have we!"

The chow replied: "I found your ax. Here it is." And he commanded they be given the ax of silver, whose handle even was silver.

"That is not ours," they cried, "not ours."

The chow commanded the ax of gold be given them. Yet they wept but the more, saying, "The golden ax is not ours. Ours was old, 'twas but of steel and the handle of wood, but 'twas all we had."

Their honesty gladdened the heart of the chow and he commanded that not only their own ax be returned, but the ax of gold, the ax of silver, and even a pun¹ of gold be given them. Thus was merit rewarded.

The Making of a Motif: Golden Ax

- ▶ Motif-ID: K56c.
 - ▶ Description: A man loses an axe. A spirit or a powerful official suggests him a golden axe but the man does not accept it. The spirit (official) gives him axes of gold and silver as a reward for his honesty. Usually another man intentionally loses his axe, claims the golden one but receives nothing.

Distribution of a Motif: Golden Ax



Caveats

- ▶ Which period these motifs correspond to?
 - ▶ A snapshot of the depository of beliefs and attitudes of pre-industrial societies in the mid 19th century
 - ▶ When did these motifs emerge? From thousands of years BP till roughly the 18th century. Timing the emergence and spread of motifs is a topic of active research (focus of Berezkin).
 - ▶ motifs on the origin of fire (more generally etiological motifs) are considered thousands of years old

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 - ▶ motifs on the origin of fire (more generally etiological motifs) are considered thousands of years old
 - ▶ For each group we have a single set of motifs
 - ▶ Except for Chinese and Greeks for which we have two sets of motifs; ancient and as of 19th century.

More Caveats

- ▶ How many unique myths-legends-tales do we have per tradition?
- ▶ We do not know.
 - ▶ In Berezkin words: "You can have one book with enormous amount of data on several traditions like Potanin (1883) and you can have a dozen of publications on one tradition all of which containing something fragmentary and insignificant"

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- ▶ Our data indicates the presence/absence of a given motif

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 - ▶ possible bias: the unobserved motifs are drawn from a different distribution of images and themes from the observed ones

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- ▶ Original sampling of societies: the oral tradition of some groups may have been differentially documented.
 - ▶ Control for the year-of-first publication / # references (authors, publishers, different languages) / # motifs.
 - ▶ country-specific constants partially account for sampling differences (under the assumption that groups in the same country were sampled around the same time period, with similar methods, biases etc.)

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- ▶ Meta-analysis of oral traditions is done by a single author, Berezkin
 - ▶ similar to Murdock's Ethnographic Atlas

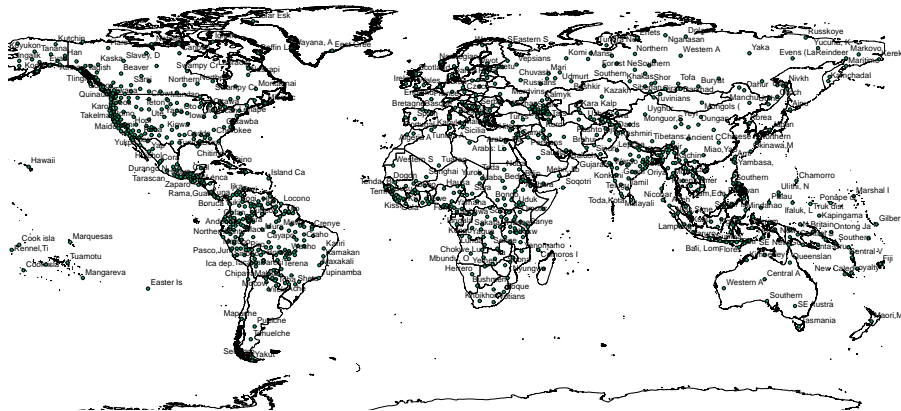
Motifs in Berezkin

- ▶ Median tradition has 59 motifs; Russians have the max # of motifs: 563
 - ▶ Top 10 groups in terms of motifs: Russians, Ukrainians, Bulgarians, Georgians, Lithuanians, Kazakh, Latvians, Germans/Austrians/Alsations, Greeks, Finns

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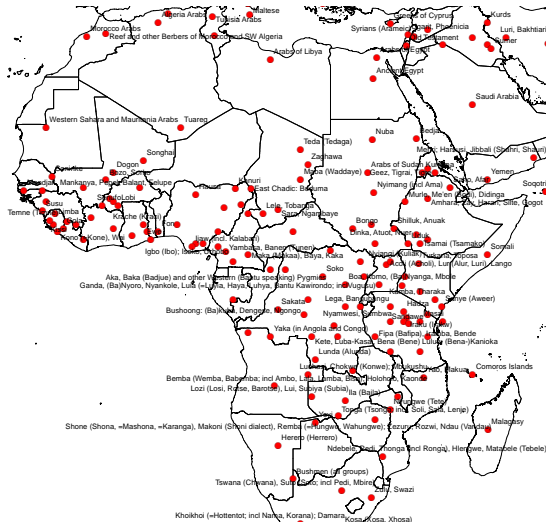
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 - ▶ Top 10 groups in terms of motifs: Russians, Ukrainians, Bulgarians, Georgians, Lithuanians, Kazakh, Latvians, Germans/Austrians/Alsations, Greeks, Finns
- ▶ The number of motifs per group reflects both the number of underlying sources and the number of motifs per tale.
 - ▶ We cannot disentangle between the two but will control for.

Traditions in Berezkin

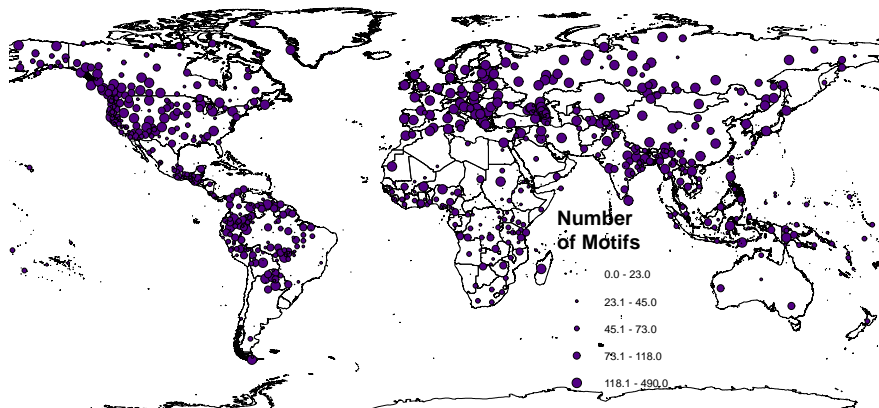


Traditions in Berezkin





Motifs per Group



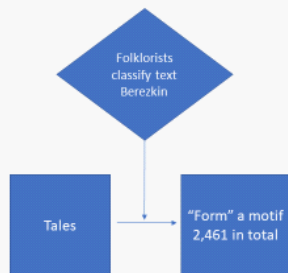
Classifying Motifs

- ▶ Goal is to get a measure of traits from the oral tradition of a group.
How do we classify motifs?
- ▶ Text analysis:
 - ▶ search over motifs for words from predetermined Lists of Words (LoWs).
 - ▶ If this specific word(s) is found then classify this motif accordingly.
 - ▶ some cases are simple, like find motifs mentioning "earthquake" or "eclipse".

Classifying Motifs - Content Analysis

- ▶ Use LoWs from:
 - ▶ knowledge graphs created by computer scientists
 - ▶ Conceptnet 5: semantic network created by the MIT Media Lab using crowdsourced resources (Wiktionary, DPpedia, WordNet, Open Mind Common Sense) to build a large commonsense knowledge base. Look over the 50 most related words per concept.
 - ▶ dictionaries created by social psychologists to capture people's social and psychological states
 - ▶ Linguistic Inquiry and Word Count (LIWC)
 - ▶ Moral Foundations Dictionary

Work Flow

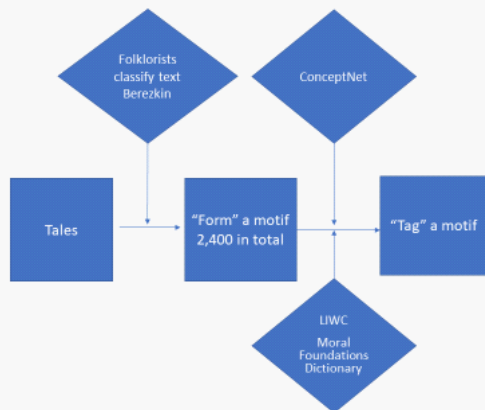


Oral Traditions

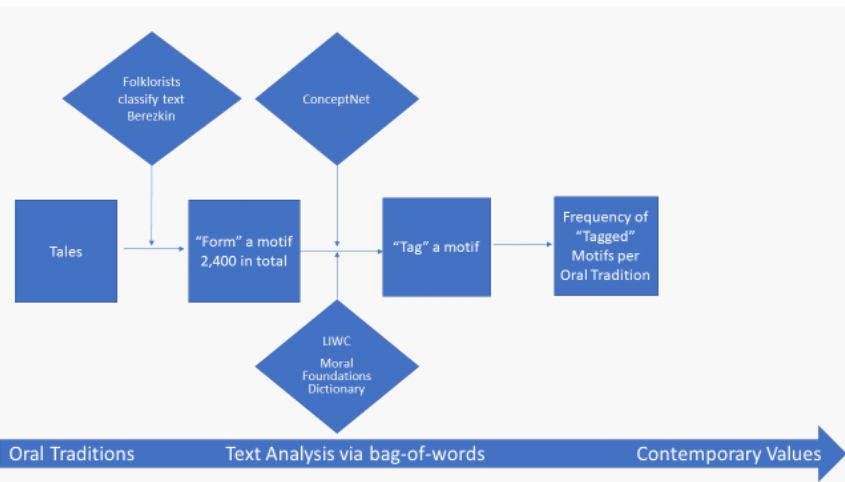
Text Analysis via bag-of-words

Contemporary Values

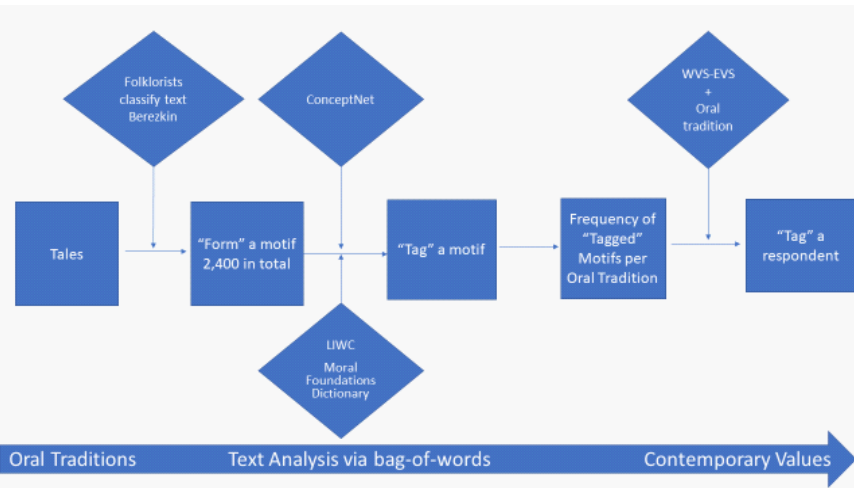
Work Flow



Work Flow



Work Flow



Does the Geography Predict Environment-Related Motifs?

- ▶ Is the physical environment reflected in the oral tradition of a society?
 - ▶ Berezkin's view of oral traditions as a depository of the migration history of a society suggests that folklore elements can be preserved even if the landscapes, climates and social configurations in which they are told change

Does Geography Predict Environment-Related Motifs?

$$\ln(1 + \# \text{ Topic-Specific Motifs}_i) = a_c + \beta \text{GEO}_i + \varepsilon_i$$

- ▶ $\# \text{ Topic-Specific Motifs}_i$: number of motifs that correspond to a geographic trait of group i
- ▶ GEO_i : vector of geo traits - constructed at 50km buffer
- ▶ a_c : continent/country fixed effects
- ▶ standard errors clustered at the language group level

Does Geography Predict Environment-Related Motifs?

$$\ln(1 + \# \text{ Topic-Specific Motifs}_i) = a_c + \beta \text{GEO}_i + \varepsilon_i$$

- ▶ $\# \text{ Topic-Specific Motifs}_i$: number of motifs that correspond to a geographic trait of group i
- ▶ GEO_i : vector of geo traits - constructed at 50km buffer
- ▶ a_c : continent/country fixed effects
- ▶ standard errors clustered at the language group level
- ▶ Always control for:
 - ▶ $\ln(\# \text{ of motifs per oral tradition})$
 - ▶ $\ln(\text{average word length per motif})$
 - ▶ $\# \text{ of publications}$
 - ▶ year of earliest publication per group

Folklore and the Physical Environment

- ▶ **Earthquake** in the oral tradition. Search for the word "earthquake" across motifs
- ▶ Name: The dead shake the earth
 - ▶ The **earthquakes** are produced by the dead who are in the underworld or during the earthquakes the inhabitants of the lower world try to come out; Count: 19

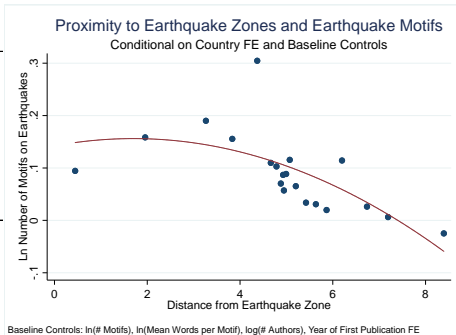
Summary Stats

Table 1: Summary Statistics—Berezkin Sample

Variable	Mean	Std. Dev.	Min.	Max.	N
# of Motifs on Earthquakes	0.103	0.341	0	3	933
# of Motifs on Fishing	2.787	3.132	0	16	933
# of Motifs on Lightning	1.221	1.492	0	8	933
# of Motifs on Floods	2.171	2.19	0	11	933
# of Motifs on Mosquitoes	1.114	1.525	0	12	933

Folklore and the Physical Environment

	Ln(1+# Motifs on Earthquakes)	
Ln(Distance to Earthquake Zones)	-0.0179*** (0.0043)	-0.0184*** (0.0043)
Baseline Controls	yes	yes
Continental FE	yes	no
Country FE	no	yes
R ²	0.075	0.097
# of Observations	942	942

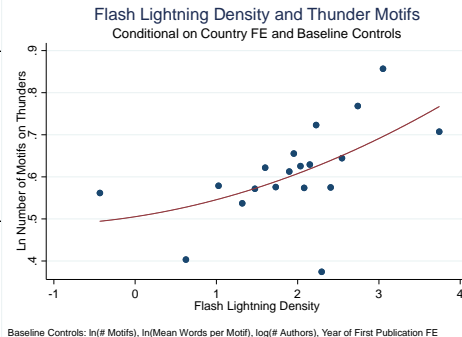


Folklore and the Physical Environment

- ▶ **Thunder** in the oral tradition. Look for "thunder" from Conceptnet
 - ▶ Words tagged across motifs: lightning, thunder, storm, thunderbolt, thunderstorm, roar
 - ▶ Motif i1: Creatures that produce rain and/or thunderstorms are birds or anthropomorphic beings with wings; or (rare) some or all birds are connected with thunder, lightning or rain.

Folklore and the Physical Environment

	Ln(1+# Motifs on Thunder)	
Ln(Mean Lightning Flash Density)	0.0349** (0.0155)	0.0455*** (0.0156)
Baseline Controls	yes	yes
Continental FE	yes	no
Country FE	no	yes
R ²	0.407	0.44
# of Observations	922	922

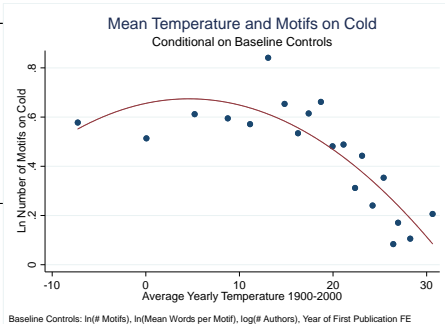


Folklore and the Physical Environment

- ▶ **Cold** in the oral tradition. Look for "insect" from Conceptnet:
 - ▶ Words tagged across motifs: cold, freeze, frozen, ice
 - ▶ Motif m35: Two animal persons compete to see who could withstand cold all the night. At dawn one is dead..

Folklore and the Physical Environment

	Ln(1+# Motifs on Cold)	
Mean Yearly Temperature 1900-2000	-0.0112*** (0.0023)	-0.0077* (0.0042)
Baseline Controls	yes	yes
Continental FE	yes	no
Country FE	no	yes
R ²	0.407	0.44
# of Observations	922	922



Folklore and the Physical Environment

- ▶ Crops in the oral tradition. Look for "rice", "wheat", "corn" from Conceptnet
 - ▶ Words tagged across motifs: grain, cereal, wheat, corn, rice, oat, flour, maize, crop, cob
 - ▶ Motif i59: Milky Way is a trace of people who spilled on their way something related to agriculture (straw, chaff, hay, flour, peas)

Folklore and the Physical Environment

Folklore, Subsistence, and the Physical Environment

	Ln(1+# Motifs on Insects)		Ln(1+# Motifs on Crops)		
Ln(Mean Malaria Stability)	0.0367** (0.0184)	0.0941*** (0.0289)			
Ln(Optimal Agricultural Calories Pre-1500)			0.0207*** (0.0052)	0.0183*** (0.0067)	0.0168** (0.0070)
Change in Optimal Agricultural Calories from the Columbian Exchange					0.0106 (0.0084)
Baseline Controls	yes	yes	yes	yes	yes
Continental FE	yes	no	yes	no	yes
Country FE	no	yes	no	yes	no
R ²	0.326	0.396	0.433	0.47	0.47
# of Observations	942	942	939	939	939

Notes: This table reports OLS estimates. The unit of analysis is a group in Berezkin's catalogue. Baseline Controls include: Ln(# Motifs), Ln(Mean Words per Motif), log(# Authors), Year of First Publication FE (before 1900, between 1900 and 1950, after 1950). Standard errors are clustered at the language family level as classified by Berezkin. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Data Appendix for variables definition's and Table 1A for summary statistics.

Ethnographic Record Meets Oral Traditions

- ▶ Do the motifs describe an economy/society consistent with the ethnographic record (link Berezkin to Murdock)?

$$Trait_i = a_c + \beta \ln(\text{Topic-Specific Motifs}_i) + \varepsilon_i$$

- ▶ *Topic-Specific Motifs_i* : number of motifs that correspond to trait *i*
- ▶ *Trait_i* : share of subsistence from different modes of production, political complexity, etc.
- ▶ a_c :continent/country fixed effects; standard errors clustered at the language family level
 - ▶ Always control for:
 - ▶ $\ln(\# \text{ of motifs per group})$
 - ▶ $\ln(\text{average word length per motif})$
 - ▶ $\ln(\# \text{ of authors per group})$
 - ▶ dummies for year of first publication per group. (Date ≤ 1900 , $1900 < \text{Date} < 1950$, Date > 1950)

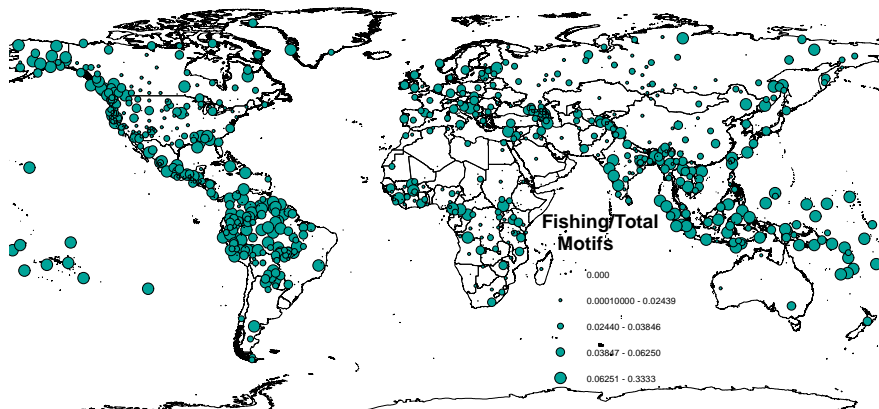
Ethnographic Record Meets Oral Traditions: Subsistence

- ▶ Can the subsistence economy be gleaned from the frequency of farming / pastoral / hunting-fishing-gathering motifs?

Fishing in the Oral Tradition

- ▶ Fishing in the oral tradition. Look for "**fish**" from Conceptnet:
 - ▶ Words tagged across motifs: fisherman, fish.
 - ▶ Motif m19: Person ties another one to a fishing line to use him as a bait or orders the tied one to catch fish with his hands

Fishing Motifs per Group



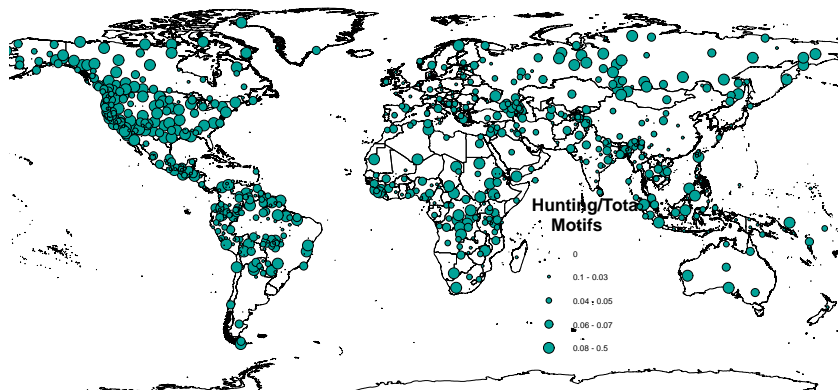
Pastoralism and Hunting in the Oral Tradition

- ▶ Pastoral activities in the oral tradition. Look for "**pastoralism**" from Conceptnet:
 - ▶ Words tagged: "cattle" "graze" "herdsman" "pasture" "herd" "herdsman" "pasture" "livestock" "agriculture"
 - ▶ motif m150: An animal person becomes a herdsman but eats the entrusted animals up

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 - ▶ motif m150: An animal person becomes a herdsman but eats the entrusted animals up
- ▶ Hunting in the oral tradition: Look for "**hunt**" from Conceptnet:
 - ▶ Words tagged: "hunt" "seek" "search" "fowl" "deer" "elk" "moose" "chase" "pursuit" "scavenger" "seek"
 - ▶ motif b42: Certain stars or constellations are interpreted as hunters, their dogs and game that the hunters pursue

Hunting Motifs per Group



Summary Stats

Table 1b: Summary Statistics—EA Matched Sample

Variable	Mean	Std. Dev.	Min.	Max.	N
# of Motifs on Farming	1.776	2.648	0	22	1234
# of Motifs on Hunting/Gathering/Fishing	8.202	7.53	0	49	1234
# of Motifs on Pastoralism	2.453	4.850	0	38	1234
# of Motifs on Fishing	2.419	2.809	0	16	1234
# of Motifs on Hunting	3.519	3.834	0	23	1234
# of Motifs on Gathering	1.523	1.651	0	12	1234
# of Motifs on Authority	2.023	3.666	0	26	1234
# of Motifs on Trade and Exchange	1.465	3.184	0	24	1234
Motifs on Trade and Exchange (0/1)	0.457	0.498	0	1	1234
# of Motifs on Revenge	0.797	1.147	0	6	1234
Log(1st PC of Motifs on Authority)	0	1.565	-1.438	6.005	1234
Log(1st PC of Trickster Motifs)	0	1.691	-3.96	4.14	1234
Log(1st PC of Motifs Trickster Successful)	0	1.655	-3.059	4.672	1234
Log(1st PC of Motifs Trickster Unsuccessful)	0	1.517	-1.699	5.064	1234
Log(1st PC of Motifs Trickster Neutral)	0	1.637	-3.183	3.866	1234

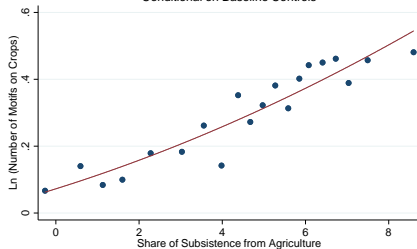
Ethnographers Meet Folklorists: Subsistence

Share of Subsistence from:	<u>Farming</u>		<u>Animal Husbandry</u>		<u>Fishing</u>		<u>Hunting</u>	
Ln(Farming Motifs + 1)	1.5715*** (0.2680)	1.0665*** (0.1815)	0.3032*** (0.1006)	0.0578 (0.1394)	-0.5978*** (0.1547)	-0.4372*** (0.1465)	-1.2601*** (0.2176)	-0.6787*** (0.1947)
Ln(Pastoralism Motifs + 1)	-0.0281 (0.1839)	-0.1495 (0.2047)	0.7384*** (0.1474)	0.5882*** (0.0828)	-0.2180** (0.0993)	-0.0806 (0.1566)	-0.5115** (0.2297)	-0.3745** (0.1548)
Ln(Fish-Related Motifs + 1)	-0.1326 (0.1816)	-0.2061 (0.2128)	-0.2214*** (0.0776)	-0.1394 (0.0960)	0.6377*** (0.1487)	0.6640*** (0.1459)	-0.2893 (0.2423)	-0.3259 (0.2398)
Ln(Hunt-Related Motifs + 1)	-1.0727*** (0.2507)	-0.4012** (0.1788)	0.3608** (0.1709)	0.2378* (0.1199)	-0.0434 (0.1238)	-0.2259** (0.1042)	0.7544*** (0.2081)	0.3949*** (0.1438)
Baseline Controls	yes	yes	yes	yes	yes	yes	yes	yes
Continental FE	yes	no	yes	no	yes	no	yes	no
Country FE	no	yes	no	yes	no	yes	no	yes
R ²	0.419	0.552	0.446	0.589	0.284	0.371	0.53	0.632
# of Observations	1237	1237	1237	1237	1237	1237	1237	1237

EA has been matched to a society in Berezkin's catalogue. Baseline Controls include: Ln(# Motifs), Ln(Mean Words per Motif), log(# Authors), Year of First Publication FE (before 1900, between 1900 and 1950, after 1950). Standard errors are clustered at the language family level as classified in the EA, v98. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Data Appendix for variables definition's.

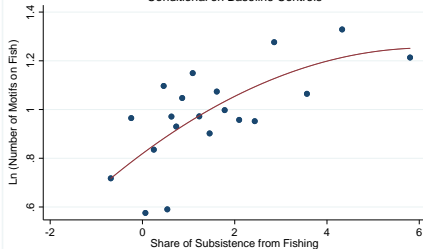
Ethnographers Meet Folklorists: Subsistence

Motifs on Crops and % of Subsistence from Agriculture
Conditional on Baseline Controls



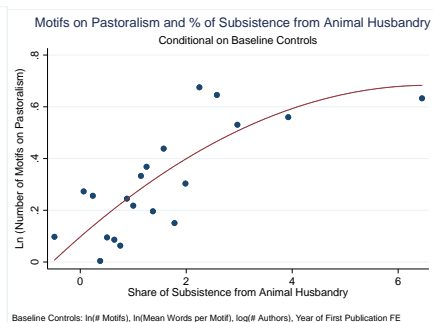
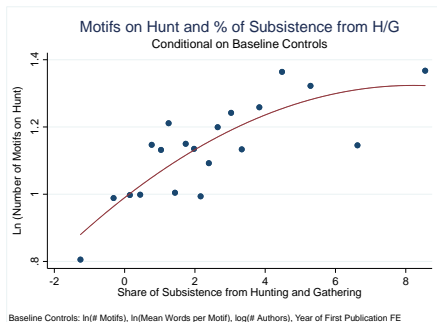
Baseline Controls: $\ln(\# \text{ Motifs})$, $\ln(\text{Mean Words per Motif})$, $\log(\# \text{ Authors})$, Year of First Publication FE

Motifs on Fish and % of Subsistence from Fishing
Conditional on Baseline Controls



Baseline Controls: $\ln(\# \text{ Motifs})$, $\ln(\text{Mean Words per Motif})$, $\log(\# \text{ Authors})$, Year of First Publication FE

Ethnographers Meet Folklorists: Subsistence

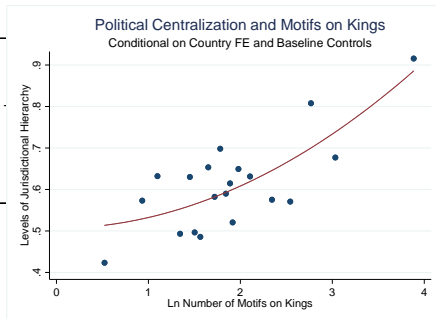


Ethnographers Meet Folklorists: Institutions

- ▶ Are centralized societies more likely to have motifs where a king is mentioned?
 - ▶ Authority in the oral tradition: Look for "**king**" in Conceptnet
 - ▶ Words tagged: "king", "queen", "ruler", "prince", "princess" "rein"
 - ▶ Societies in the EA organized as states have on average is 4 such motifs whereas acephalous ones have 1.

Ethnographers Meet Folklorists: Institutions

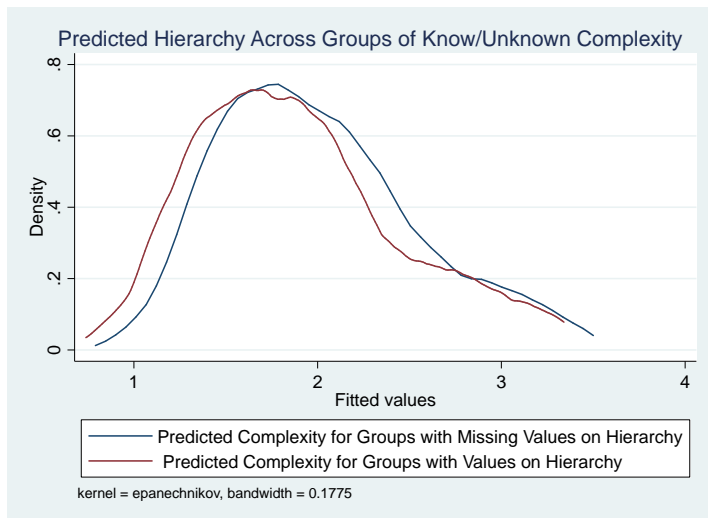
	Levels of Jurisdictional Hierarchy Beyond the Village	
Ln(King-Related Motifs)	0.1529*** (0.0391)	0.1109*** (0.0341)
Baseline Controls	yes	yes
Continental FE	yes	no
Country FE	no	yes
R ²	0.589	0.684
# of Observations	1108	1108



Populationg Missing Values in the EA from Folklore

- ▶ The EA has incomplete group-coverage for a variety of measures
 - ▶ the political hierarchy variable, for example, is misssing for 11% of the 1265 EA societies
 - ▶ Idea: use folklore-predicted level of hierarchy to uncover the degree of hierarchy for those EA societies with misssing info.

Groups with Missing Political Complexity Recovered



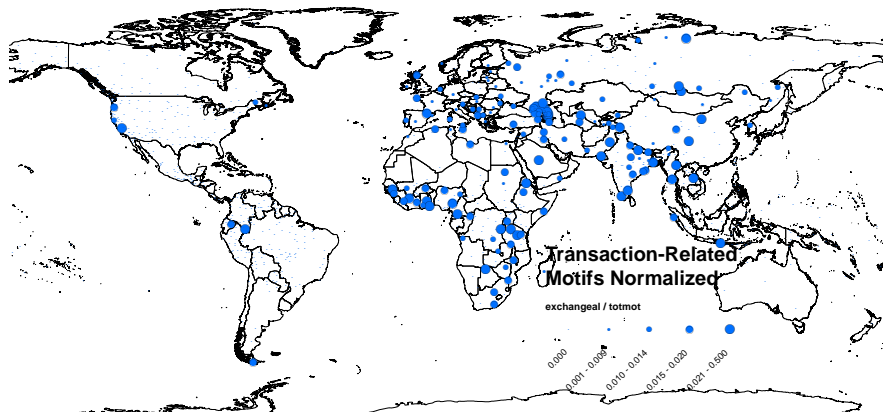
Uncovering the Intensity of Trade from Folklore

- ▶ EA has a wide coverage of groups but omits altogether coding of various traits including the degree of trade

Uncovering the Intensity of Trade from Folklore

- ▶ EA has a wide coverage of groups but omits altogether coding of various traits including the degree of trade
- ▶ Trade in the oral tradition: Look for "**money**" in LIWC
 - ▶ Words tagged: "trade", "barter", "broke", "swap", "deal", "exchange", "debt", "sell"
 - ▶ Description: the profitable exchange: from a pea to a horse: Count 111

Exchange Economy in Folklore



Exchange Economy in Folklore

- ▶ Is there a way to verify whether this "money" measure from folklore correlates with some auxiliary proxy of trade?
 - ▶ Use data on pre-600 AD trade routes compiled by Michalopoulos et al (2018) in the Old World.
 - ▶ Roman roads, old ports, trade routes for a variety of historical atlases.

Exchange in Folklore and Ancient Trade Routes

Folklore and Money

	Ln(1+# Motifs on Money)		
	(4)	(5)	(6)
Distance to Pre-600AD Trade Routes	-0.1610*** (0.0539)	-0.1696*** (0.0382)	-0.1707*** (0.0453)
Change in Distance to Trade Routes Between 600 AD and 1700AD			-0.0054 (0.0543)
Baseline Controls	yes	yes	yes
Continental FE	yes	no	no
Country FE	no	yes	yes
R ²	0.83	0.853	0.852
# of Observations	474	474	474

Notes: This table reports OLS estimates. The unit is a group in Berezkin's catalogue. Baseline Controls include: Ln(# Motifs), Ln(Mean # Words per Motif), # of Publications, and Year of First Publication. All columns focus on groups in the Old World. Standard errors are clustered at the language family as classified by Berezkin. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Main Text for variable definition.

Reconstructing Values and Traits of Historical Societies

- ▶ How to shed light on the psychological traits of historical societies?

Dictionaries on Psychological States

- ▶ The LIWC dictionary has been constructed by social psychologists in order to classify words into psychologically meaningful categories, see Tausczik and Pennebaker (2009).
 - ▶ 41 LoW on psychological processes.
 - ▶ Affective processes, social processes, cognitive processes, perceptual processes, drives, time orientation, relativity
 - ▶ 6 LoW on personal concerns

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 - ▶ 41 LoW on psychological processes.
 - ▶ Affective processes, social processes, cognitive processes, perceptual processes, drives, time orientation, relativity
 - ▶ 6 LoW on personal concerns
- ▶ Moral Foundations Theory has 5 dimensions of morality.
 - ▶ 1) Care/harm; virtues of kindness, gentleness, and nurturance
 - ▶ 2) Fairness/cheating: reciprocal altruism including ideas of justice, autonomy and rights.
 - ▶ 3) Loyalty/betrayal: virtues of patriotism and self-sacrifice for the group
 - ▶ 4) Authority/subversion: virtues of leadership and followership, including deference to legitimate authority and respect for traditions.
 - ▶ 5) Sanctity/degradation: disgust and contamination.

The Original Affluent Society Hypothesis

- ▶ The original affluent society hypothesis (Sahlins, 1972).
 - ▶ Conjecture: foragers (compared to horticulturalists and industrial workers) spend only few hours a week on food procurement enjoying significantly more leisure
- ▶ Do hunting and gathering groups feature more motifs describing leisure?

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 - ▶ Conjecture: foragers (compared to horticulturalists and industrial workers) spend only few hours a week on food procurement enjoying significantly more leisure
- ▶ Do hunting and gathering groups feature more motifs describing leisure?
 - ▶ LIWC entry: **leisure**
 - ▶ Words tagged: celebrate, dance, entertain, dream, fun, game, joke, sing, play, and relax.
 - ▶ Motifs: "Person joins dancers but then understands that these are trees or reeds moved by the wind."
 - ▶ "Person plays throwing his eyes or his tooth up or away. Eyes or tooth first come back to eye sockets or mouth but eventually are lost"

Motifs on Leisure in Hunter-Gatherer Societies

	ln(1+ Motifs on Leisure)			
	(1)	(2)	(3)	(4)
Predominantly Hunting and Gathering Groups	0.1728*** (0.0523)	0.1629*** (0.0441)	0.1045*** (0.0385)	0.1063*** (0.0304)
Baseline Controls	yes	yes	yes	yes
Additional Controls	no	yes	no	yes
Continental FE	yes	yes	no	no
Country FE	no	no	yes	yes
# of Observations	1237	1237	1237	1237

Notes: This table reports OLS estimates. **The additional controls in columns 2, and 4 are selected by the "post-double selection" methodology of Belloni et al (2015) from the set of 52 BoW in the LIWC and MFD dictionaries (naturally the BoW on leisure is not considered). In the "post-double selection" specifications the baseline controls as well as the respective FE are partialled out first.** The unit of analysis is a group in the Ethnographic Atlas. A group in the EA has been matched to an oral tradition in Berezkin's catalogue. Baseline Controls include: ln(# Motifs), ln(Mean Words per Motif), log(# Authors), Year of First Publication FE (before 1900, between 1900 and 1950, after 1950). Standard errors are clustered at the language family level as classified in the EA, v98. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Data Appendix for variables definition's.

Groups Organized along Extended-Family Lines

- ▶ A lot of research shows the importance of family ties on a variety of current outcomes, Alesina Giuliano (various), Enke (forthcoming).
 - ▶ Do groups organized along extended families feature more prominently family members in their oral tradition?

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 - ▶ Do groups organized along extended families feature more prominently family members in their oral tradition?
 - ▶ LIWC entry: **family**
 - ▶ Words tagged: "uncle", "aunt", "mother", "father", "son", "daughter", "grandfather", "sibling", etc

Extended Families and Motifs Featuring Family Members

	Ln(1+Motifs on Family)			
	(1)	(2)	(3)	(4)
Groups Organized along Extended Family Lines	0.0809*** (0.0198)	0.0402** (0.0181)	0.0847*** (0.0268)	0.0507*** (0.0188)
Baseline Controls	yes	yes	yes	yes
Additional Controls	no	yes	no	yes
Continental FE	yes	yes	no	no
Country FE	no	no	yes	yes
# of Observations	1211	1211	1211	1211

Notes: This table reports OLS estimates. **The additional controls in columns 2, and 4 are selected by the "post-double selection" methodology of Belloni et al (2015) from the set of 52 BoW in the LIWC and MFD dictionaries (the BoW on family is naturally not considered). In the "post-double selection" specifications the baseline controls as well as the respective FE are partialled out first.** The unit of analysis is a group in the Ethnographic Atlas. A group in the EA has been matched to an oral tradition in Berezkin's catalogue. Baseline Controls include: ln(# Motifs), ln(Mean Words per Motif), log(# Authors), Year of First Publication FE (before 1900, between 1900 and 1950, after 1950). Standard errors are clustered at the language family level as classified in the EA, v98. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Data Appendix for variables definition's.

Pastoralists and the Culture of Violence

- ▶ Culture of honor among pastoral societies (Nisbett, Cohen, D. (1996), Hackett Fischer (1989)).
 - ▶ Conjecture: developing a reputation for violent retribution against those who stole herd animals was one way to discourage theft.

Pastoralists and the Culture of Violence

- ▶ Can folklore shed light on this?
 - ▶ Closest entry from LIWC is: **anger**
 - ▶ Words tagged: "aggressive", "assault", "attack", "revenge", "feud", "enemy", "hostile", "mad", "violent", "insult", etc

Pastoralists and the Culture of Violence

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 - ▶ Closest entry from LIWC is: **anger**
 - ▶ Words tagged: "aggressive", "assault", "attack", "revenge", "feud", "enemy", "hostile", "mad", "violent", "insult", etc
 - ▶ Use also the **retaliation** LoW from Conceptnet
 - ▶ Words tagged: "revenge", "avenge", "retaliate", "wrath", "compensate"
- ▶ get the first principal component of LIWC anger category and retaliation LoW from Conceptnet
 - ▶ Example of a retaliatory motif: "Hero avenges for the death of the (grand)father/uncle"; Count: 125

Pastoralism and Motifs on Anger and Retaliation

Pastoralism and Motifs on Violence

	First Principal Component of Anger and Retaliation			
	(1)	(2)	(3)	(4)
Predominantly Pastoral Groups	0.2343*** (0.0501)	0.1180*** (0.0396)	0.1999*** (0.0656)	0.1482*** (0.0447)
Baseline Controls	yes	yes	yes	yes
Additional Controls	no	yes	no	yes
Continental FE	yes	yes	no	no
Country FE	no	no	yes	yes
# of Observations	1237	1237	1237	1237

Notes: This table reports OLS estimates. **The additional controls in columns 2, and 4 are selected by the "post-double selection" methodology of Belloni et al (2015) from the set of 52 BoW in the LIWC and MFD dictionaries (the BoW on anger is naturally not considered). In the "post-double selection" specifications the baseline controls as well as the respective FE are partialled out first.** The unit of analysis is a group in the Ethnographic Atlas. A group in the EA has been matched to an oral tradition in Berezkin's catalogue. Baseline Controls include: $\ln(\# \text{ Motifs})$, $\ln(\text{Mean Words per Motif})$, $\log(\# \text{ Authors})$, Year of First Publication FE (before 1900, between 1900 and 1950, after 1950). Standard errors are clustered at the language family level as classified in the EA, v98. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Data Appendix for variables definition's.

States and Exchange-Economy in Folklore

- ▶ Conjecture: Centralized societies are more involved in exchange
 - ▶ Use Money (from LIWC) to capture the degree of exchange

States and the Exchange-Economy

Degree of Centralization and Money in the Oral Tradition

	ln(1 + # of Money-Related Motifs)					
	(7)	(8)	(9)	(10)	(11)	(12)
Jurisdictional Hierarchy Beyond the Village	0.1185*** (0.0328)	0.0942*** (0.0252)	0.0889*** (0.0219)	0.1056*** (0.0292)	0.0946*** (0.0248)	0.0898*** (0.0231)
Share of Subsistence from Animal Husbandry			0.0242** (0.0116)			0.0178 (0.0128)
Share of Subsistence from Agriculture			0.0075 (0.0097)			0.0046 (0.0114)
Baseline Controls	yes	yes	yes	yes	yes	yes
Additional Controls	no	yes	yes	no	yes	yes
Continental FE	yes	yes	yes	no	no	no
Country FE	no	no	no	yes	yes	yes
# of Observations	1108	1108	1108	1108	1108	1108

Notes: This table reports OLS estimates. The additional controls are selected by the "post-double selection" methodology of Belloni et al (2015) from the set of 52 BoW in the LIWC and MFD dictionaries (the BoW on money is naturally not considered). In the "post-double selection" specifications the baseline controls as well as the respective FE are partialled out first. The unit of analysis is a group in the Ethnographic Atlas. A group in the EA has been matched to an oral tradition in Berezkin's catalogue. Baseline Controls include: ln(# Motifs), ln(Mean # Words per Motif), # of Publications, and Year of First Publication. Standard errors are clustered at the language family level as classified in the EA, v98. ***, **, * denote significance at 1%, 5% and 10%, respectively. See Main Text for variable definition.

Folklore and Current Attitudes

- How are preferences and beliefs transmitted across generations?

Folklore and Current Attitudes

- ▶ How are preferences and beliefs transmitted across generations?
- ▶ Conjecture: it is the stories that people tell the vehicle of intergenerational transmission.

Folklore and Current Attitudes

- ▶ What type of stories are predictive of current attitudes across countries towards
 - ▶ trust
 - ▶ altruism
 - ▶ risk taking

Folklore and Current Attitudes

- ▶ Specific types of stories may influence the transmission of specific traits.
 - ▶ We are agnostic.
 - ▶ Let the data tell the LoW that predict current-day values.

Folklore and Current Attitudes

- ▶ Specific types of stories may influence the transmission of specific traits.
 - ▶ We are agnostic.
 - ▶ Let the data tell the LoW that predict current-day values.
- ▶ Many alternative ML techniques can be employed and each has its benefits and drawbacks.
 - ▶ lasso estimation
 - ▶ sets aggressively coefficients to 0
 - ▶ ridge estimation
 - ▶ shrinks coefficients towards 0 but does not set them to 0 as aggressively as lasso
 - ▶ elastic net (combination of lasso and ridge)
 - ▶ random forest, etc

Folklore and Current Attitudes

- ▶ We implement the theoretically feasible Lasso estimation that allows for clustered standard errors; see Belloni et al. (various).. Over
 - ▶ LIWC entries in LIWC
 - ▶ MFD entries and
 - ▶ 5,000 LoW generated by ConceptNet using as seeds the top 5k frequently-used words.
 - ▶ Always partial out:
 - ▶ $\ln(\# \text{ of motifs per oral tradition})$
 - ▶ $\ln(\text{average word length per motif})$
 - ▶ $\# \text{ of Publications}$
 - ▶ Date of earliest publication

Country-Measures of Preferences from the WVS and GPS

- ▶ Generalized trust from the WVS:
 - ▶ "The WVS measure asks whether the respondent thinks "most people can be trusted" or whether they would rather say that "you can't be too careful."
- ▶ Altruism from GPS measured through qualitative and quantitative questions related to donations.
 - ▶ The quantitative scenario depicted a situation in which the respondent unexpectedly received 1,000 euros and asked them to state how much of this amount they would donate
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 - ▶ the quantitative measure consists of a series of five binary choices. Choices were between a fixed lottery, in which the individual could win x or zero, and varying sure payments, y
 - ▶ The qualitative item asks for the respondents' self-assessment of their willingness to take risks on an 11-point scale ("In general, how willing are you to take risks?")

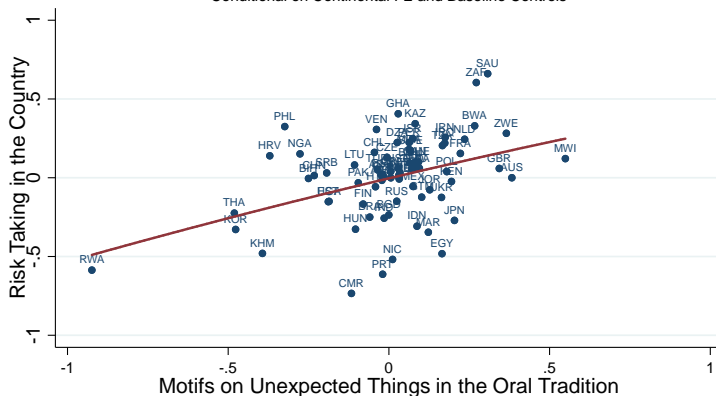
Trust and Motifs with Characters Giving or Seeking Advice

- ▶ Motif k14: A man gives his last money for simple *advices*. Each of them saves his life or helps him achieve success or he does not follow the *advices* and gets into trouble
- ▶ Motif k14b: A man receives good *advice* never to act before he is insistently asked. When he decides to be helpful and gives his knife without being insistently asked for it, he is accused of a crime
- ▶ Motif m116b: Monster pursues people who must run away to escape from it. An old man gives *advice* to a young man how to kill it
- ▶ Motif m130a: A predator animal lures a herbivorous animal into the hunter's trap and hopes to feast on its entrails. A bird *advises* the herbivorous animal to pretend to be dead and helps him escape
- ▶ Motif m99: Person is going to exterminate birds but decides not to do thanks to a wise *adviser*

Risk Taking and Motifs with Unexpected Events

Risk Taking and Motifs on Unexpected Things in the Folklore

Conditional on Continental FE and Baseline Controls



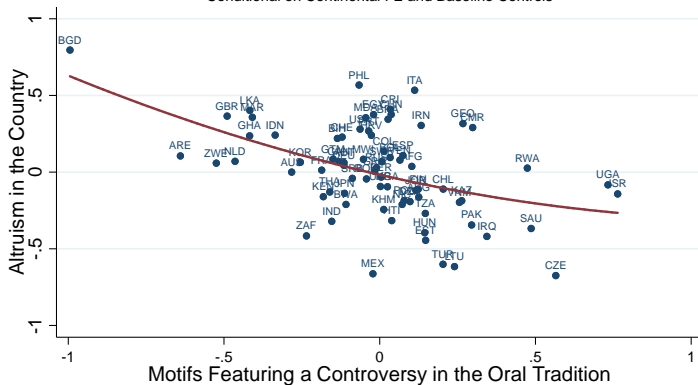
Words Tagged Unusual, Strange, Surprise, Extraordinary, Accident

Baseline Controls: $\ln(\# \text{ Motifs})$, $\ln(\text{Mean Words per Motif})$, # of Publications, Year of First Publication

Motifs with Unexpected Events

- ▶ Motif k27m: The hero must kill and bring an animal of *unusual* color or form
- ▶ Motif : A man gets to know about dangers that threaten another man. He helps the man to escape the dangers though his behavior seems *strange*
- ▶ Motif k27z7: A person promises to fulfill somebody's request if another gets to know why a certain man or woman acts regularly in a *strange* way
- ▶ Motif k153: A weak and timid man or boy overcomes *accidentally* powerful enemies and gets high esteem
- ▶ Motif k61c1: Person will be ruined if he or she would not find an answer for a riddle of a demon. The answer is found *accidentally* when the person or somebody else hears how the demon talks to himself or with another demon

Conditional on Continental FE and Baseline Controls



Baseline Controls: $\ln(\# \text{ Motifs})$, $\ln(\text{Mean Words per Motif})$, # of Publications, Year of First Publication

Motifs Featuring Controversy

- ▶ Motif k62a: A mouse and a small bird *quarrel* because they cannot divide supplies for the winter.
- ▶ Motif m136d: Two persons are involved into *quarrel* about possessions that they do not yet have
- ▶ Motif m62a: The hero imperceptibly causes damage to each of the two characters; they blame each other, *quarrel*, fight
- ▶ Motif k1f: *Conflict* because of a woman; A man maroons another because of jealousy or because he plans to take hold of his wife

Main Contributions

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- ▶ Misses a key ingredient: proxies of pre-industrial norms

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- ▶ Misses a key ingredient: proxies of pre-industrial norms
- ▶ This paper: First step towards quantifying the beliefs and attitudes of pre-industrial societies

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 - ▶ geographic attributes (earthquakes, thunders, cold, etc.) have left a trace on a group's oral tradition
 - ▶ frequency of motifs that reflect different subsistence modes predicts actual subsistence economy of pre-industrial groups.
 - ▶ frequency of motifs on hierarchy predicts institutional strength of pre-industrial groups.

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 - ▶ frequency of motifs that reflect different subsistence modes predicts actual subsistence economy of pre-industrial groups.
 - ▶ frequency of motifs on hierarchy predicts institutional strength of pre-industrial groups.
- ▶ Oral tradition: a so far unutilized source of information on pre-industrial societies

Open Questions

- ▶ Reconstruct historical norms from oral traditions
 - ▶ Use these new proxies to shed light on long-standing conjectures in social science
 - ▶ culture of honor among pastoralists, the exchange economy in hierarchical societies, leisure among hunter/gatherers
 - ▶ Pending: collectivism and individualism, sexuality across different lifeways, presence of high Gods, etc.

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 - ▶ Pending: collectivism and individualism, sexuality across different lifeways, presence of high Gods, etc.
 - ▶ A first attempt to explore what type of motifs predict contemporary preferences and beliefs
- ▶ What is the relationship between folklore and religion?
- ▶ Construct bilateral cultural distance measures based on groups' oral traditions
- ▶ Armed with a proxy of historical values can now look at persistence and change of culture over time.

Cosmological Motifs

- ▶ Name: **Thunder** in trouble falls to earth
 - ▶ **Thunder** falls to earth, cannot return to the sky. Usually a human person helps him to do it; Count: 26

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- ▶ Name: The **flood** and the wet tails
 - ▶ During the flood birds or animals escape to some place (mountain, tree, boat, sky). Tips of their tails or other body parts get covered with water or foam and acquire their present color and form; Count: 24

Cosmological Motifs

- ▶ Name: **Eclipses** a monster's attack
 - ▶ Some creature or creatures regularly (sunrise and sunset, summer and winter, lunar phases) or irregularly (solar and lunar eclipses, eschatological events) attack the luminaries or shade their light; Count: 276

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- ▶ Name: Waves turn into mountains
 - ▶ Waves of the sea petrified and turned into dry land with mountain chains; Count: 10

Non-Cosmological Motifs

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 - ▶ A man had to graze animals. If at least one is lost, the master would kill (not reward) him; Count: 27

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 - ▶ Properties of the **cereals** (usually the size of the spike) are defined by what the dog did in time of creation. Count: 25
- ▶ Name: Expedition to the upper world
 - ▶ Description: People regularly ascend to the sky for **hunting, fishing or gathering**; do not give honey, fish or proper meat to the old person remained below; she or he makes their return impossible, they remain in the sky; Count: 7

Non-Cosmological Motifs

- ▶ Name: Demon comes to **hunter's** camp-fire
 - ▶ A hunter spends night in a desolate place. A demon comes to his fire. When the demon falls asleep or goes away for a while, the hunter puts his clothes over a log and hides nearby. When the demon attacks the log taking it for the man, the hunter wounds or kills the demon. Count 21

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- ▶ Name: Hook from the sky
 - ▶ The sky dwellers **fish** human beings who live on earth with a line and a hook; Count: 15

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- ▶ Name: Seven with one stroke
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- ▶ Name: The epoch of women
 - ▶ The **women .. practised activities which now are reserved for men**; Count: 63

Folklore and Current Values

- ▶ Does folklore predict current attitudes?

$$Belief_{i,c,g} = a_c + \beta \ln(Topic-Specific\ Motifs_g) + \gamma \ln(Total\ Motifs_g) + \delta X_{i,c,g}$$

- ▶ *Topic-Specific Motifs_i* : number of motifs that correspond to luck, obedience, etc. of group *g*
- ▶ *Belief_{i,c,g}* : attitude of individual *i* living in country *c* and identifying with group *g*.
- ▶ *X_{i,c,g}* : individual controls including age, education, sex
- ▶ *a_c* : continent/country fixed effects
- ▶ standard errors clustered at the language group level)

What Period Does Folklore Correspond to?

- ▶ Is folklore timeless or ephemeral?
 - ▶ This is similar to asking whether culture is ephemeral or persistent
 - ▶ There is a fierce debate on this
 - ▶ Tales on Cosmological/etiological motifs are considered earlier than motifs on society-oriented motifs.
 - ▶ In Richard Dorson's words (eminent American folklorist): "folklorists are not especially history minded, and prefer to examine folk materials by category, such as folktale and folksong, proverb and riddle, rather than by historical period" (1961, 12-13).

Motifs in Laos' Oral Tradition

motif_id	name_eng	motif_id	name_eng
a32	Figure on lunar disc	k24	Stolen clothes of supernatural woman
a32d	Man in the Moon	k24b	To dance in her magic clothes
c19	Acquisition of the sun	k27n1	Task-giver is a king or a chief
c23	Tree eclipses sky-light		The man persecuted because of his
e38b	People from gourd	k27x3	beautiful bride
e5a	Mankind ascends from the underworld	k27zz	The outcast queens and the ogress queen
e9	The mysterious housekeeper	k37	Recognition-test
e9c	Elephant-, buffalo-, elk-wife		The worthy man is rewarded, the
g23	Alive being turns into many objects	k56b	unworthy punished
g23a	Alive being turns into plants	k56c	Golden ax
g6	Primeval tree	k73	Children of the youngest wife
h34c	Flying rice	k73a	Baby child substituted with pup
h34g	One grain porridge	k77a	Small objects and animals defeat the ogre
k118	The prohibited room	k79	Snake serves an example of resuscitation
k14	Precious advices	k80	Person not subject to annihilation
k142	Corpse buried many times	k99a1	Smart man is rescued from prison
k143	Hero is a fowler	l72	The obstacle flight
	The predestined death because of an	m145	The lion in a well
k144	animal		The profitable exchange: from a pea to a
k153	Grateful animals, ungrateful man	m171	horse
		m21	A protector hides fugitives
		m40	The distorted instructions
		m45a	Old man and animals

An Attempt to Time the Origins of Folklore

- ▶ Time-Varying Geography.
 - ▶ Eclipses are (i) time-varying, (ii) location specific, and (iii) can be measured precisely over thousands of years
 - ▶ Eclipses of which time period show up in a group's folklore?
 - ▶ Example, motif a12f: A creditor comes from time to time to the Sun or the Moon to claim back his money producing eclipses. # groups 14.

Timing the Emergence of Motifs Based on Eclipses

Timing Folklore

Number of Motifs on Eclipses					
# Eclipses 2nd	-0.1375		-0.1011		
Millenium BC	(0.0933)		(0.0918)		
# Eclipses 1st	0.2182***		0.2041***		
Millenium BC	(0.0598)		(0.0559)		
# Eclipses 1st	-0.0543		-0.0480		
Millenium AD	(0.0636)		(0.0611)		
Number of	0.0260		0.0072		
Eclipses 2nd	(0.0579)		(0.0535)		
Continental FE	No	No	No	No	No
Country FE	Yes	Yes	Yes	Yes	Yes
R-squared	0.358	0.531	0.457	0.59	0.266
N	1237	1237	1237	1237	1237

Notes: The table reports OLS estimates. All columns control for the log total number of motifs and the log average number of words per motif. ***, **, * denote significance is 1%, 5%, and 10% level, respectively. Standard errors are clustered at the language family level. See Data Appendix for variables definitions and Table 1 Panel B for summary statistics.

Psychological Categories in LIWC

- ▶ Affective processes
 - ▶ positive emotion
 - ▶ negative emotion
 - ▶ anger
 - ▶ sadness
 - ▶ anxiety
- ▶ social processes
 - ▶ family
 - ▶ friends
 - ▶ male referents
 - ▶ female referents

Psychological Categories in LIWC

- ▶ cognitive processes
 - ▶ insight
 - ▶ causation
 - ▶ discrepancy
 - ▶ tentative
 - ▶ certainty
 - ▶ differentiation
- ▶ perceptual processes
 - ▶ see
hear
 - ▶ feel

Psychological Categories in LIWC

- ▶ biological processes

- ▶ body
- ▶ health
- ▶ sexual
- ▶ ingestion

- ▶ drives

- ▶ affiliation
- ▶ achievement
- ▶ power
- ▶ reward
- ▶ risk

Psychological Categories in LIWC

- ▶ time orientation
 - ▶ past focus
 - ▶ present focus
 - ▶ future focus
- ▶ relativity
 - ▶ motion
 - ▶ space
 - ▶ time

Psychological Categories in LIWC

- ▶ personal concerns

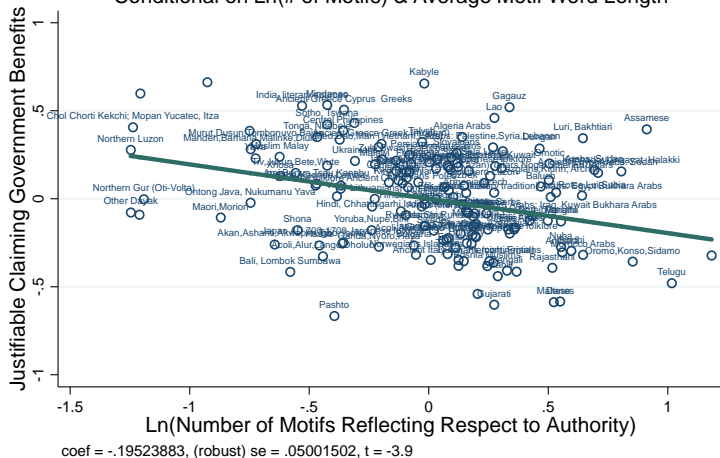
- ▶ work
- ▶ leisure
- ▶ home
- ▶ money
- ▶ religion
- ▶ death

Rule Following Norms in Folklore and Rule Following Today

- ▶ The importance of trust, altruism, risk taking and patience are very much
- ▶ WVS-EVS: "It is justifiable to collect government benefits"
- ▶ WVS-EVS: "It is justifiable not to pay transportation fare"
- ▶ WVS-EVS: "It is justifiable to accept a bribe"
 - ▶ lower values respondent finds these actions less justifiable

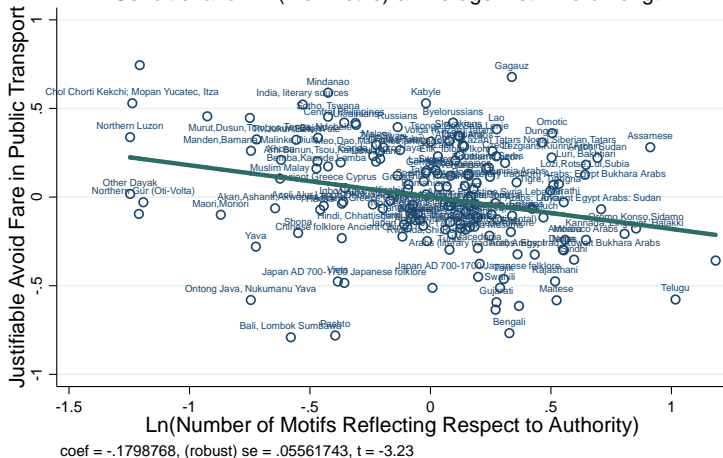
Respect in Folklore and Rule-Breaking Today

Respect for Authority in Folklore: Claim Govt Benefits
Conditional on Ln(# of Motifs) & Average Motif Word Length



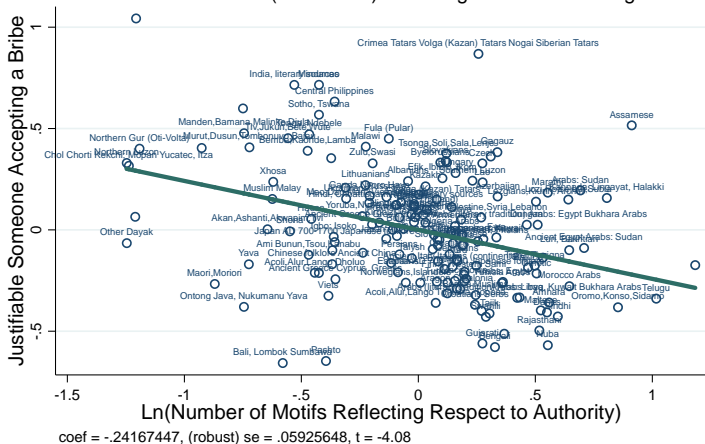
Respect in Folklore and Rule-Breaking Today

Respect for Authority in Folklore: Avoid Transport Fare



Respect in Folklore and Rule-Breaking Today

Respect for Authority in Folklore: Accepting a Bribe

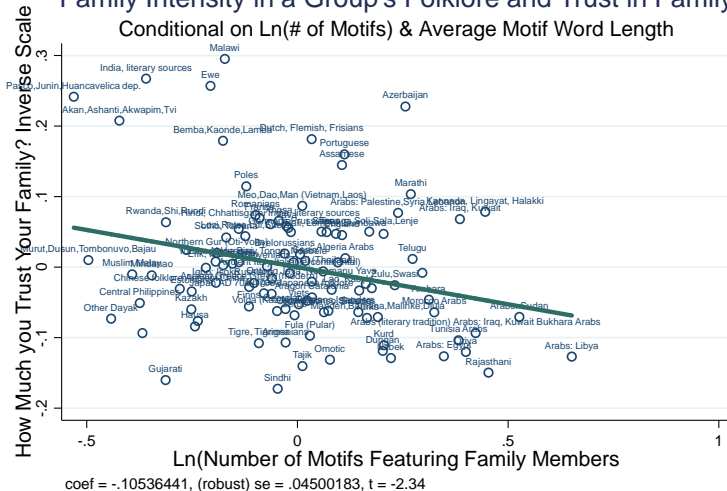


Family in Folklore and Importance of Family Today

- ▶ Societies whose oral tradition features images and episodes related to family; are their respondents more likely to trust their family?
- ▶ WVS-EVS: "How much you trust your family?"
 - ▶ lower values: respondent trusts his/her family more
- ▶ Motif m38a1: Title - Imitating wife's kinfolk; Description - Person imitates actions of his son- or brothers-in-law or of his wives; Count 26.

Family in Folklore and Importance of Family Today

Family Intensity in a Group's Folklore and Trust in Family Conditional on Ln(# of Motifs) & Average Motif Word Length



How to Deal with Correlated Concepts/BoWs?

- ▶ We want to estimate the association between a group characteristic and a specific LoW. But there are numerous list of words (53 from LIWC/MFD dictionaries) that are potentially correlated.
 - ▶ We do not know what is the "right" set of controls among the numerous LoWs.
 - ▶ Take advantage of recent developments in estimating structural parameters in linear, sparse high-dimensional models with many controls.

How to Deal with Correlated Concepts/BoWs?

- ▶ Use the "post-double-selection" (PDS) methodology of Belloni et al. (various).
 - ▶ The idea is to use lasso over **all** LoW on the:
 - ▶ (1) dependent variable, y .
 - ▶ (2) LoW of interest, z .
 - ▶ Final set of control variables included in the OLS regression of y on z is the **union** of the controls selected in (1) and (2)

Country-Measures of Preferences from the WVS and GPS

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