The Sociocultural Effects of Markets and Capitalism: Evidence from Folklore and Ethnography

Abstract

The sociocultural consequences of economic systems have long been debated by social and economic theorists. Recent studies have employed data on the prevalence of concepts and themes within different folklore traditions to explore the cultural effects of economic systems. In this paper, I extend this line of research, employing both the folklore data and an analogous dataset I develop from the eHRAF World Cultures ethnographic collection. These dual folklore and ethnographic datasets complement each other by representing emic (insider) and etic (outsider) perspectives and depicting the internal and external worlds of different cultures. I construct indices to capture economic and sociocultural characteristics to analyze the sociocultural effects of economic systems. The folklore and ethnographic data both suggest that exposure to markets and capitalism results in more anthropocentrism, less ecocentrism, less sacredness assigned to nature, and more social stratification. Instrumental variable analyses support a causal interpretation of these findings, providing evidence in favor of cultural/historical materialism. The relationships between economic systems and morality and prosociality are less clear. In line with arguments delineating the historical specificity of capitalism, the ethnographic results suggest that the sociocultural effects of capitalism are distinct from those of markets and trade more generally.

1. Introduction

How do economic systems shape the ways we behave, interact, and understand the world? Do the relations and tasks of a hunter-gatherer society produce a set of preferences and beliefs about the world distinct from those of a market society? In this paper, I explore the sociocultural consequences of economic systems. Specifically, I analyze the effects of capitalism and markets on ontologies of nature, anthropocentrism, prosociality, morality, and stratification using data from folklore and ethnographic text.

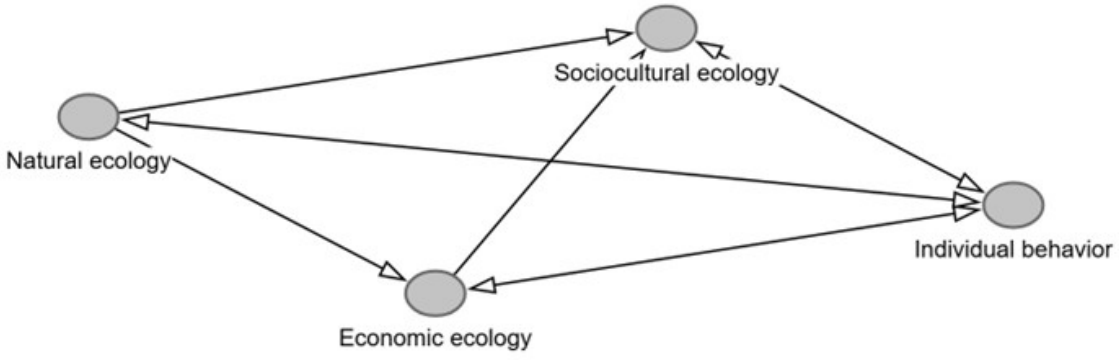
The relationship between economic systems and culture, politics, and social structure is something of a perennial question. Even in the modern era of economic thought, despite the predominance of the assumption of exogenous preferences, scholars debate the sociocultural consequences of markets and capitalism (e.g. Bowles, 1998; Hirschman, 1982; Lane, 1991). Some argue that markets and capitalism encourage prosociality, harmony, and moral universalism (from Montesquieu (1748) to Henrich et al. (2004; 2010), Schilpzand & de Jong (2023), Harris et al. (2023), and Enke (2023)) while others argue that markets and capitalism erode community and moral responsibility and encourage greed, selfishness, individualism, and materialism (from, e.g., Marx & Engels (1906), to Polanyi (1944), Weber (1978), Lane (2000), Marglin, (2008), Falk & Szech (2013), and Graeber (2014)). Markets and capitalism may also shape the way we think and feel about nature and our relationship to it—such as whether concepts of personhood and sacredness extend to the more-than-human world or whether nature exists solely as an object for human use (Abram, 2012; Kimmerer, 2013; Worster, 1987). The inequality produced by markets and capitalism might also promote the creation and maintenance of social hierarchies; racist, sexist, classist, and xenophobic myths might arise to stabilize and justify group-based inequality (Bright et al., 2025; Folbre, 2023; Mason et al., 2022; Zinn, 2015).

Theories of historical and cultural materialism hold that while the economic, social, cultural, and political spheres of a society co-evolve, the effect of the economic system (the "base") on the sociocultural system (the "superstructure") dominates its converse (Engels, 1972; M. Harris, 2001). Applications of evolutionary frameworks to explaining history and culture also implicitly reflect this perspective (e.g. Boyd & Richerson, 2005; Nunn, 2021). In Figure 1, I present a version of this idea in terms of human ecologies and individual behavior. Sociocultural ecology corresponds to a society's "superstructure" and economic ecology to its material "base." Natural ecology shapes both economic ecology and sociocultural ecology; economic ecology shapes

sociocultural ecology and behavior; sociocultural ecology shapes behavior; and behavior, in turn, shapes all three ecologies. By sociocultural ecology I mean the system of social, cultural, and political relations, institutions, and arrangements that make up a society and are embodied in its constituents. By economic ecology I mean the relations and processes of production, exchange, and consumption. Using this general framework, we might interrogate the sociocultural effects of different modes of subsistence (e.g. gathering, hunting, fishing, farming, raising livestock), different technologies (e.g. hunting, farming, transportation, industry, computers, automation), different relations and roles (e.g. cooperative hunting or farming, serfdom, slavery, sharecropping, wage labor), and/or different types of trade (e.g. local, regional, global).

The causal pathway of the sociocultural effects of economic systems might be both evolutionary and contextual—i.e. economic systems might shape preferences, beliefs, and behaviors by influencing which learned traits spread and persist as well as through context and constraints on the expression of our genetic and cultural inheritance. And economic ecologies may influence cultural evolution both by shaping who interacts with whom (i.e. the transmission network) and by selecting for certain traits (i.e. as part of the adaptive landscape). For example, in Michalopoulos et al.'s paper, "Trade and Geography in the Spread of Islam," they show how the spread of Islam was shaped by trade routes, which both exposed more people to the religion and increased the incentives of conversion (2018).

Figure 1: A causal diagram of human ecologies and behavior



Notes: Environments and interactions influence individual behavior through learning, selection, and context, and individual behavior influences environments and interactions. Human ecologies can be broken into natural, economic, and sociocultural ecologies. This diagram represents the historical materialist view that, while economic, social, cultural, and political dynamics are interrelated and coevolutionary, the causal influence of economic system on social, cultural, and political dynamics dominates its converse.

Given my focus on the sociocultural effects of markets and capitalism, it is important to clarify my use of these terms (especially since there is a tendency in both popular and academic discourse to conflate the two). Evidence of the exchange of goods within and between communities can be found throughout history and across the ethnographic record, but such markets are not evidence of universal capitalism (Wood, 2002). Capitalism, as a historically specific economic system, is distinguished by the unique and novel role and form of markets in society (Polanyi, 1944; Wood, 2002). Under capitalism, the means of production are privately owned by the few, and most of the population (the proletariat) must sell their labor for a wage which they spend in a market to obtain the necessities of survival. Whereas earlier markets represented an opportunity for voluntary economic interactions, markets under capitalism become imperative to the survival and reproduction of society and its constituents (Wood, 2002). Capital follows profit, and thus the economy is organized around the maximization of profit. As the domain of capitalist production swells, subsuming spheres of society and solidifying the market imperative, the underlying profit motive comes to dominate the organization of society itself. This shift from economic forces serving society to society serving economic forces is what Karl Polanyi called "the Great Transformation" (1944). These historical and cross-cultural differences in the role of markets in society and the lives of its constituents as well as the differences in the nature of labor relations and the production process may produce distinct sociocultural characteristics. Thus, we must be careful not to ahistorically generalize the sociocultural consequences of markets or to conflate the effects of pre-capitalist markets with those of capitalism.

In order to analyze the sociocultural effects of economic systems, I employ textual folklore and ethnographic data. The folklore data I use come from the dataset Michalopoulos and Xue (2021) assembled using Berezkin's folklore motif catalogue (2015), and I derive the ethnographic data from the electronic Human Relations Area Files (eHRAF) World Cultures database and its paragraph-level indexing of subjects according to the Outline of Cultural Materials (Murdock et al., 2008) (see the Data and Method section). These dual data sources offer complementary perspectives along three primary dimensions. First, since folklore consists of the stories a people tell about themselves and the world and ethnographies—i.e. observations of a people—are usually written by out-group anthropologists, folklore and ethnography present, respectively, emic and etic perspectives of a culture (Dundes, 1969). Whereas we might often misunderstand and misinterpret cultural practices and beliefs that are not our own, we might also be blind to certain aspects of our

own culture. Combining emic and etic perspectives might mitigate in-group and out-group biases and blind spots and produce more accurate representations of a culture. Second, folklore and ethnography illustrate, respectively, the internal and external worlds of a cultural group. Whereas folklore shows the ways in which a people view the world and themselves and their values, ethnography reports the external organizational patterns and the behavioral norms in a society. Third, the geographical and historical range of the two datasets differ in such a way that combining them provides a spatially and temporally denser record of societies throughout history. In terms of geographic coverage, the folklore data includes a larger set of observations and includes more material on Europeans (ethnographies describing the average ethnographer's own cultures are scarce). In terms of historical coverage, a timestamp cannot be easily assigned to the origin of specific stories, but phylogenetic analyses of folklore suggest an ancient origin for some motifs (d'Huy, 2014), and modern human ecologies such as capitalist relations and industrial technology are absent in Berezkin's catalogue of folklore motifs. In contrast, the median start and end of coverage in the ethnographic data is 1820 and 1988, respectively, so these data include relatively recent accounts of capitalist and industrial economies.

Before delving into the analysis, a brief discussion on folklore and its place in society may be helpful. A number of different definitions of folklore can be found in the literature (Toelken, 1996), but generally, it refers to the collection of folktales, legends, fables, myths, religious stories, proverbs, and songs that are passed down orally from one generation to the next (e.g. Bascom, 1953). I will use the term folklore as Berezkin does to refer simply to the traditional stories of a people (Berezkin, 2015). Folklore has been called an essential part of ethnography (Bascom, 1953) and a form of autobiographical ethnography (Dundes, 1969). And it has been identified as one of the few human universals (Bascom, 1954).

As the definition suggests, folklore stories are transmitted vertically from generation to generation within a group. Consequently, they spread when a group migrates or proliferates (Berezkin, 2015; Michalopoulos & Xue, 2021). They may also spread via horizontal transmission, passing from one group to another (Berezkin, 2015; Boas, 1916; Michalopoulos & Xue, 2021, Online Appendix). Different stories persist and spread with differential success. Thus, their dispersal might be modelled in an evolutionary manner (Tehrani, 2023; Toelken, 1996; Wilson, 1976). If a story ceases to be relevant, useful, insightful, relatable, or entertaining, it may not be passed on, or it may be altered (like an evolutionary mutation) (Bascom, 1953; Dundes, 1969).

Thus, the fitness (propensity to persist and spread) of specific stories is a function of their relevance, usefulness, insightfulness, relatability, and entertainment value as well as their carriers' own capacities to persist and spread themselves and their cultural influence. And folklore can affect the group's fitness by conveying preferences, beliefs, and behavior adapted to their specific human ecology. Stories serve as vessels for education and enculturation by describing the patterns of the natural world, instilling a sense of meaning and sacredness, inculcating and maintaining social and moral norms, and developing a sense of group identity (Akerlof & Snower, 2016; Bascom, 1954; Michalopoulos & Xue, 2021, Online Appendix; Witzel, 2012). As such, folklore is both a reflection of culture and a cultural force. Stories may also serve to legitimize and thus stabilize the status quo (Akerlof & Snower, 2016; Bascom, 1953; Wrenn, 2021), or they may provide spaces for challenging the status quo (Marshall, 2012).

Through the selective transmission of stories and their differential spread and persistence, folklore comes to reflect social, cultural, political, economic, and natural ecologies. Thus, these texts present a means to study the sociocultural effects of economic systems. Since Michalopoulos and Xue pioneered the application of regression analysis to folklore texts (Michalopoulos & Xue, 2021), a number of papers have employed their data and method (Becker, 2024; Brulé, 2023; Enke, 2023; Eruchimovitch et al., 2024; Fan et al., 2024). It is important though to note two limitations of folklore as a resource for cross-cultural analysis. First, folklore does not occupy the same functional niches in all societies: some folklore traditions may exist primarily for entertainment; others might be focused on inculcating moral norms; and still others might be focused on describing and explaining the natural world or the origin of the universe. Second, folklore does not reflect a perfect image of the ecologies and behaviors of a society. Stories may be more or less fantastical, and their relation to human ecology and behavior may be more or less direct. For example, does the culture that exhibits more prosocial behavior tell more tales of prosociality to reinforce this norm or fewer because no one needs correcting? Traditional stories may even, in some cases, intentionally explore behaviors beyond the norms and constraints of a society as a form of fantasizing wish-fulfillment or for the sake of humor (Bascom, 1954). But in this way, again, ethnographic data becomes complementary as a means to validate the findings from the folklore data.

In the rest of this paper, I describe the folklore and ethnographic data, the construction of sociocultural and economic indices from these data, the empirical strategy (Data and Method); I

then report the regression results (Results); finally, I discuss what the results suggest about the sociocultural effects of economic systems in general and markets and capitalism specifically (Discussion).

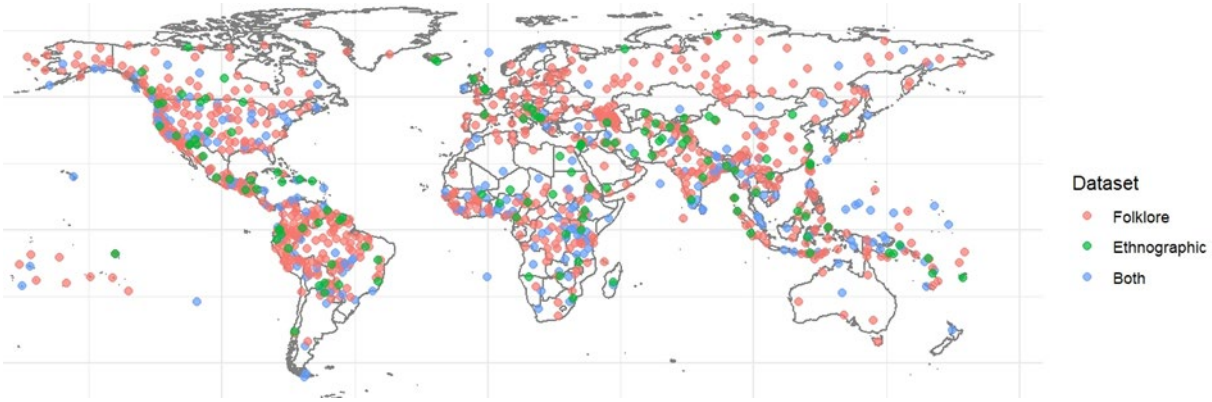
2. Data and Method

The folklore and ethnographic data employed in this paper are assembled from Berezkin's Folklore Catalogue (Berezkin, 2015), Michalopoulos and Xue's paper, "Folklore" (2021), and Yale University's electronic Human Relations Area Files (eHRAF) World Cultures database. The folklore and ethnographic data consist of a set of variables capturing the prevalence of different concepts and themes in the folklore and ethnographic texts for a set of cultures that span the globe (Figure 2).

Following the precedent of Michalopoulos and Xue (2021) and Enke (Enke, 2023), I construct indices from the prevalence of concepts and themes in the folklore and ethnographic data. These indices are meant to capture meaningful variation in different groups' sociocultural characteristics and economic modes of production and subsistence. Specifically, I construct parallel measures of exposure to markets, ontologies of nature, anthropocentrism, prosociality, moral content, stratification, state, and urbanization in the ethnographic and the folklore datasets. From the folklore data, I also create a measure of anthropocentrism and moral content, and from the ethnographic data, I create a measure of capitalist integration. I test the validity of the indices also for a set of 222 groups in the Ethnographic Atlas (EA) (Murdock, 1967) present in both the folklore and ethnographic datasets. I employ these indices in regression analyses to explore the sociocultural consequences of different economic systems, especially the effects of markets and capitalism on ontologies of nature.

In this section, I describe the assembly of the data, the method of index construction, and the empirical strategy, and I test the validation of economic indices against historic trade data and ethnographic subsistence type data.

Figure 2: Map of cultures in folklore and ethnographic datasets



Notes: Both datasets include cultures across the globe. Pink-colored points represent cultures present only in the folklore data; green-colored points represent cultures present only in the ethnographic data; and blue-colored points represent cultures present in both folklore and ethnographic data.

2.1 Berezkin's folklore catalogue (2015)

Anthropologists and folklorists have long noted the redundancy of images and episodes across different folklore traditions, and several efforts have been made to catalogue these motifs and their spatial and cultural distribution. Yuri Berezkin's catalogue is by far the most extensive and the most globally representative. Berezkin classified folklore from over 6,000 texts into 2,945 distinct motifs which occur across 999 cultural traditions. The source texts include books and articles published mostly in the 20th century (though the age of the stories they record cannot be determined). This catalogue first became available in 2015 and has been updated several times, the latest time being in 2022. In his 2015 paper, Berezkin defines folklore motifs as "any episodes or images retold or described in narratives that are registered in at least in two (although normally in many more) different traditions" (p. 37). In the catalogue, each motif consists of a reference ID, a title, and a one or two sentence description. The contents range from mythological representations of the sun and moon and constellations to etiologies of natural phenomena to tales of tricksters and fools. For example, motif I11, titled "Cosmic turtle or toad" bears the description, "A turtle, toad, or frog supports the earth or is its embodiment," and motif M91b, titled "Sold ashes," bears the description, "A person manages to fraudulently sell or exchange ash for gold and money. Others are unsuccessfully offering ash for sale" (Berezkin, 2015). Table 1 lists a sample of the wide-ranging set of cultures associated with these two motifs. Figure 3 reports summary statistics of the folklore motifs and sources.

Figure 3: Summary of folklore data

	Cultures	*Motifs per culture*		*Sources per culture*		*Publication year*	
Africa	137	55.1	(51.3)	12.9	(9.7)	1961.5	(16.4)
Asia	286	111.6	(99.6)	18.2	(15.2)	1960.9	(18.7)
Europe	54	257.8	(144.4)	33.9	(18.4)	1964.0	(13.5)
North America	246	74.2	(47.5)	12.0	(9.8)	1951.9	(20.3)
Oceania	55	41.3	(21.5)	9.9	(5.8)	1944.6	(16.9)
South America	165	58.4	(41.2)	9.7	(8.6)	1965.8	(19.4)
World	943	88.6	(88.1)	14.8	(13.2)	1958.7	(19.5)

Notes: The folklore data include cultures across the globe. The table reports mean values of the number of motifs, number of sources, and average publication year for cultural groups in each continent (standard deviations in parentheses).

2.2 Michalopoulos and Xue's concept data (2021)

Michalopoulos and Xue, in their paper, "Folklore" (Michalopoulos & Xue, 2021), derive from Berezkin's motif catalogue a dataset of the prevalence of various concepts in the folklore traditions.[1] They employ ConceptNet, a semantic network project, to amass a list of the 10,000 most common words. They drop NLTK stop words such as "a" and "the." Then, for each of the remaining terms, they tag every motif that contains in its title or description the keyword or one of the 50 most closely related words according to ConceptNet and count the number of motifs in each culture which contain the concept. In this way, they construct a dataset with 9,005 concept variables and 958 culture observations. The table below exhibits the concept variables associated with motifs I11 and M91b. To recap, every motif is associated with a number of concepts and a number of cultures, and so every culture is associated with a number of motifs and a number of concepts. The concept variables can then be divided by the total number of motifs associated with each culture to obtain the prevalence of the concept in the culture's folklore. For example, 16 out of the 152 folklore motifs of the Arapaho people are tagged with words relating to "earth," so the prevalence of earth-related terms in Arapaho folklore is listed as 0.1053.

Michalopoulos and Xue show that certain concept variables reflect variation in geographical and climatic conditions such as storms, earthquakes, and cold temperatures as well as variation in the potential gains from agriculture and distance to historic trade routes in the "Old World." They draw the trade route data from an earlier study on the spread of Islam (Michalopoulos

[1] In the version of Berezkin's catalogue they use, there are 2,564 motifs and 958 cultures.

et al., 2018). They also construct measures of subsistence style, social complexity, and the presence of moralizing gods based on the prevalence of concepts they deem related and test these proxies against pre-existing data for those cultural traditions found in the EA (Murdock, 1967). Lastly, they construct measures of cultural traits such as gender roles, trust, altruism, and risk-taking attitudes with the help of MTurk workers and the LASSO shrinkage technique and test these proxies against data from the World Values Survey and the Global Preferences Survey.

Table 1: Folklore motifs and concept variables

ID	*Motif title*	*Motif description*	*Cultures*	*Concepts tagged*
I11	Cosmic turtle or toad	A turtle, toad, or frog supports the earth or is its embodiment	• Aka, Baka a.o. Western Pygmies • Altai-Kiji, Telengit • Ancient China • Arapaho • Aztec • Baiga, Bhuiya, Bhumiya • Baikal Evenki • Bali, Lombok • Bengali • Bondo, Didayi, Gutob • Bulgarians • Buryat • Byelorussians • Central Vanuatu • Cheyenne • Chinese *… and 46 other cultures*	• aid • aspect • assist • assistance • backer • backing • behalf • celestial • cosmic • cosmos • divine • earth • earthly • embodiment • embody • encouragement *… and 41 other concepts*
M91b	Sold ashes	A person manages to fraudulently sell or exchange ash for gold and money. Others are unsuccessfully offering ash for sale.	• Almora (Rangkas) • Amhara • Assamese • Bashkir • Bengali • Buryat • Chin-Naga (Rengma, Ao, Angami etc) • Dargin (Dargwa) • Garo, Bodo, Hami, Riga • Georgians • Highland Tajik • Hindi, Chhattisgarhi • Kannada; Kuruba • Kara Kalpak • Kazakh *… and 37 other cultures*	• accept • accomplish • accomplishment • achievement • acquisition • administer • allegedly • another • anyone • apply • arrange • artifact • ash • attempt • attempted • auction *… and 150 other concepts*

Notes: These two folklore motifs exemplify how each of the 2,564 folklore motifs is tied to multiple cultural traditions and multiple concepts. The concept variables created by Michalopoulos and Xue (2021) are then derived by counting the number of motifs tagged with the concept in the folklore repertoire of each culture.

2.3 eHRAF World Cultures Database

The Human Relations Area Files World Cultures database is an online collection of over 770,000 pages of ethnographies describing over 360 different cultures. This ethnographic collection originated as a project in the 1930s and 40s meant to aggregate ethnographic sources from many

cultures and classify the topics of those texts, thereby expediting the process of cross-cultural research (Fischer & Ember, 2018). The collection has been indexed by subjects at the paragraph level based on the Outline of Cultural Materials (Murdock et al., 2008). There are more than 700 different subjects in this classification scheme which cover a vast range of topics from kinship patterns to religious beliefs and from modes of production to technology. The advanced search function allows one to search by OCM subject or by keyword. Any combination of subjects and/or keywords can be specified using Boolean logic, and the website will return a list of the number of paragraphs within the collected ethnographic texts of each culture that contain the specified subjects and/or keywords. I employ these search results to derive sociocultural and economic indices from the prevalence of themes in the ethnographic text. This method—made possible by the excellent, thorough work by HRAF subject compilers and indexers—is fairly analogous to the method for assembling the folklore data: the prevalence of certain subjects, themes, and concepts is extracted from textual data, and these variables are combined into indices to quantify the characteristics of different cultures as described in the ethnographies and as embodied in the folklore. One limitation of this method is the wide range of historical periods described by the ethnographies. In some cases, the database includes descriptions of a society in both prehistoric and modern contexts. This makes the interpretation of my analysis less transparent since the method of data assembly necessitates pooling the texts of each culture across all historical periods.

The eHRAF World Cultures database also classifies the cultures by subsistence type. This classification was assembled by eHRAF anthropologists based on several ethnographic sources (eHRAF User Guide). The categories are “commercial economy,” “intensive agriculturalists,” “horticulturalists,” “agro-pastoralists,” “pastoralists,” “primarily hunter-gatherers,” “hunter-gatherers,” and “other subsistence combinations.” This subsistence type classification is exceptional given the number of cultures categorized and the inclusion of the “commercial economy” category, in which case, people rely primarily on markets for their subsistence, selling commodities or renting out their labor for wages to provide for themselves. It is important to note that the category does not necessarily characterize the state of each society today or throughout all the coverage time of the ethnographies; rather, the categories are meant to capture the mode of subsistence that predominates in the ethnographies.

Figure 4 summarizes key attributes of the eHRAF World Cultures database.

Figure 4: Summary of ethnographic data

Region	*Cultures*	*Pages per culture*		*Documents per culture*		*Mean author birth year*	
Africa	70	1920.0	(1752.1)	17.9	(14.2)	1920.5	(12.5)
Asia	72	2273.1	(2245.0)	17.9	(15.4)	1915.0	(19.3)
Europe	17	2965.9	(2302.5)	22.8	(22.1)	1897.7	(102.3)
Middle America and the Caribbean	18	2387.7	(1761.5)	15.6	(7.9)	1912.4	(23.8)
Middle East	11	2435.6	(1922.2)	20.4	(19.0)	1925.5	(14.8)
Native North America	60	2722.8	(3978.8)	26.6	(34.4)	1902.8	(14.2)
non-Native North America	20	3287.1	(2313.1)	25.1	(16.9)	1935.0	(8.7)
Oceania	33	2125.7	(1836.7)	20.6	(20.8)	1910.3	(16.9)
South America	45	1189.3	(918.4)	10.9	(8.0)	1908.4	(42.2)
World	346	2228.4	(2424.5)	19.4	(20.4)	1913.2	(31.6)

eHRAF Subsistence Type	*Cultures*
Commercial Economy	28
Intensive Agriculturalists	76
Horticulturalists	59
Agro-pastoralists	26
Pastoralists	18
Primarily Hunter-gatherers	29
Hunter-gatherers	59
Other Subsistence Combinations	50
N/A	1

Notes: The ethnographic data include cultures across the globe. The first table reports mean values of the number of ethnography pages and documents as well as the mean birth year of the authors for cultural groups in each region (standard deviations in parentheses). The second table reports the number of cultures classified as each subsistence type.

2.4 Merging the folklore and ethnographic data

A subset of the cultures present in the folklore and ethnographic datasets appear in both sources (see Figure 2). This overlap of 222 cultures, which all belong to the EA (Murdock, 1967), allows the partial merging of these datasets. I can then validate the economic indices from the folklore data against the eHRAF subsistence type categories.

2.5 Index construction and validation

From the concept variables in Michalopoulos and Xue's folklore data (2021) and from the subject and keyword search results in the eHRAF World Cultures database, I construct a set of indices to capture the sociocultural and economic characteristics of the cultures present in these two datasets.

I report the elements of each of the folklore and ethnographic indices in Table A1. I follow the methodological precedent of Michalopoulos and Xue (2021) and Enke (2023) by constructing these indices based on the prevalence of relevant themes in folklore and ethnographic texts. Underlying the construction of both ethnographic and folklore indices is the (testable) premise that the stories people tell and the accounts of ethnographers reflect the social, cultural, and economic realities of a people in a way that is measurable using the distribution of words and subjects in these texts. Hunter-gatherers then tell more stories of hunting and gathering than farmers, and ethnographers studying hunter-gatherers will write more paragraphs about hunting and gathering than ethnographers studying farmers.

Before conducting any analysis, I drop cultures from the folklore data that are associated with fewer than 5 motifs (15 cultures), and I drop cultures from the ethnographic data that are associated with fewer than 50 pages of ethnography (16 cultures). Data on historic trade routes and subsistence types support the validity of the economic indices I construct from folklore and ethnographic texts (Tables 3 and 4).

2.5.1 Folklore: index construction

There are a number of ways one might construct indices from the concept variables developed by Michalopoulos and Xue (2021). Michalopoulos and Xue develop indices by taking the log of the prevalence of certain concepts in each folklore tradition, by finding the principal component of variance among a set of relevant concepts, and by employing the LASSO shrinkage method. Enke (2023) constructs indices by finding the standardized proportion of relevant concepts that appear in each folklore tradition. I tested a number of methods of index construction and chose among them based on the alignment of the resulting economic indices with ethnographic and historical data (Appendix A).

To construct the sociocultural and economic indices from the folklore concept data, I first selected the set of relevant concepts based on the related words tagged and the context in which they appear in the folklore motifs. I attempted to maximize coverage of relevant words, minimize inclusion of irrelevant words, and minimize redundancy of words (to reduce the number of times the same motif is counted). The full list of concepts and tagged words for every index are reported in Table A1 in Appendix A. Second, I create indicator variables for every constituent concept (either present or not present in each folklore tradition). For indices derived from fewer than three

concepts, I use the standardized mean of the relevant indicator variables. For indices derived from three or more concepts, I apply principal component analysis to the set of relevant indicator concept variables and use the standardized first principal component as the index. The first principal component represents the dimension that explains the most variance among the relevant indicator concept variables. The only exception to this method is the anthropocentrism index. Nearly all folklore traditions include at least one motif tagged with the relevant concepts ("man" and "woman"), so instead of using the mean of the two indicator variables (which would have almost no variance), I use the standardized prevalence of motifs tagged with "man" and "woman."

The main results of the folklore regressions concerning the effects of economic systems on ecocentrism, anthropocentrism, prosociality, moral content, and stratification do not change much when I use log-transformed prevalence indices as Michalopoulos and Xue do (2021) instead of PCA proportion indices. For an extended discussion of various methods of concept selection and index selection, see Appendix A.

2.5.2 Ethnography: index construction

For the ethnographic indices, as with the folklore indices, I start by choosing a list of relevant terms. This can be done using OCM subjects and/or keywords. The advantage of using keywords is that there are no constraints on my choice of terms, allowing me to derive indices based on the highly relevant terms. One limitation is that a small number of the ethnographic texts are not in English, but I try to account for this by including the prevalence of the word "the," and an indicator for whether the modal author is American or British in the regressions as controls. The advantage of using subjects is that they capture more of the context of the terms since the paragraphs are tagged by ethnographers who read the texts. I chose to develop the economic indices from keywords to capture the specific distinctions among the economic ecologies of capitalism, markets, agriculture, pastoralism, and hunting and gathering.[2] I chose to develop the sociocultural indices from subjects rather than keywords since the gaps between these traits are wider than for the economic traits and because the nuance of social and cultural characteristics may better be captured by contextualized subjects than decontextualized words. In other words, it is easier to

[2] The results do not change significantly if I employ economic indices based on OCM subject prevalence except for the coefficients for markets, but the subject-based market index fails the validation tests (testing against the subsistence type categories and the historic trade route data).

find keywords with one-to-one relationships with economic systems than with sociocultural characteristics. For example, "market" and "trade" clearly map directly onto markets and "employee" onto capitalism, but sacredness of nature may be better gauged by paragraph-level subjects than by the presence of specific words. Given my choice of relevant keywords/subjects, I obtain the prevalence of paragraphs tagged with these keywords/subjects in the collected ethnographies of each culture and standardize the resulting variable. Alternatively, I could log-transform the prevalence variables, but for consistency with the folklore indices, I chose to employ the standardized indices in my main analysis. Table A1 in Appendix A reports the list of keywords/subjects I chose for each economic and sociocultural index.

In addition to these continuous indices, I construct an analogous set of indicator variables for capitalism, agriculture, pastoralism, and hunting and gathering from the eHRAF subsistence type data by condensing their categories: I classify commercial economies as capitalist; intensive agriculturalists and horticulturalists as agricultural; pastoralists as pastoral; and primarily hunter-gatherers and hunter-gatherers as hunter-gatherers. I also create an "other" category for those groups which rely on a combination of subsistence modes (I include this category in regressions, but I don't report its coefficients). The advantage of these measures over the text-based indices is that they are derived from the classifications created by anthropologists utilizing explicit data on subsistence type rather than textual prevalence. However, the advantage of the indices is that they measure in a continuous manner the prominence of different modes of subsistence and production in each society, thus accounting for the reality of many coexisting modes and permitting an analysis of the marginal sociocultural effects of each mode across the entire sample.

A few notes on the construction of specific indices and the differences across folklore and ethnographic indices may be helpful here. Whereas the folklore index for ontologies of nature measures ecocentrism—i.e. the ontological prominence of the more-than-human world or the opposite of anthropocentrism—the ethnographic index for ontologies of nature measures the degree of sacredness assigned to nature by combining the prevalence of culturally specific ideas about the more-than-human world—i.e. ethnobotany, ethnogeography, ethnometeorology, and ethnozoology—with cultural concepts of the sacred and the divine. The folklore and ethnographic indices for anthropocentrism also differ in interpretation. Whereas the folklore index measures the prominence of humans in the stories people tell, the ethnographic index measures the relative prominence of culturally specific ideas about humans compared to culturally specific ideas about

nature. Also, I construct an index for exposure to a Western-style system of education in the ethnographic data but not the folklore data. Although Enke (2023) creates and employs an index for Western education, the motifs tagged by his chosen concepts are not related to a Western-style system of education[3]. Lastly, I have constructed an ethnographic index for capitalism as well as an ethnographic index for markets, but using the folklore data, I have only a measure for markets because the institutions, tasks, and roles specific to capitalism appear in the ethnographic data but not the folklore data.

2.5.3 Economic index validation

To test the folklore market index for validity, I regress it on the log distance to trade routes in 600 and 1800 AD. The trade route data (from Michalopoulos et al., 2018) only covers Africa, Asia, and Europe, so I exclude observations in the Americas and Oceania from these regressions. I also regress the folklore market index on the modern nighttime light density of the area around each Berezkin group (within a 200 kilometer radius around the group's coordinates). With both of these approaches, I follow Michalopoulos and Xue's precedent (2021). Table 3 reports the results.[4] The folklore market index is statistically significantly correlated with distance to historic trade routes as well as modern nighttime light density. For every 1% increase in distance to historic trade route, the folklore market index decreases by 0.157 standard deviations on average, holding all else constant. This coefficient happens to be identical for both 600 and 1800 AD. For every 1% increase in nighttime light density, the folklore market index increases by 0.095 standard deviations on average, holding all else constant. The sign and statistical significance of these results hold when I control for region (Appendix B).

I also test the economic indices I construct from folklore and ethnographic text for validity, using the ethnographic subsistence type indicator variables. The folklore index regressions here are run using the merged dataset consisting of the EA cultures that occur in both folklore and ethnographic datasets. Table 4 reports the results. Recall that all indices are z-scores, so their means

[3] "Teach" shows up many times in folklore, but this does not align with Enke's use of his education index as a proxy for modernization.

[4] The coefficients obtained using the market index constructed here are larger than those obtained using Enke's standardized market index (2023). The t values are larger than those using Michalopoulos and Xue's log-transformed trade index as well (2021). And this version of the market index outperforms indices constructed by alternative methods to the same set of terms (Appendix A). This advantage holds even when regional fixed effects are added (Appendix B).

for the entire sample are always equal to zero. Thus, the coefficients of the subsistence indicator variables are interpreted relative to the mean of the entire sample (e.g. capitalist subsistence type cultures have, on average, an ethnographic capitalism index value 1.639 standard deviations larger than average). Again, the results support the validity of the indices. Societies classified as capitalist, agricultural, pastoralist, and hunter-gatherer subsistence types tend to have higher folklore and ethnographic index values for capitalism, agriculture, pastoralism, and hunting/gathering, respectively—i.e. the subsistence type classification tends to align with the prevalence of related terms in ethnography and folklore texts. These results also support the method of this paper more broadly in that textual prevalence of themes relates to the observable real-world attributes of societies.

Table 3: Markets in folklore, distance to historic trade routes, and nighttime light density

	Folklore markets index		
	(1)	(2)	(3)
Log distance from trade route (600 AD)	−0.157***		
	(0.033)		
Log distance from trade route (1800 AD)		−0.157***	
		(0.048)	
Log nighttime light density (2008 AD)			0.095***
			(0.025)
Baseline controls	Yes	Yes	Yes
Observations	477	477	802
R2 Adj.	0.583	0.570	0.515

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. Observations in the Americas and Oceania are dropped for 1 and 2 since the trade route data is limited to the Old World. Observations located in the modern-day United States are dropped for 3 since the majority of the population is composed of colonizers (who are unrelated to those Berezkin groups). Standard errors clustered by language family. For the list of baseline controls, refer to Table 5.

Table 4: Economic indices and eHRAF subsistence types

	Capitalism	Markets		Agriculture		Pastoralism		Hunting/gathering	
	ethnography	folklore	ethnography	folklore	ethnography	folklore	ethnography	folklore	ethnography
Capitalism	1.639***		0.284*		−0.133		−0.374***		−0.792***
	(0.335)		(0.171)		(0.211)		(0.059)		(0.056)
Agriculture	0.017	0.294*	0.220**	0.137	0.382***	0.224	−0.172***	−0.048	−0.416***
	(0.071)	(0.157)	(0.086)	(0.138)	(0.075)	(0.142)	(0.039)	(0.069)	(0.041)
Pastoralism	−0.245*	0.412	−0.034	−0.010	−0.445***	0.506**	2.683***	−0.342	−0.501***
	(0.135)	(0.288)	(0.156)	(0.145)	(0.115)	(0.252)	(0.594)	(0.222)	(0.119)
Hunting/gathering	−0.393***	−0.526***	−0.416***	−0.266**	−0.736***	−0.379***	−0.196***	0.174**	0.986***
	(0.062)	(0.075)	(0.104)	(0.111)	(0.072)	(0.095)	(0.059)	(0.084)	(0.120)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	343	221	343	221	343	221	343	221	343
R2 Adj.	0.317	0.451	0.142	0.507	0.224	0.333	0.408	0.236	0.477

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The independent variables are all indicator variables constructed from the eHRAF subsistence type classification. The dependent variables are all indices constructed from folklore and ethnographic data. Regressions with ethnographic dependent variables are estimated using the full ethnographic (eHRAF) sample. For the folklore regressions, the sample consists of the 221 cultures that appear in both ethnographic and folklore datasets. I have omitted the coefficient for capitalism from the folklore regressions because only three observations of commercial economies remain after merging the folklore and ethnographic data. For the list of baseline controls, refer to Table 5.

2.6 Empirical strategy

To explore the sociocultural effects of economic systems, I employ the folklore and ethnographic indices in regression analyses. The general model specification for both folklore and ethnographic analyses is as follows:

$$y_i = \mu + \boldsymbol{E'}_i\alpha + \boldsymbol{M'}_i\beta + \boldsymbol{S'}_i\gamma + \boldsymbol{B'}_i\delta + \varepsilon_i \quad (1)$$

where i denotes the cultural group, y is the sociocultural outcome variable of interest, μ is the intercept, $\boldsymbol{E}$ is the vector of economic variables, $\boldsymbol{S}$ is the vector of covariates related to the subject-matter of folklore, $\boldsymbol{M}$ is the vector of covariates related to modern or complex societies, and $\boldsymbol{B}$ is the vector of baseline controls. Table 5 presents the components of each vector. The vector α contains the coefficients of interest: the effects of the economic indices on the sociocultural variable all else equal.

Table 5: Regression variables

Regression variables / vectors	*Folklore*	*Ethnography*
Sociocultural outcome variables ($\boldsymbol{y}$)	• Ecocentrism • Anthropocentrism • Prosociality • Moral content • Stratification	• Sacredness of nature • Anthropocentrism • Prosociality • Moral content • Stratification
Economic independent variables ($\boldsymbol{E}$)	• Markets • Agriculture • Pastoralism • Hunting/gathering	• Capitalism • Markets • Agriculture • Pastoralism • Hunting/gathering
Baseline controls ($\boldsymbol{B}$)	• Number of motifs • (Number of motifs)^2 • Number of sources • Mean publication year	• Number of pages • Number of documents • Mean author birth year • Modal author gender • American or British author • Earliest coverage date • Latest coverage date • Prevalence of "the"
Modern / complex society covariates ($\boldsymbol{M}$)	• State • Urbanization	• Education • State • Urbanization
Folklore subject-matter covariates ($\boldsymbol{S}$)	• Anthropocentrism • Moral content	N/A

For each sociocultural outcome variable of interest, I run regressions using the folklore indices, the ethnographic indices, and the ethnographic subsistence type indicators. I include all economic independent variables in every analysis in order to examine the marginal and separable sociocultural effects of different economic modes of production and subsistence. Folklore, as a linguistic phenomenon, likely coalesces within language families and so varies more across language families than within; thus, folklore index values are likely correlated with language family. To account for this, I cluster the errors of folklore regressions by language family, following the precedent of Michalopoulos and Xue (2021) and Enke (2023).

I also conduct instrumental variable analyses with the folklore data, using the distance to historic trade route (from Michalopoulos et al., 2018) as an instrument for the market index. These analyses suggest causal relationships where significant effects persist if we accept the assumption that the sociocultural reflections of the folklore text (collected mostly in the 20th century) did not influence the distance of societies from trade routes in 600 and 1800 AD (by influencing the routes or the group's movement with respect to them). This approach follows the precedent of Enke's

2023 paper, “Market Exposure and Human Morality,” where he applies the method of instrumental variables using distance to historic trade route and ecological polarization as instruments for market exposure. However, in the case of historic trade, he fails to drop observations of cultures in the Americas and Oceania though the data only covers the Old World. And in the case of ecological polarization, the exclusion restriction rests on the assumption that natural ecology only influences culture through its effect on the development of markets and trade. Yet it is not difficult to imagine a case where this assumption does not hold. For example, natural ecologies with limited resources likely encourage participation in trade as well as norms of social insurance; this, though, would violate the exclusion restriction for an IV analysis of the effects of markets on prosociality. I thus restrict my instrumental variable analysis to the historic trade route data and drop all 466 observations of cultures in the Americas and Oceania before running the regressions. All first stage regressions yield an F statistic far greater than 10, suggesting a strong instrument. And as long as distance from historic trade route is only related to sociocultural traits through the effects of markets, then the exclusion restriction is satisfied.

For the folklore regressions, I include number of motifs and its square, number of sources, and mean publication year as baseline controls in every regression. Since the folklore indices I employ measure the proportion of relevant concepts in each folklore tradition, and since any given concept is more likely to appear in a folklore tradition associated with more motifs, it is essential that I include the number of motifs as a control. The squared number of motifs and the number of sources provide additional controls for the effect of the quantity of text. I control for mean publication year to try to account for any differences across time in the selection of stories to record and in the stories themselves in their historical context.

For the ethnographic regressions, I include number of pages and documents, mean birth year and modal gender of author, the earliest and latest coverage dates, an indicator for American and British authors (who constitute the majority), and the prevalence of the word “the” as baseline controls in every regression. Controlling for the quantity of material is less important in the ethnographic regressions than in the folklore regressions since the ethnographic indices are prevalence measures, but I still include the number of pages and documents. I control for the demographic characteristics of the “average” ethnographer for each cultural group to try to account for ethnographer bias. I control for the earliest and latest coverage dates to try to account for cross-

cultural historical trends. And I control for the prevalence of "the" to account for the otherwise biasing effect of non-English ethnographic text on the keyword-based indices.

With regard to the covariates related to modernity and complex society: capitalism, trade, and markets are likely associated with political states, urbanization, and Western-style education systems. Each of these characteristics of complex society and the modern age may have its own sociocultural consequences separable from those of the economic systems with which they are enmeshed. Insofar as the noneconomic components of complex society and the modern age are the products of markets and capitalism (as the theory of historical materialism claims), their sociocultural effects may be classified as the indirect effects of those economic systems. Thus, I run each regression with and without these covariates to analyze the direct and indirect sociocultural effects of economic systems. Additionally, for those readers who are less inclined toward historical materialism (and separate states, urbanization, and education from economic systems or argue that the former causes the latter), these additional controls allows the disentanglement of the effects of economic systems from those of the other structures of complex society. In the case of the folklore data, this complex society vector consists only of indices for political states and urbanization. With regard to the covariates related to the subject-matter of folklore: since folklore may occupy different functional roles in different societies, some people may tell more anthropocentric stories and/or stories with moral content. Folklore traditions that tell more stories about humans likely contain more concepts related to any given sociocultural characteristic. Thus, I run each folklore regression with and without these covariates to account for these potential confounding factors.

All regressions can also be run with regional fixed effects at the continent/region or the country/subregion scale. (The categorical regional variables in the folklore data are continent and country whereas those in the ethnographic data are region and subregion.) Most of the relationships observed in the main analysis hold even when comparing cultures within the same continent, country, region, and subregion (Table 11 and Appendix B).

Lastly, as discussed in the beginning of this section, the folklore and ethnography sources comprise distinct viewpoints (emic/etic perspectives, internal/external worlds, and different historical moments), capturing the nuance and dynamism of these cultural groups. Therefore, I will not interpret inconsistent results from these two datasets as categorically nullifying each other. Rather, conflicting results may highlight distinctions between, e.g., values and behavior.

3. Results

In this section, I report the results of the main regression analyses estimating the sociocultural effects of economic systems. Tables 6-10 report the coefficient estimates for the economic variables using folklore and ethnographic data. For the folklore regressions, the OLS estimates from the full sample of 943 Berezkin groups are reported first followed by the IV estimates from the 477 Berezkin groups in Africa, Asia, and Europe, where distance to historic trade route is implemented as an instrument for the folklore market index. The folklore regression standard errors are clustered by language family. For the ethnographic regressions, OLS estimates using economic indices derived from keyword prevalence are reported first followed by OLS estimates using the subsistence type indicators. Each of these four models is run with and without additional controls (the complex society covariates and, for folklore regressions, the subject-matter covariates). With a few exceptions, these additional controls tend to reduce the size of the sociocultural effects of markets and capitalism without eliminating it entirely. All indices are standardized, so index coefficients are interpreted in units of standard deviations, and subsistence type coefficients are interpreted relative to the average of the entire sample.

Table 6 reports the results for ontologies of nature. Capitalism and markets are significantly negatively correlated with ecocentrism and sacredness of nature. For example, for the folklore OLS regression without additional controls, a standard deviation increase in the market index is associated with a 0.160 standard deviation decrease in the ecocentrism index on average, all else equal; and for the ethnographic index regression without additional controls, a standard deviation increase in the capitalism index is associated with a 0.184 standard deviation decrease in the sacredness of nature index on average, all else equal. The folklore IV regression with additional controls provides some evidence that the effect of markets on ecocentrism is causal. Hunting and gathering tends to be positively associated with ecocentrism and sacredness of nature.

Table 6: Capitalism, markets, and ontologies of nature

	Folklore ecocentrism index				Ethnographic sacredness of nature index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					−0.184***	−0.673***	−0.124**	−0.413***
					(0.052)	(0.066)	(0.049)	(0.092)
Markets	−0.160***	−0.171	−0.188***	−0.256*	−0.197***		−0.184***	
	(0.040)	(0.121)	(0.040)	(0.132)	(0.046)		(0.046)	
Agriculture	0.057*	0.045	0.047*	0.052	0.019	−0.002	0.006	−0.005
	(0.031)	(0.041)	(0.027)	(0.038)	(0.051)	(0.096)	(0.051)	(0.094)
Pastoralism	0.041	0.153***	0.009	0.145***	−0.142***	−0.521***	−0.158***	−0.568***
	(0.026)	(0.046)	(0.029)	(0.051)	(0.036)	(0.115)	(0.039)	(0.128)
Hunting/gathering	0.186***	0.262***	0.173***	0.236***	0.054	0.436***	0.029	0.418***
	(0.035)	(0.035)	(0.035)	(0.034)	(0.058)	(0.152)	(0.059)	(0.156)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.730	0.767	0.745	0.770	0.113	0.083	0.122	0.107

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table 7 reports the results for anthropocentrism. The ethnographic regressions show a significant positive correlation between capitalism and anthropocentrism, and the OLS folklore regressions on the full sample show a significant positive correlation between markets and anthropocentrism. However, the IV folklore regressions show no such effect. The correlation between markets and anthropocentrism in folklore vanishes when the sample is restricted to Africa, Asia, and Europe (even when coefficients are estimated via OLS). The ethnographic market index also shows no effect on anthropocentrism. The folklore regressions show some evidence of a positive relationship between hunting and gathering and anthropocentrism, but this may be attributable to the proximity of the concepts included in the indices (fisherman and hunter compared to man and woman), so motifs related to hunting and fishing likely features humans. The ethnographic regressions show a (mostly) significant negative correlation between hunting and gathering and anthropocentrism.

Table 7: Capitalism, markets, and anthropocentrism

	Folklore anthropocentrism index				Ethnographic anthropocentrism index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.281***	0.822***	0.226***	0.503***
					(0.073)	(0.154)	(0.071)	(0.159)
Markets	0.309***	0.245	0.139***	−0.114	0.023		0.009	
	(0.060)	(0.285)	(0.051)	(0.293)	(0.053)		(0.052)	
Agriculture	−0.033	0.073	−0.057	0.077	−0.030	0.089	−0.005	0.082
	(0.049)	(0.062)	(0.044)	(0.055)	(0.053)	(0.069)	(0.051)	(0.065)
Pastoralism	0.056	0.195	−0.078**	0.113	−0.040	−0.198	−0.019	−0.164
	(0.043)	(0.137)	(0.033)	(0.105)	(0.029)	(0.123)	(0.029)	(0.123)
Hunting/gathering	0.133***	0.122*	0.069	0.005	−0.109**	−0.352***	−0.069	−0.292**
	(0.050)	(0.062)	(0.043)	(0.050)	(0.049)	(0.121)	(0.049)	(0.128)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.220	0.269	0.311	0.359	0.174	0.158	0.185	0.174

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table 8 reports the results for prosociality. The most consistent result here is that hunting and gathering is positively correlated with prosociality. Unlike Enke (2023), I find little support from folklore for the claim that exposure to markets increases prosociality. In the ethnographic regressions, markets do correlate positively and significantly with prosociality, but capitalism is negatively correlated with prosociality.

Table 8: Capitalism, markets, and prosociality

	Folklore prosociality index				Ethnographic prosociality index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					−0.180**	−0.682***	−0.177*	−0.771***
					(0.089)	(0.197)	(0.091)	(0.234)
Markets	0.050	0.193	−0.072	0.005	0.172**		0.168**	
	(0.048)	(0.135)	(0.050)	(0.170)	(0.078)		(0.080)	
Agriculture	−0.031	0.009	−0.041	0.005	0.159*	−0.043	0.164*	−0.048
	(0.035)	(0.047)	(0.037)	(0.047)	(0.083)	(0.075)	(0.087)	(0.075)
Pastoralism	0.005	0.103	−0.072*	0.044	−0.045	−0.130	−0.047	−0.122
	(0.057)	(0.073)	(0.043)	(0.054)	(0.041)	(0.172)	(0.041)	(0.174)
Hunting/gathering	0.112***	0.107***	0.062**	0.038	0.225***	0.208**	0.229***	0.228***
	(0.032)	(0.026)	(0.025)	(0.024)	(0.070)	(0.085)	(0.074)	(0.087)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.570	0.645	0.615	0.701	0.076	0.026	0.071	0.021

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table 9 reports the results for moral content of text. Markets are significantly positively correlated with moral content in folklore, and the IV regressions suggest that this relationship is causal. This relationship is absent from ethnography—i.e. those groups with more ethnographic content on markets and capitalism do not have more ethnographic content on morality. The coefficients for hunting and gathering are all statistically significant, but in folklore, they are positive, and in ethnography, they are negative.

Table 9: Capitalism, markets, and moral content

	Folklore moral content index				Ethnographic moral content index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.034	−0.116	0.058	−0.206
					(0.052)	(0.100)	(0.060)	(0.149)
Markets	0.244***	0.350**	0.165***	0.240*	0.005		0.023	
	(0.028)	(0.153)	(0.022)	(0.129)	(0.052)		(0.052)	
Agriculture	0.030	0.005	0.030	−0.008	0.041	0.156	0.043	0.153
	(0.034)	(0.052)	(0.028)	(0.038)	(0.055)	(0.106)	(0.058)	(0.105)
Pastoralism	0.182***	0.123	0.130***	0.066	0.092	0.313	0.101	0.313
	(0.032)	(0.084)	(0.031)	(0.064)	(0.076)	(0.366)	(0.078)	(0.364)
Hunting/gathering	0.102***	0.150***	0.075***	0.111***	−0.145**	−0.244***	−0.141**	−0.214***
	(0.023)	(0.038)	(0.018)	(0.031)	(0.065)	(0.079)	(0.067)	(0.082)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.774	0.741	0.806	0.795	0.024	0.015	0.037	0.022

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table 10 reports the results for stratification. Capitalism and markets in ethnography and markets in folklore are significantly positively correlated with stratification. The folklore IV regressions strongly suggest the effect of markets on stratification is causal. The ethnographic regressions show a significant negative correlation between hunting and gathering and stratification. There is some evidence as well of a positive correlation between agriculture and stratification.

Table 10: Capitalism, markets, and stratification

	Folklore stratification index				Ethnographic stratification index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.205***	0.586***	0.149**	0.333*
					(0.068)	(0.160)	(0.068)	(0.187)
Markets	0.145***	0.810***	0.054	0.675***	0.124**		0.106*	
	(0.053)	(0.128)	(0.047)	(0.130)	(0.058)		(0.058)	
Agriculture	0.173***	0.029	0.155***	0.038	0.083	0.276**	0.090	0.279**
	(0.046)	(0.062)	(0.052)	(0.061)	(0.061)	(0.113)	(0.060)	(0.111)
Pastoralism	0.089**	−0.069	−0.019	−0.087	0.027	0.229	0.033	0.280
	(0.038)	(0.073)	(0.035)	(0.061)	(0.041)	(0.234)	(0.041)	(0.228)
Hunting/gathering	−0.011	0.013	−0.032	−0.009	−0.200***	−0.497***	−0.185***	−0.487***
	(0.028)	(0.045)	(0.025)	(0.034)	(0.058)	(0.057)	(0.060)	(0.060)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.611	0.505	0.645	0.600	0.185	0.142	0.194	0.176

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table 11 summarizes the sign and significance of coefficient estimates when regional fixed effects are included. Most of the relationships observed in the main results are robust to the inclusion of fixed effects. For example, ecocentrism and sacredness of nature are negatively correlated with capitalism and markets and positively correlated with hunting and gathering; prosociality is positively correlated with hunting and gathering; and social stratification is positively correlated with capitalism and markets and negatively correlated with hunting and gathering. The full results for the regressions with fixed effects can be found in Appendix B.

Table 11: Summary of results, varying regional fixed effects

		Ecocentrism / Sacredness of nature				*Anthropocentrism*				*Prosociality*				*Moral content*				*Stratification*			
		folk.	IV	eth.	subs.	folk.	IV	eth.	subs.	folk.	IV	eth.	subs.	folk.	IV	eth.	subs.	folk.	IV	eth.	subs.
Capitalism	No FE			−	−			+	+			−	−			·	·			+	+
	FE 1			(−)	−			+	+			·	−			·	·			+	+
	FE 2			·	(−)			+	+			·	·			·	·			+	(+)
Markets	No FE	−	(−)	−		+	·	·		·	·	+		+	+	·		(+)	+	+	
	FE 1	−	(−)	−		+	·	·		·	·	+		+	+	·		+	+	+	
	FE 2	−	−	−		+	·	·		·	(+)	+		+	+	·		(+)	+	+	
Agriculture	No FE	+	·	·	·	·	·	·	·	·	·	+	·	·	·	·	·	+	·	·	+
	FE 1	+	·	·	·	(−)	·	·	·	·	·	+	−	+	·	·	+	+	·	·	·
	FE 2	+	+	·	(−)	·	·	·	·	·	·	(+)	·	(+)	·	·	·	+	·	·	·
Pastoralism	No FE	·	+	−	−	·	·	·	·	·	·	·	·	+	·	·	·	·	·	·	·
	FE 1	·	+	−	−	·	·	(−)	·	·	·	·	−	+	·	·	·	(+)	·	·	·
	FE 2	+	+	−	(−)	·	·	(−)	·	·	·	(+)	·	+	·	·	·	(+)	·	·	·
Hunting / gathering	No FE	+	+	·	+	(+)	(+)	(−)	−	+	(+)	+	+	+	+	−	−	·	·	−	−
	FE 1	+	+	·	·	(+)	·	(−)	·	+	(+)	+	·	+	+	−	·	(−)	·	−	−
	FE 2	+	+	·	·	(+)	(+)	(−)	−	+	(+)	+	·	+	+	·	·	·	·	−	−

Notes: This table summarizes the results from the regression analysis of folklore and ethnographic data on the sociocultural effects of economic systems. folk. signifies regressions with the folklore indices; IV signifies instrumental variable regressions using the Old World folklore data, where distance to historic trade route is employed as an instrument for the markets index; eth. signifies regressions with the ethnographic indices; subs. signifies regressions of the ethnographic sociocultural indices on the eHRAF subsistence types. FE 1 signifies continent/region fixed effects; FE 2 signifies country/subregion fixed effects. Where the relationship was not tested, the cell is left blank; · indicates inconsistent signs and/or no statistical significance; (+) indicates positive signs and some statistical significance; + indicates positive signs and statistical significance.

4. Discussion

In this paper, I have employed folklore and ethnographic data to analyze the sociocultural effects of economic systems. Primarily, I examine the effect of capitalism and markets on ontologies of nature, anthropocentrism, prosociality, morality, and stratification. In this section, I interpret and discuss the results of the regression analyses and suggest areas of future research. Overall, the results support the supposition that sociocultural ecology co-evolves with economic ecology, and the folklore IV regressions provide some evidence supporting the primacy of economic-to-sociocultural causality in alignment with theories of cultural and historical materialism.

4.1 Ontologies of nature and anthropocentrism

The results from both folklore and ethnographic regressions suggest that markets and capitalism are associated with less ecocentrism and sacredness assigned to nature whereas hunting and gathering is associated with more ecocentrism and sacredness assigned to nature. To a lesser degree, the results suggest that the opposite is true of anthropocentrism. This makes some intuitive sense. As we depend more on trade with other humans for our subsistence and less on direct interactions with the more-than-human world, we tend to tell fewer stories about the more-than-human world, tell more stories about humans, and assign less sacredness to nature. The relative prominence of humans/nature in our economic ecologies is tied to the relative prominence of humans/nature in our conceptual framework of the world and what is sacred and valuable.

This relationship is demonstrated by folklore traditions even without atomizing them into regression-compatible concept variables. The stories we tell reflect our ecologies and define our ontologies, dividing the perceived world into named entities, describing relationships among these entities, and assigning sacredness to this system. Creation myths in particular exemplify how a people conceptualize themselves in relation to the more-than-human world (Kimmerer, 2013). Consider, then, a creation story from the "cradle of civilization," the site of the earliest agriculture, cities, and states: In Genesis, God creates humans in his own image and grants them dominion over the earth and all non-human animals. This cosmogony formulates a hierarchy of nature in which humans hold a privileged and separate status (White, 1967). In comparison, the mythologies of many indigenous peoples grant personhood to the more-than-human world and conceptualize human-nature relations in terms of kinship, embedding humans not in a hierarchy of nature but in a web of coinciding material, social, and sacred relations, where humans are tasked not with dominion but with a responsibility of reciprocity (Kimmerer, 2013). Indigenous scholar and ecologist Robin Wall Kimmerer and comparative mythologist Joseph Campbell both point out these differences in ontology apparent in mythology and argue that they have behavioral and societal consequences in the form of human-environment interactions (Campbell & Moyers, 2011; Kimmerer, 2013). Insofar as indigenous mythologies are more ecocentric and assign more sacredness to the more-than-human world on average, the behavioral consequences of different ontologies of nature are evidenced by modern global spatial data which show that much of the remaining undegraded land on earth is managed by indigenous peoples (Kennedy et al., 2023).

Thus, markets and capitalism might have both direct and indirect effects on the natural environment: they might incentivize the (over)exploitation of natural resources for profit, and they might select for preferences that prioritize human material gain over the well-being of the ecosystem.

In *Braiding Sweetgrass*, Kimmerer argues that solving the environmental problems we face today requires a shift in our ontology of nature from one of commodification and domination to one of kinship and sacred reciprocity (2013). But is such a shift possible in the context of capitalism? Can stories of kinship with the more-than-human world take root in an economic ecology characterized by alienation from the land, or are they too incompatible? If folklore is shaped by the economic system even while stabilizing it, what change must come first? If we desire a sustainable transition, is it more effective to push on the economic dimension or the cultural? Perhaps the two paths should be viewed as jointly necessary: a cultural change alone may be difficult in the context of the status quo economic ecology and may have a limited impact, and a change in political economy may not be possible without a change in anthropocentric preferences of voters and policymakers.

4.2 Prosociality and morality

As discussed in the introduction, the debate over the effect of markets and capitalism on prosociality and morality is long and unresolved. In this paper, the folklore regressions show no effect of markets on prosociality, and the ethnographic regressions suggest a negative relationship between capitalism and prosociality and a positive relationship between markets and prosociality (Table 8). Hunting and gathering is significantly positively correlated with prosociality in both folklore and ethnography. These results differ from those of Enke's 2023 paper, who constructs indices from the same folklore data and finds that prosociality is significantly positively correlated with markets but not with hunting and gathering; this difference is attributable to the different sets of concepts included in the indices (see Appendix A).

The disparity in the ethnographic regressions between the effects of capitalism and the effects of markets support the hypothesis that capitalism and its sociocultural consequences are distinct from those of markets. Thus, evidence of sociocultural effects of pre-capitalist markets cannot be generalized to capitalist economies. In other words, it could be the case that both Montesquieu and Marx are correct. Further theoretical work might help to illuminate the

mechanism by which specific market and capitalist ecologies select for and elicit certain cultural traits and behaviors.

In addition to the sensitivity of results to the specific economic ecology, the results may also be contingent on the specific form of prosociality since different prosocial behaviors arise and be apparent in different economic systems. For example, if I constructed the ethnographic index for prosociality based on philanthropy or collective bargaining, I might be able to find a positive correlation between capitalism and prosociality (since philanthropy depends on inequality and collective bargaining occurs in the context of the wage-labor relation). This conditionality may also be important in the case of morality. Moral norms and prosociality are also far from monolithic across cultures and contexts, and different moral norms (e.g. universalistic norms and land ethics) and types of prosociality (e.g. charity and mutual aid) may be adaptive to different economic ecologies.

The morality results suggest that societies more exposed to markets and trade tell more stories with moral content and that this effect is causal, but no such effect is present in ethnography (Table 9). The coefficients for hunting and gathering switch signs from folklore to ethnography without losing significance. These disparities could reflect differences in the emic and etic perspectives of morality. Often, in-group and out-group members often come to very different conclusions regarding the morality of some behavior, and hunter-gatherers are especially culturally distant from their ethnographers (the majority of ethnographers are from the United States or Great Britain). The sparsity of statistical significance in the ethnographic results could also be interpreted as evidence that the assumption that the prevalence of related terms correlates with the cultural and behavioral reality of a society does not hold in the case of morality (i.e. the proportion of text ethnographers dedicate to discussing morality may be unrelated to the moral content of the culture).

With regard to the folklore results, it is important also to recall that differences in the prevalence of moral and prosocial behavior within folklore may not be directly related to the prevalence of real-world moral and prosocial behavior. It is not clear that groups that tell more stories regarding self-interest are more selfish (it seems unlikely that even those societies where selfishness may be common would frequently proclaim in their stories that “greed is good”) or even why groups that tell more stories related to prosociality would be exhibit more prosocial behavior (e.g. a parent might respond to a child’s act of selfishness with a morality tale full of

descriptions of prosociality). Additionally, folklore may fulfill different societal functions adapted to the human ecologies of different societies. A society of high social cohesion and embeddedness might display high levels of prosociality produced by innate empathy in a proximate social ecology whereas a market society characterized by highly anonymous economic interactions might rely on intentionally enculturated rules for behavior to maintain some degree of civility among strangers. Our innate behavioral capacities may be better suited to the highly socially embedded economies and societies that dominate our evolutionary history (Boyd & Richerson, 2005). Thus, it may be more important to include morality lessons in stories to enculturate certain behaviors in large-scale anonymous market societies (where our innate behavioral traits are less adaptive) than in socially proximate societies. This relates to the argument that moralizing gods evolved to support the functioning of complex societies (e.g. Henrich et al., 2010).[5] But again, it does not necessarily follow that individuals behave more morally and prosocially in societies that worship moralizing gods. Moral norms embedded in religion and folklore may serve only to compensate for the detrimental behavioral effects of asocial ecologies.

4.3 Stratification

The regression results show a strong positive relationship between markets and capitalism and social stratification in both folklore and ethnography, and the IV regression results suggest causality. The ethnographic regressions show a significant negative relationship between hunting and gathering and social stratification. These results align with the claims that markets breed inequality and hunter-gatherer societies tend to be more egalitarian. There is also some evidence that agriculture is correlated with stratification, which supports the historical hypothesis that the surplus generated from agriculture generates inequality. The ontological division of humans into different intrinsically unequal types (genders, races, castes, classes) may thus be predicated on unequal access to resources. Where resources are distributed unequally, these sociocultural constructions of essential types of people may arise to justify and stabilize this inequality (Bright et al., 2025). Future research might further develop the application of folklore and ethnographic text to sharpen the investigation into the effects of markets and capitalism on boundaries of otherness and to answer questions such as How does social stratification relate to the claim that

[5] This argument has recently met with some pushback (Lightner et al., 2023).

universalistic morality follows markets (Enke, 2023)? And how do social hierarchies (intra-species otherness) relate to hierarchies of nature (inter-species otherness)?

4.4 Limitations, further research, and implications

The conclusions of this paper are limited by the text-as-data method employed. First, transforming text into data necessitates a decontextualization which limits the accuracy and sharpness of the analysis. This effect may be partially mitigated by the use of the OCM subjects coded by ethnographers who read the texts, but a large amount of information is still lost in the derivation of indices from search results. Second, due to the method of data assembly and the nature of folklore, a historical timestamp is difficult or impossible to obtain, meaning the relationships observed are difficult to interpret in historical context. Perhaps in the future, similar analyses might be conducted where the observations are ethnographic texts rather than cultures, allowing one to control for coverage dates in a more granular fashion. In folklore, this problem may be best addressed by careful consideration of the text itself and its contents as I have tried to do here. Third, the text may be skewed according to the biases of the authors, especially in the case of ethnography. I have attempted to control for this by including demographic characteristics of the ethnographers for each culture.

Several avenues of further research present themselves. First, these same folklore and ethnographic data could be employed to study the impact of economic systems on other sociocultural characteristics of interest such as political and social organization. The indices I've developed here could be applied to test historical hypotheses concerning the roles of markets and agriculture in the rise of cities and states. Second, the analyses of the sociocultural in this paper might be further developed and elaborated on to crystallize the results on types of ontologies of nature, types of prosociality and morality, and types of stratification. What forms of prosociality arise in different economic systems? What forms of morality? What forms of stratification? Third, the correlational and partial causal evidence shown in this paper provide an opportunity to develop theoretical models to explore the causal mechanisms. Evolutionary game theory lends itself especially well to the exploration of cultural dynamics, and networks offer a complementary tool to the exploration of human behavioral ecology. Fourth, it could be insightful to interrogate the behavioral correlates of the sociocultural characteristics present in folklore texts. Do groups that tell more ecocentric stories manage the environmental commons more successfully? Do groups

that tell more stories about prosociality and morality act more or less prosocially or morally in various settings? Fifth, there are a number of additional sources for data on sociocultural and economic ecologies (such the World Values Survey, the Global Preferences Survey, the Ethnographic Atlas, the Standard Cross-Cultural Sample) which could be employed in tandem with the textual data employed here to further solidify and clarify the results.

Lastly, in terms of real-world applications, the sociocultural effects of economic systems evident in folklore and ethnography imply that we must consider more than the economic outcomes in evaluating the merits of different economic systems. If economic systems have sociocultural consequences, then we must consider what kinds of preferences and what kinds of societies as a whole arise out of different economic systems. When preferences are endogenous, we cannot aggregate individual utility functions a social welfare function that can be maximized. Rather, we are presented with multiple equilibria of societal structures and individual preferences. This necessitates engagement of the diverse stakeholders of society to determine which equilibria is desirable.

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Appendix A. Index construction methods

In this appendix, I explore in more depth the construction of sociocultural and economic indices from the Michalopoulos and Xue’s folklore concept dataset. First, in Table A1, I present the lists of relevant concepts and keywords/subjects I chose to construct each of my folklore and ethnographic indices. For the folklore concepts, I also include the words in motifs that are tagged by the concept. For the ethnographic indices, I report keywords in italics. Second, I describe the various approaches to constructing indices from these concept lists and justify my choice of mean indicator principal component indices in my main analysis. Third, I review the method of a recent

related empirical study and its shortcomings which illuminate several important considerations in the application of the folklore concept data.

Table A1: Constructing economic and sociocultural indices from folklore and ethnographic data

Index	*Folklore*				*Ethnography*	
	Concepts	Related words			eHRAF Subjects/*Keywords*	
Agriculture	• farmer • harvest • plow • rice • sow	• agricultural • agriculture • cereal • corn • crop • cultivate • farm • farmhand • fertilize	• furrow • grain • harvest • haymaking • maize • peasant • pig • plough • plow	• ploughman • plowman • scatter • seed • sow • sprout • wheat	• *agricultural* • *agriculture* • *crops* • *cultivate* • *cultivating* • *cultivation* • *farm* • *farmer* • *farming* • *garden*	• *gardening* • *harvest* • *harvesting* • *horticultural* • *horticulture* • *planting* • *sow* • *sowing* • *sown*
Anthropo-centrism	• man • woman	• boy • female • girl • lad	• lady • man • men • person	• wife • woman	The (standardized) prevalence of • ethnoanatomy • ethnophysiology • ethnopsychology • ethnosociology minus the (standardized) prevalence of • ethnobotany • ethnogeography • ethnometeorology • ethnozoology	
Capitalism	N/A	N/A			• *capitalism* • *capitalist* • *corporation* • *employee*	• *employer* • *employment* • *profit* • *wage*
Ecocentrism / Sacredness of nature	• animal • buffalo • crow • fish • flower • forest • fox • grass • hill • insect • moon • ocean • plant • rabbit • rain • rat • reptile • river • season • sky • snow • soil • spider • star • sun • tree • turtle • wind • wolf	• arachne • animal • amphibian • beast • beetle • bird • bison • bloom • blossom • blizzard • brook • buffalo • bunny • buzzard • celestial • cliff • coniferous • crocodile • crow • cub • dam • deer • dirt • downriver • downhill • earth • elk • episode • era • finale • firmament • fish • flower • fox • grass • ground • hare	• heliacal • heron • hill • horizon • hummock • insect • land • lion • lizard • lunar • magpie • mammal • mizar • moon • mosquito • mountain • mouse • moth • ocean • oceanic • orbit • owl • pet • plant • precipitation • rabbit • rain • rainwater • rainy • rat • raven • reptile • reptilian • ridge • river • rooster • season	• shell • sky • snail • snake • snow • snowfall • soil • solar • sparrow • spider • spiderman • slope • spring • star • starman • stellar • stream • summer • sun • sunlight • sunny • sunrise • sunset • terrapin • thunderstorm • tortoise • tree • treelike • turtle • wasp • watercourse • weather • web • werewolf • wind • winter • wolf	Any of the following: • animism • mythology • sacred objects and places • spirits and gods together with any of the following: • ethnobotany • ethnogeography • ethnometeorology • ethnozoology	

		• hawk • heaven • heavenly	• sea • seawater • serpent	• year		
Education	N/A	N/A			• education ◦ education system ◦ educational theory and methods ◦ elementary education ◦ liberal arts education ◦ students ◦ teachers ◦ vocational education	
Hunting / gathering	• fisherman • hunter	• chase • chaser • deer • fish	• fisher • fisherman • hunt • hunter	• scavenger • stalker	• *fish* • *fisher* • *fishing* • *forage* • *forager* • *foraging*	• *gatherer* • *hunt* • *hunter* • *hunter-gatherer* • *hunting*
Markets	• cheap • income • market • money • seller • trade	• barter • bazaar • buy • bargain • buyer • cheap • cheaply	• cost • exchange • expensive • fund • income • market • merchant	• money • price • sale • sell • seller • swap • trader	• *bazaar* • *bought* • *buy* • *buyer* • *buying* • *coins* • *currency* • *exchange* • *exchanging* • *market* • *marketplace*	• *merchant* • *money* • *price* • *sale* • *sell* • *seller* • *selling* • *sold* • *trade* • *trader* • *trading*

Moral content	• deceive • deserve • duty • evil • forbid • forgive • guilty • injustice • justify • offend • ought • proper • punish • respect • rule • shame • sin • virtue • wrong • wrongdoing	• accuse • admire • annoy • appropriate • appropriately • ashamed • astray • award • ban • burden • cajole • cannot • chastity • cheat • confuse • convict • convince • correct • corrected • correctly • corruption • culprit • deceit • deceitful • deceiver • deception • decent • dishonor • disgrace • disappoint • disturb • duty • dupe • earn • endanger • esteem • error • evil • excuse • explain • forbid	• forgive • fraud • get • gratitude • grief • guilty • guideline • harm • honesty • honor • hoodwink • humiliation • hurt • improper • impede • inappropriate • injustice • injure • insult • inequality • incorrectly • justification • justify • law • mercy • mistake • mistakenly • molest • must • necessary • need • negligence • obligation • offend • ought • patience • person • pity • precise • pretext • prevent	• prohibit • prohibition • proper • properly • rationale • receive • regard • reign • repent • repentance • responsibility • respect • right • ruler • rule • scold • seduce • shame • shameful • sin • sinner • sinful • suitable • sympathy • task • threat • tormentor • torture • trick • unjust • unjustified • unworthy • violate • virtue • want • wife • worthy • wrong • wrongly	• ethics
Pastoralism	• graze • herd • mule • pastoral	• camel • cattle • cow • donkey • flock • foal • graze	• herd • herder • herdsman • hoof • horse • livestock • mule	• nibble • ox • pasture • saddle • sheep • shepherd • swineherd	• *graze* • *grazing* • *herd* • *herder* • *herding* • *husbandry* • *livestock* • *pastoral* • *pastoralism* • *pastoralist* • *pasture*
Prosociality	• caring • generosity • gift • given • help • sharing • sympathetic	• affectionate • aid • assistance • benevolent • care • caregiver • compassionate • contribute • donate • generosity	• generous • generously • gift • give • giver • goodwill • grant • gratitude • help • helper	• helpful • lend • present • relief • rescue • share • support • sympathize • sympathy	The (standardized) prevalence of • gift giving • mutual aid minus the (standardized) prevalence of • in-group antagonisms
State	• kingdom • political	• king • kingdom • kingship	• prince • princess • realm	• reign • ruler • political	• government activities ◦ government enterprises ◦ government regulation ◦ miscellaneous government activities ◦ public education ◦ public finance ◦ public welfare ◦ public works ◦ research and development ◦ taxation and public income

					• citizenship • administrative agencies
Stratification	• dominate • obedience • rank • servant	• comply • conquer • control • disobedience • dominate • domination • hierarchy	• housekeeper • lord • maid • maidservant • obedient • overtaken • rank	• seniority • servant • slave • status • subservient • supremacy • tier	• social stratification ◦ age stratification ◦ gender status ◦ ethnic stratification ◦ castes ◦ classes ◦ serfdom and peonage ◦ slavery
Urbanization	• urban	• city			• cities

Notes: All folklore indices are derived from Michalopoulos and Xue's concept variables (2021), which tag motifs that contain words related to the concepts. Both concepts and related words are reported in the table. Ethnographic indices are constructed either from the paragraph-level tagging of OCM subjects or from the keywords that appear in the text itself. In the table, keywords are italicized, and subjects are not.

A.1 Folklore concept selection

One way to choose relevant concepts would be to let the data speak for themselves via the LASSO shrinkage method. I explored this approach with the folklore concept data, but the concepts selected by the algorithm to predict, for example, distance from historic trade route appeared unrelated to markets or trade. Michalopoulos and Xue also come up with mixed results when they experiment with this method (2021, Online Appendix). I therefore handpicked the set of relevant concepts to construct each index based on their related words and the context in which they appear in the folklore motifs. As mentioned earlier, I attempted, in my selection, to maximize coverage of relevant words, minimize inclusion of irrelevant words, and minimize redundancy of words. Michalopoulos and Xue's "Concepts Tagged Per Motif" dataset allows the recovery of the related words tagged for each concept and the motifs they appear in. The related words from ConceptNet are not always synonymous with the concept itself. For example, the concept variable "give" tags not only motifs with the word "give" but also those with the word "take." The concept variable "equitable" tags motifs which contain the words "fair" or "unfair," "just" or "unjust," "equal" or "unequal," etc. Additionally, linguistic proximity may muddy the interpretation of correlations. For example, the concept "reciprocal" tags motifs with the words "exchange" and "barter." Also, some words are homonyms—they have multiple different meanings. For example, the word "bear" refers to the animal but also is synonymous with "carry," and "bank" may refer to the financial institution or to the shore of a river (in the folklore motifs, it is only used in the latter sense). These ambiguities can cause problems if the concept variables are employed (alone or within indices) in regression analyses without first examining the list of related words and the contexts in which they

appear in the folklore motifs. In Enke's 2023 paper, for example, the concepts included (such as "bank," "cooperate," "education," "equitable," "give," "reciprocal," and "tolerance") often tag irrelevant words and thus dilute the accuracy of his measures.

A.2 Methods for folklore index construction

Given the sets of relevant concepts, the indices may be constructed a number of different ways. First, I construct prevalence indices by taking the mean of the prevalence of all relevant concepts in the collected motifs of each culture (thus measuring what proportion of motifs contain related words). Second, I construct standardized prevalence indices by taking the mean of all relevant standardized prevalence concept variables. These two versions differ because the latter weights every concept equally whereas the former weights concepts relative to their prevalence. Third, I construct proportion indices by taking the mean of indicator variables for all relevant concepts (thus measuring what proportion of relevant concepts appear in any of the motifs of a culture). Fourth, I apply principal component analysis to each of these three versions, yielding three more types of indices from the first principal components. These indices should only be used if all constituent concepts load onto the first principal component with the same sign (which is not always the case for the PCA prevalence and the PCA standardized prevalence indices). Fifth, I log-transform the prevalence and the proportion indices to create two more versions. I then standardize all six level indices. Thus, I have constructed eight different versions of sociocultural and economic indices from the sets of relevant concepts in folklore. The PCA proportion versions of economic indices fare best when tested for validity against the historic trade route data in the Old World and the eHRAF subsistence type classifications in the merged data of EA cultures, so I employ primarily these PCA proportion versions for the main analysis.

Appendix B. Regional fixed effects

In this appendix, I report the results of the regression analyses when regional fixed effects are included. For the folklore regressions, I include first continent fixed effects then country fixed effects. For the ethnographic regressions, I include first region fixed effects then subregion fixed effects. These categories come from Michalopoulos and Xue's folklore data and the eHRAF World Cultures data respectively. It is especially useful in the ethnographic analysis to employ regions rather than continents in the case of North America, where ethnographies exist for both Native

North Americans and non-Native North Americans. The coefficients represent the effects of economic systems on sociocultural characteristics, comparing groups within the same continent, country, region, or subregion.

B.1 Continent/region fixed effects

Table B1: Markets in folklore, distance to historic trade routes, and nighttime light density with continent/region fixed effects

	Folklore markets index		
	(1)	(2)	(3)
Log distance from trade route (600 AD)	−0.160***		
	(0.028)		
Log distance from trade route (1800 AD)		−0.146***	
		(0.042)	
Log nighttime light density (2008 AD)			0.087***
			(0.012)
Baseline controls	Yes	Yes	Yes
Continent/region FE	Yes	Yes	Yes
Observations	477	477	802
R2 Adj.	0.591	0.579	0.646

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. Observations in the Americas and Oceania are dropped for 1 and 2 since the trade route data is limited to the Old World. Observations located in the modern-day United States are dropped for 3 since the majority of the population is composed of colonizers (who are unrelated to those Berezkin groups). Standard errors clustered by language family. For the list of baseline controls, refer to Table 5.

Table B2: Economic indices and eHRAF subsistence types with continent/region fixed effects

	Capitalism	Markets		Agriculture		Pastoralism		Hunting/gathering	
	ethnography	folklore	ethnography	folklore	ethnography	folklore	ethnography	folklore	ethnography
Capitalism	1.251***		0.427**		0.318		−0.321***		−0.680***
	(0.389)		(0.175)		(0.273)		(0.114)		(0.086)
Agriculture	0.187*	0.177*	0.249**	0.353***	0.273**	−0.018	−0.245**	−0.155	−0.459***
	(0.104)	(0.105)	(0.098)	(0.114)	(0.115)	(0.086)	(0.109)	(0.099)	(0.068)
Pastoralism	−0.149	0.245	−0.050	0.131	−0.438***	0.286	2.499***	−0.425*	−0.459***
	(0.135)	(0.186)	(0.180)	(0.160)	(0.168)	(0.174)	(0.583)	(0.227)	(0.127)
Hunting/gathering	−0.059	−0.055	−0.263**	0.074	−0.605***	−0.058	−0.029	0.164	0.909***
	(0.101)	(0.113)	(0.128)	(0.137)	(0.113)	(0.121)	(0.110)	(0.118)	(0.169)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	343	221	343	221	343	221	343	221	343
R2 Adj.	0.359	0.627	0.168	0.545	0.290	0.566	0.458	0.219	0.471

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The independent variables are all indicator variables constructed from the eHRAF subsistence type classification. The dependent variables are all indices constructed from folklore and ethnographic data. Regressions with ethnographic dependent variables are estimated using the full ethnographic (eHRAF) sample. For the folklore regressions, the sample consists of the 221 cultures that appear in both ethnographic and folklore datasets. I have omitted the coefficient for capitalism from the folklore regressions because only three observations of commercial economies remain after merging the folklore and ethnographic data. For the list of baseline controls, refer to Table 5.

Table B3: Capitalism, markets, and ontologies of nature with continent/region fixed effects

	Folklore ecocentrism index				Ethnographic sacredness of nature index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					−0.099*	−0.478***	−0.073	−0.307***
					(0.054)	(0.096)	(0.052)	(0.105)
Markets	−0.114***	−0.177	−0.143***	−0.289**	−0.197***		−0.187***	
	(0.040)	(0.143)	(0.040)	(0.137)	(0.046)		(0.045)	
Agriculture	0.093***	0.045	0.076**	0.051	−0.017	−0.010	−0.006	−0.007
	(0.033)	(0.040)	(0.031)	(0.038)	(0.058)	(0.096)	(0.059)	(0.096)
Pastoralism	0.052	0.161***	0.034	0.161***	−0.102**	−0.439***	−0.110**	−0.487***
	(0.032)	(0.053)	(0.035)	(0.054)	(0.042)	(0.116)	(0.044)	(0.128)
Hunting/gathering	0.188***	0.258***	0.167***	0.227***	0.000	0.274	−0.005	0.276
	(0.031)	(0.035)	(0.031)	(0.034)	(0.050)	(0.177)	(0.050)	(0.175)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent/region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.744	0.766	0.760	0.765	0.129	0.097	0.129	0.112

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B4: Capitalism, markets, and anthropocentrism with continent/region fixed effects

	Folklore anthropocentrism index				Ethnographic anthropocentrism index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.253***	0.788***	0.234***	0.589***
					(0.083)	(0.172)	(0.083)	(0.186)
Markets	0.290***	0.245	0.144***	−0.171	0.027		0.011	
	(0.072)	(0.272)	(0.055)	(0.316)	(0.054)		(0.053)	
Agriculture	−0.048	0.073	−0.081*	0.072	−0.052	0.034	−0.046	0.006
	(0.052)	(0.062)	(0.045)	(0.055)	(0.057)	(0.106)	(0.056)	(0.104)
Pastoralism	0.073	0.192	−0.011	0.135	−0.076**	−0.255	−0.054	−0.225
	(0.046)	(0.126)	(0.037)	(0.106)	(0.033)	(0.156)	(0.033)	(0.157)
Hunting/gathering	0.128**	0.124*	0.046	−0.005	−0.083*	−0.264	−0.064	−0.253
	(0.051)	(0.065)	(0.043)	(0.054)	(0.046)	(0.218)	(0.045)	(0.218)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent/region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.228	0.265	0.330	0.341	0.221	0.200	0.226	0.210

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B5: Capitalism, markets, and prosociality with continent/region fixed effects

	Folklore prosociality index				Ethnographic prosociality index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					−0.103	−0.987*	−0.109	−1.120**
					(0.106)	(0.502)	(0.103)	(0.512)
Markets	0.077*	0.195	−0.030	−0.023	0.177**		0.165**	
	(0.046)	(0.130)	(0.038)	(0.165)	(0.081)		(0.083)	
Agriculture	0.000	0.009	−0.016	0.001	0.168*	−0.686*	0.187*	−0.700*
	(0.035)	(0.048)	(0.038)	(0.048)	(0.096)	(0.392)	(0.101)	(0.395)
Pastoralism	0.010	0.096	−0.043	0.051	0.037	−0.567*	0.046	−0.553*
	(0.059)	(0.071)	(0.046)	(0.055)	(0.040)	(0.325)	(0.041)	(0.333)
Hunting/gathering	0.116***	0.111***	0.058**	0.036	0.185**	−0.504	0.201**	−0.492
	(0.030)	(0.027)	(0.024)	(0.025)	(0.080)	(0.397)	(0.081)	(0.403)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent/region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.577	0.644	0.626	0.698	0.132	0.073	0.132	0.074

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B6: Capitalism, markets, and moral content with continent/region fixed effects

	Folklore moral content index				Ethnographic moral content index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.033	−0.127	0.066	−0.075
					(0.073)	(0.196)	(0.072)	(0.186)
Markets	0.196***	0.443***	0.132***	0.329***	−0.032		−0.015	
	(0.035)	(0.111)	(0.024)	(0.105)	(0.058)		(0.057)	
Agriculture	0.047**	0.012	0.052***	0.002	−0.034	0.286*	−0.043	0.266*
	(0.024)	(0.059)	(0.019)	(0.044)	(0.071)	(0.164)	(0.073)	(0.160)
Pastoralism	0.097***	0.074	0.061**	0.021	0.016	0.265	0.025	0.257
	(0.029)	(0.069)	(0.025)	(0.050)	(0.066)	(0.327)	(0.067)	(0.324)
Hunting/gathering	0.116***	0.156***	0.089***	0.122***	−0.147**	0.046	−0.155**	0.043
	(0.022)	(0.044)	(0.018)	(0.036)	(0.072)	(0.157)	(0.073)	(0.154)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent/region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.792	0.733	0.823	0.792	0.077	0.072	0.099	0.089

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B7: Capitalism, markets, and stratification with continent/region fixed effects

	Folklore stratification index				Ethnographic stratification index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.245***	0.686***	0.200**	0.451**
					(0.090)	(0.203)	(0.086)	(0.226)
Markets	0.164***	0.771***	0.094**	0.626***	0.118**		0.099*	
	(0.049)	(0.137)	(0.045)	(0.154)	(0.056)		(0.055)	
Agriculture	0.160***	0.027	0.145***	0.036	0.044	0.057	0.036	0.058
	(0.044)	(0.061)	(0.047)	(0.059)	(0.062)	(0.104)	(0.064)	(0.102)
Pastoralism	0.121***	−0.035	0.039	−0.063	−0.010	0.086	−0.004	0.147
	(0.044)	(0.089)	(0.038)	(0.072)	(0.038)	(0.230)	(0.040)	(0.226)
Hunting/gathering	−0.015	0.003	−0.046*	−0.022	−0.141***	−0.402***	−0.131***	−0.401***
	(0.029)	(0.045)	(0.025)	(0.035)	(0.050)	(0.096)	(0.050)	(0.092)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Continent/region FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.615	0.529	0.658	0.622	0.232	0.169	0.243	0.205

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

B.1 Country/subregion fixed effects

Table B8: Markets in folklore, distance to historic trade routes, and nighttime light density with country/subregion fixed effects

	Folklore markets index		
	(1)	(2)	(3)
Log distance from trade route (600 AD)	−0.196**		
	(0.082)		
Log distance from trade route (1800 AD)		−0.203***	
		(0.074)	
Log nighttime light density (2008 AD)			0.082***
			(0.023)
Baseline controls	Yes	Yes	Yes
Country/subregion FE	Yes	Yes	Yes
Observations	477	477	802
R2 Adj.	0.595	0.606	0.682

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. Observations in the Americas and Oceania are dropped for 1 and 2 since the trade route data is limited to the Old World. Observations located in the modern-day United States are dropped for 3 since the majority of the population is composed of colonizers (who are unrelated to those Berezkin groups). Standard errors clustered by language family. For the list of baseline controls, refer to Table 5.

Table B9: Economic indices and eHRAF subsistence types with country/subregion fixed effects

	Capitalism	Markets		Agriculture		Pastoralism		Hunting/gathering	
	ethnography	folklore	ethnography	folklore	ethnography	folklore	ethnography	folklore	ethnography
Capitalism	1.032***		0.442**		0.040		−0.404*		−0.438***
	(0.327)		(0.184)		(0.294)		(0.213)		(0.080)
Agriculture	0.203**	0.214	0.157	0.246***	0.291***	0.007	−0.201**	0.017	−0.366***
	(0.088)	(0.132)	(0.101)	(0.088)	(0.102)	(0.092)	(0.093)	(0.124)	(0.089)
Pastoralism	−0.162	0.090	0.001	0.076	−0.321*	0.238	2.367***	0.072	−0.412***
	(0.157)	(0.289)	(0.192)	(0.162)	(0.171)	(0.236)	(0.651)	(0.337)	(0.114)
Hunting/gathering	−0.154	−0.058	−0.296**	0.315***	−0.393***	0.023	−0.075	0.112	0.739***
	(0.100)	(0.125)	(0.126)	(0.106)	(0.117)	(0.124)	(0.090)	(0.143)	(0.212)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	343	221	343	221	343	221	343	221	343
R2 Adj.	0.356	0.652	0.275	0.620	0.383	0.599	0.478	0.273	0.584

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The independent variables are all indicator variables constructed from the eHRAF subsistence type classification. The dependent variables are all indices constructed from folklore and ethnographic data. Regressions with ethnographic dependent variables are estimated using the full ethnographic (eHRAF) sample. For the folklore regressions, the sample consists of the 221 cultures that appear in both ethnographic and folklore datasets. I have omitted the coefficient for capitalism from the folklore regressions because only three observations of commercial economies remain after merging the folklore and ethnographic data. For the list of baseline controls, refer to Table 5.

Table B10: Capitalism, markets, and ontologies of nature with country/subregion fixed effects

	Folklore ecocentrism index				Ethnographic sacredness of nature index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					−0.041	−0.702***	−0.013	−0.299
					(0.057)	(0.065)	(0.055)	(0.548)
Markets	−0.109**	−0.356***	−0.128***	−0.517***	−0.259***		−0.245***	
	(0.046)	(0.106)	(0.045)	(0.160)	(0.064)		(0.063)	
Agriculture	0.093**	0.095*	0.082**	0.108*	−0.044	−0.380*	−0.033	−0.165
	(0.038)	(0.052)	(0.037)	(0.055)	(0.062)	(0.218)	(0.063)	(0.559)
Pastoralism	0.087**	0.229***	0.068*	0.226***	−0.075**	−0.702***	−0.090**	−0.588
	(0.041)	(0.061)	(0.040)	(0.069)	(0.037)	(0.173)	(0.041)	(0.557)
Hunting/gathering	0.203***	0.291***	0.184***	0.260***	0.058	−0.145	0.059	0.073
	(0.033)	(0.034)	(0.033)	(0.039)	(0.065)	(0.247)	(0.065)	(0.582)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country/subregion FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.769	0.749	0.779	0.710	0.171	0.111	0.172	0.131

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B11: Capitalism, markets, and anthropocentrism with country/subregion fixed effects

	Folklore anthropocentrism index				Ethnographic anthropocentrism index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.272**	1.341**	0.245**	1.088*
					(0.122)	(0.539)	(0.120)	(0.567)
Markets	0.259***	−0.170	0.134**	−0.667	0.055		0.034	
	(0.066)	(0.602)	(0.059)	(0.673)	(0.069)		(0.068)	
Agriculture	−0.011	0.123	−0.041	0.134	−0.015	0.008	−0.005	−0.018
	(0.055)	(0.099)	(0.048)	(0.097)	(0.070)	(0.120)	(0.071)	(0.115)
Pastoralism	0.032	0.246	−0.054	0.174	−0.074*	−0.139	−0.040	−0.061
	(0.053)	(0.208)	(0.041)	(0.186)	(0.039)	(0.192)	(0.039)	(0.191)
Hunting/gathering	0.114**	0.189***	0.032	0.040	−0.121*	−0.400*	−0.101	−0.394*
	(0.045)	(0.064)	(0.041)	(0.067)	(0.064)	(0.212)	(0.062)	(0.212)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country/subregion FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.273	0.162	0.367	0.064	0.221	0.214	0.233	0.229

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B12: Capitalism, markets, and prosociality with country/subregion fixed effects

	Folklore prosociality index				Ethnographic prosociality index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					−0.111	−0.374	−0.108	−0.493
					(0.108)	(0.325)	(0.109)	(0.351)
Markets	0.071	0.248*	−0.018	0.100	0.172*		0.167*	
	(0.047)	(0.143)	(0.045)	(0.130)	(0.090)		(0.091)	
Agriculture	0.019	−0.016	0.004	−0.031	0.132	−0.058	0.160*	−0.072
	(0.039)	(0.057)	(0.042)	(0.051)	(0.087)	(0.101)	(0.091)	(0.102)
Pastoralism	0.018	0.123	−0.028	0.073	0.065	0.208	0.077*	0.219
	(0.060)	(0.077)	(0.049)	(0.057)	(0.040)	(0.228)	(0.041)	(0.233)
Hunting/gathering	0.116***	0.089*	0.062*	0.013	0.191*	0.076	0.211*	0.091
	(0.039)	(0.052)	(0.034)	(0.036)	(0.115)	(0.144)	(0.115)	(0.147)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country/subregion FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.583	0.654	0.625	0.713	0.109	0.066	0.109	0.063

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B13: Capitalism, markets, and moral content with country/subregion fixed effects

	Folklore moral content index				Ethnographic moral content index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.042	−0.348	0.073	−0.293
					(0.071)	(0.346)	(0.073)	(0.339)
Markets	0.161***	0.441***	0.106***	0.408***	−0.036		−0.018	
	(0.032)	(0.163)	(0.029)	(0.131)	(0.070)		(0.069)	
Agriculture	0.044	0.006	0.047*	−0.005	−0.031	0.204	−0.044	0.206
	(0.031)	(0.077)	(0.027)	(0.064)	(0.077)	(0.143)	(0.080)	(0.141)
Pastoralism	0.099***	0.072	0.080***	0.022	0.009	0.133	0.013	0.165
	(0.035)	(0.081)	(0.030)	(0.072)	(0.078)	(0.340)	(0.078)	(0.333)
Hunting/gathering	0.112***	0.155**	0.090***	0.119**	−0.116	−0.033	−0.116	−0.017
	(0.026)	(0.068)	(0.022)	(0.060)	(0.076)	(0.133)	(0.077)	(0.131)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country/subregion FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.818	0.747	0.842	0.781	0.055	0.058	0.080	0.079

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.

Table B14: Capitalism, markets, and stratification with country/subregion fixed effects

	Folklore stratification index				Ethnographic stratification index			
	OLS	IV (old world)	OLS	IV (old world)	index	subs. type	index	subs. type
Capitalism					0.172**	0.528***	0.135*	0.294
					(0.086)	(0.202)	(0.081)	(0.237)
Markets	0.106**	0.569***	0.045	0.365***	0.173**		0.151**	
	(0.050)	(0.115)	(0.054)	(0.113)	(0.068)		(0.068)	
Agriculture	0.128**	0.063	0.127***	0.088	0.052	0.187	0.052	0.168
	(0.050)	(0.081)	(0.047)	(0.070)	(0.065)	(0.122)	(0.071)	(0.118)
Pastoralism	0.150***	0.051	0.074	0.019	−0.016	0.091	0.000	0.158
	(0.052)	(0.081)	(0.047)	(0.067)	(0.045)	(0.273)	(0.050)	(0.275)
Hunting/gathering	−0.011	0.005	−0.033	−0.022	−0.139**	−0.417***	−0.136**	−0.439***
	(0.033)	(0.042)	(0.031)	(0.028)	(0.056)	(0.108)	(0.055)	(0.103)
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country/subregion FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Additional controls	No	No	Yes	Yes	No	No	Yes	Yes
Observations	943	477	943	477	344	343	344	343
R2 Adj.	0.636	0.620	0.674	0.714	0.279	0.231	0.288	0.259

Notes: * p < 0.1, ** p < 0.05, *** p < 0.01. The economic variables for the first four regressions are folklore indices; the economic variables for the next four regressions alternate between ethnographic indices and subsistence type indicators. For the IV regressions, log distance to Old World historic trade route is used as an instrument for the folklore market index, and all observations from the Americas and Oceania are dropped. Refer to Table 5 for the list of baseline and additional controls. In folklore regressions, standard errors clustered by language family.