Ethnographic and field data in historical economics[☆]

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Sara Lowes[a,b,c]
[a]UC San Diego, La Jolla, CA, United States
[b]NBER, Cambridge, MA, United States
[c]Canadian Institute for Advanced Research (CIFAR), Toronto, ON, Canada

6.1 Introduction

Research in historical economics naturally often relies on access to historical data. However, this has tended to limit the extent to which regions without much historical data can be studied. The result is that economic research focuses on areas for which there are good archival records, neglecting those areas for which there are limited data.

However, there has been a growing interest in alternative approaches to studying historical economics. These approaches include incorporating datasets compiled outside of economics and the collection of novel survey and experimental data. These approaches offer an opportunity to both increase the geographic coverage of research as well as the types of questions that can be answered. Often, these data sources and strategies focus on measuring various aspects of culture and preferences.

This article will first introduce various ethnographic data sources that can be used to study cultural traits. These datasets, generally compiled by anthropologists and historians, provide new potential sources of cultural and historical data for economic historians. They cover a diverse set of topics, from cultural practices, historic state formation, and religious beliefs. The relevance of these datasets for economists highlights the growing inter-disciplinary nature of research in historical economics and the links between economics and history, sociology, psychology, and evolutionary anthropology.

I will then review recent research using alternative data sources and strategies – such as original survey data collection within and across countries and lab-in-the-field experiments – to explore questions in historical economics. I describe existing cross-cultural data sets and how they have been used.

I will argue that lab-in-the-field experiments expand the types of questions that can be answered within economics. I describe how they are being used in a growing literature combining economic history with lab-in-the-field experiments. These papers build off of a deep lab experimental literature, and apply these methods and measurement strategies to new contexts and research questions. I distinguish between papers in which the experimental results are the key outcomes and those where the experimental results are used to understand persistence mechanisms. Finally, I will describe some of the practical challenges of administering lab-in-the-field experiments, particularly for work in historical economics.

6.2 Ethnographic data sources
6.2.1 Ethnographic Atlas, Standard Cross Cultural Survey, and Murdock map

There are several ethnographic data sources – data on the customs and cultures of particular groups – that economists frequently use. The most commonly used data sets are the Ethnographic Atlas (Murdock, 1957, 1967) and the related Standard Cross Cultural Survey (Murdock and White, 1969).
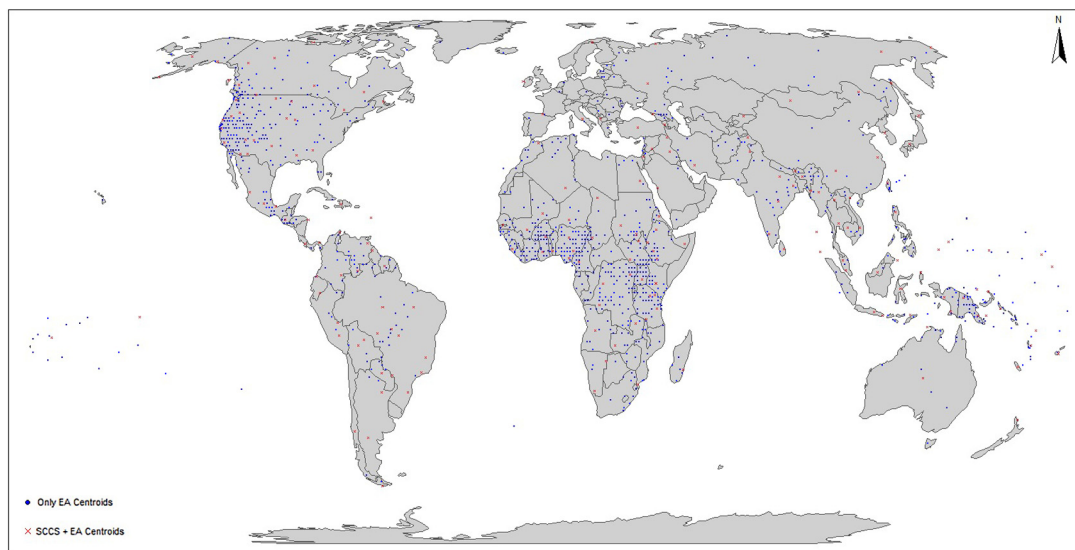
The Ethnographic Atlas (EA) is an ethnicity level database with pre-industrial characteristics on 1265 ethnic groups from around the world. The EA was compiled by Murdock (1967), based on his own reading and coding of available ethnographies. The EA bibliographies contain the information for the underlying ethnographies, as well as suggestions on which authors were deemed to be the authority on the particular subject.

The information in the database is meant to represent the earliest date for which there is reliable information; this means that the earliest observations are from the Old World. For places without many written records, the data in the EA are intended to reflect a society's characteristics prior to European contact; however, the observations were generally recorded by Europeans upon contact. The EA contains a rich variety of data on economic activities, political and social organization, and cultural practices. Examples of the variables present in the EA are: location (latitude and longitude); major subsistence activities (gathering, hunting, fishing, animal husbandry, agriculture); cultural practices (marriage payments, family organization, practice of polygyny); and political organization (jurisdictional levels, succession rules for local leaders, class structure). See Fig. 6.1 for the geographic distribution of societies included in the EA.

The Standard Cross Cultural Survey (SCCS) is a sample of 186 ethnic groups, chosen from cultural groupings in the EA (Murdock and White, 1969). Ethnic groups in the EA were classified into "independent" cultural clusters, and approximately one ethnic group per cluster was chosen to be included in the SCCS. Criteria for inclusion in the sample were either that the ethnic group had good ethnographic coverage or that it was particularly distinctive in some respect (Murdock and White, 2006). The goal was to both represent cultural variation but to also eliminate cases where similarities across groups were due to cultural diffusion or common origin (referred to as "Galton's problem").[1] While fewer groups are represented in the SCCS, there are over 2000 variables in the data set. The groups in red x's (gray in print version) in Fig. 6.1 are the subset of ethnic groups that are both in the EA and the SCCS.

For work on Africa, the EA is often paired with the Murdock ethnic group boundary map (Murdock, 1959), in which Murdock outlines the historical boundaries of ethnic groups as of the nineteenth century. There are 835 ethnic group boundaries in the Murdock map. In the EA, there are data on approximately 527 ethnic groups in Africa. However, there is not a perfect 1:1 matching between the EA and the Murdock map boundaries. First, not all ethnic groups represented on the Murdock map are present in the EA. Second, some groups present in the EA are not identified on the map. Third, ethnic group names can be spelled differently across the data sets. Finally, the geographic coordinates provided in the EA at times do not align with the boundaries of the ethnic group in the map. Because of these concordance difficulties, there are multiple strategies for matching across the EA and the Murdock map. Additionally, there are multiple approaches to interpolating the data for ethnic groups

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[1] Some anthropologists have objected to the attempt at identifying "independent" cultural groups. See Mace and Pagel (1994), who advocate for the construction of phylogenies to map patterns of cultural descent.

FIGURE 6.1

Societies in the Ethnographic Atlas and SCCS.

without an exact match (e.g. through cultural proximity, language groups, or geographic proximity). Fenske (2013) provides detailed information on matches between the EA and map for cases where there is not an exact name match. AfricaMap (2020) also provide a shapefile with a concordance between the Murdock map and data from the Ethnographic Atlas.

The EA has been used in many papers in economics. Perhaps one of the earliest uses is from Gennaioli and Rainer (2007), who examine the relationship between jurisdictional hierarchy – defined as the number of jurisdictional levels above the village level – and economic performance. The authors find a strong positive association between an ethnic group's precolonial centralization and education, health, and infrastructure today. Nunn (2008) and Nunn and Wantchekon (2011) also make use of the EA and Murdock boundaries. Nunn (2008) estimates the number of slaves exported during the slave trades by country. He finds that exposure to the slave trades is negatively associated with economic development. He then examines the effects of exposure to the slave trade on state development, finding a negative correlation between the slave trade and centralization. Subsequently, Nunn and Wantchekon (2011) use ethnicity level estimates of slave trade intensity to examine the effects of the slave trade on trust levels; they find that greater exposure to the slave trade leads to lower levels of trust in others.

Many subsequent papers use the EA data, SCCS data, or Murdock map boundary data, including: Alesina et al. (2013); Michalopoulos and Papaioannou (2013, 2014); Fenske (2014); Alsan (2015); Fenske (2015); Michalopoulos and Papaioannou (2016); Enke (2019). These papers explore a wide variety of questions on the long run development of Africa. See Table 6.1 for examples of papers in economics that use the EA, SCCS, Murdock boundaries, or Ancestral Characteristics data. See Bahrami-Rad et al. (2018) for published papers in anthropology that also use the EA.

Table 6.1 Examples of economics papers that use the EA, SCCS, Murdock map, Ethnologue or Ancestral Characteristics data.

Authors	Journal	Dataset	Explanatory variable	Outcome variable
Ahmed and Stasavage (2020)	American Political Science Review	SCCS	Agricultural Suitability	Council Governance
Akbari et al. (2019)	J. of Econ. Behavior & Organization	E, EA	In-Marriage vs Out-Marriage	Corruption
Alesina et al. (2011)	American Economic Review: P&P	E, EA, SCCS,	Plough Agriculture	Fertility
Alesina et al. (2013)	Quarterly Journal of Economics	E, EA, SCCS	Plough Agriculture	Gender Roles
Alesina et al. (2018)	PLoS ONE	E, EA	Plough Agriculture	Male-Female Sex Ratio
Alsan (2015)	American Economic Review	E, EA, M	TseTse Fly	Political Centralization, Population
Anderson (2007)	Journal of Economic Perspectives	EA	Class Stratification	Incidence of Dowries
Anderson (2018)	American Economic Review	M	Legal Origins	Female HIV Rates
Ashraf et al. (2020)	Journal of Political Economy	E, EA	Existence of Bride Price Practices	Female Education
Baker (2008)	Journal of Economic Growth	SCCS	Population, Technological Diffusion	Incidence of Agriculture
Baker and Miceli (2005)	J. of Econ. Behavior & Organization	SCCS	Population, Social Stratification	Inheritance
Becker (2019)	Mimeo	AC, E, EA	Pastoralism	Female Mobility, Infibulation
Becker et al. (2020)	American Economic Association P & P	E	Ancestral Migration Patterns	Economic Preferences
BenYishay et al. (2017)	Journal of Economic Dev.	E, EA, SCCS	Reef Density	Incidence of Martiliny
Botticini and Siow (2003)	American Economic Review	EA	Post-Marital Residence	Incidence of Dowries
Buggle (2020)	Journal of Economic Growth	AC, E, EA, M	Irrigation Agriculture	Collectivist Norms
Desmet et al. (2020)	Journal of Development Economics	AC, E, EA	Ethnolinguistic Diversity	Public Goods
Dippel (2014)	Econometrica	EA	Shared Governance	Income
Enke (2019)	Quarterly Journal of Economics	AC, E, EA	Kinship Tightness	In-group Loyalty, Norm Adherence
Fenske (2013)	The Economic Journal	EA, M	Suitability for Agriculture	Land Rights, Slavery, Polygyny
Fenske (2014)	J. of European Econ. Association	EA, M	Ecological Diversity	Pre-colonial Centralization
Fenske (2015)	Journal of Development Economics	EA, M	Gender Roles, Class Stratification	Polygamy
Gennaioli and Rainer (2007)	Journal of Economic Growth	EA, SCCS	Precolonial Centralization	Public Goods Provision
Giuliano and Nunn (2013)	American Economic Review P&P	EA	Historical Democratic Institutions	Modern Democratic Institutions
Giuliano and Nunn (forthcoming)	Review of Economic Studies	AC, E, EA	Intergenerational Enviro. Similarity	Cultural Persistence
Gomes (2020)	Journal of Economic Growth	E	Cultural Distance	Health
Lowes (2018a)	Mimeo	EA, M,	Lineage and Inheritance by Gender	Competition
Lowes (2018b)	Mimeo	EA, M	Lineage and Inheritance by Gender	Spousal Cooperation
Michalopoulos (2012)	American Economic Review	E	Geographic Land Endowments	Ethnolinguistic Diversity
Michalopoulos and Papaioannou (2013)	Econometrica	EA, M	Precolonial Centralization	Local Light Density
Michalopoulos and Papaioannou (2014)	Quarterly Journal of Economics	EA, M	Colonial Border Design	Night Lights
Michalopoulos and Papaioannou (2016)	American Economic Review	EA, M	Colonial Border Design	Political Violence, Income
Michalopoulos et al. (2019)	J. of European Econ. Association	EA, M	Historical Dependence on Agriculture	Income, Education
Mayshar et al. (2020)	Mimeo	EA, SCCS	Cereal Appropriability	Hierarchy
Moscona et al. (2020)	Econometrica	M	Segmentary Lineage	Conflict
Moscona et al. (2017)	American Economic Review P & P	M	Segmentary Lineage	Trust in Relatives vs. Non-Relatives
Nunn (2008)	Quarterly Journal of Economics	EA, M	Trans-Atlantic Slave Trade	Precolonial Centralization
Nunn and Wantchekon (2011)	American Economic Review	EA, M	Trans-Atlantic Slave Trade	Trust
Obikili (2016)	Economic History Review	EA, M	Trans-Atlantic Slave Trade	Number of Decision Making Entities
Schulz (2017)	Mimeo	AC, E, EA	Kinship Organization	Political Participation
Teso (2019)	J. of European Econ. Association	EA, M	Trans-Atlantic Slave Trade	Gender Norms
Corno et al. (2020)	Econometrica	EA	Bride Price vs Dowry	Early Marriage

AC is the Ancestral Characteristics database (Giuliano and Nunn, 2018). E is the Ethnologue (Gordon, 2009). EA is the Ethnographic Atlas (Murdock, 1957, 1967). M is the Murdock map (Murdock, 1959). SCCS is the Standard Cross Cultural Survey (Murdock and White, 1969).

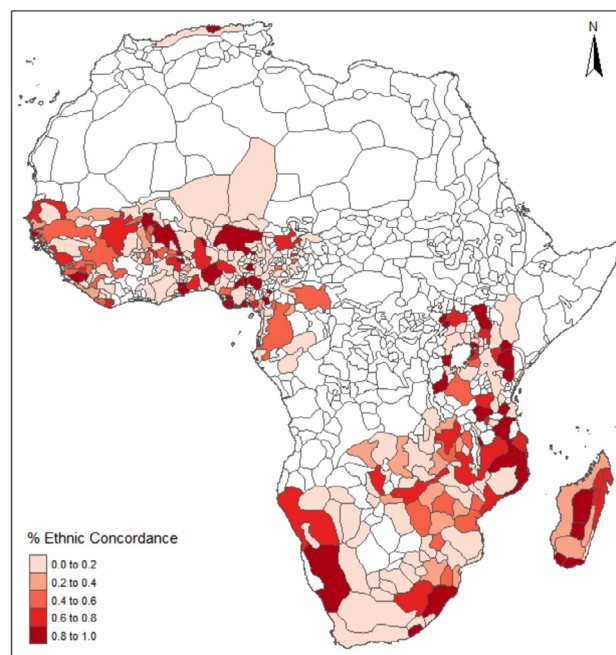### 6.2.2 Validation and extension of the Ethnographic Atlas

Despite the heavy reliance on the EA, there are several potential shortcomings of the data. First, ethnic groups are sampled at different time periods. The dates for which the data are recorded span a millennium. However, the majority of observations are from the 19th and 20th centuries. It is also difficult to ascertain the historical depth of the observed characteristics – for example, the EA does not speak to whether an ethnic group has always practiced matrilineal kinship or if it is a recent practice. Second, coverage in the EA is almost certainly non-random, perhaps due to availability of information, accessibility, and group prominence. This issue is perhaps more clear with the SCCS, in which the selected sub-sample of groups was chosen based on data availability. Third, the underlying data for the EA come from ethnographies; it can be challenging to codify this richer set of data systematically, and subtle distinctions across places can be lost. Finally, European groups are under-represented in the EA sample. Relatedly, the Murdock map boundaries, which are often taken as a given in many of the analyses presented above, are almost certainly noisy and over-simplified representations of reality. In practice, ethnic group boundaries overlap and shift over time.
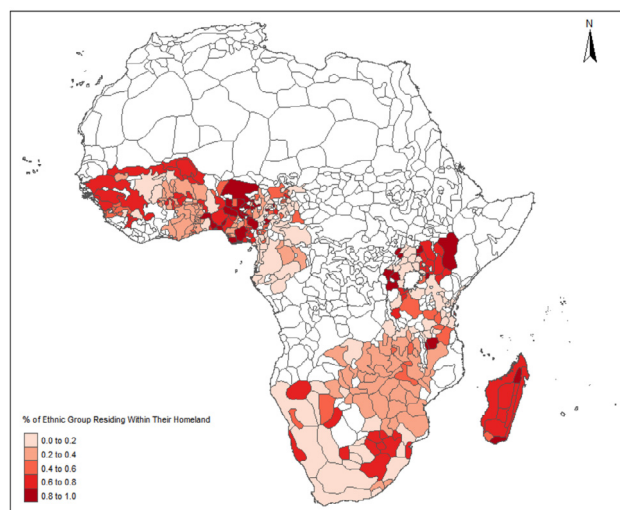
6.2.2.1 Validation of the Ethnographic Atlas

There have been several recent efforts to validate the data in the Ethnographic Atlas and build upon the data available in the EA. Bahrami-Rad et al. (2018) seek to validate the EA data against nationally representative contemporary data from the Demographic and Health Surveys (DHS) (ICF, 2020). The DHS data include individual level data for more than 790,000 individuals from 300 ethnic groups in 43 countries. The authors identify variables that can be matched across the EA (or SCCS) and the DHS – such as patrilocality, polygyny, reliance on animal husbandry, and breastfeeding duration. Reassuringly, across many dimensions, the authors find a positive and significant correlation between the historical characteristics and the present day data. Rijpma and Carmichael (2016) compare data in the EA on family structure with country level data from Todd (1985), who classifies practices related to endogamy, co-residence, and inheritance, and in general, they find concordance. However, the Todd data are much less granular since they are at the country level.

   Other validation efforts seek to examine the extent to which an individual's self-reported ethnicity coincides with the ethnic group homeland they are located in on the Murdock map. For example, Moscona et al. (2020) show that the share of individuals whose self-reported ethnicity in the Afrobarometer corresponds with the Murdock ethnic group homeland is substantially higher within the ethnic group homeland relative to an adjacent ethnic group homeland at the boundary border. This analysis is done on a sample of 80 ethnic groups for which a segmentary lineage society is adjacent to a non-segmentary lineage group.

   However, there appears to be substantial heterogeneity in the extent to which there is concordance between an individual's self-reported ethnic group and the ethnic group homeland they are located in. Fig. 6.2 presents data from Afrobarometer rounds 3 to 6. Ethnic group names were matched between the Murdock map and the Afrobarometer using the following steps. First, names were matched exactly between the two data sets. This resulted in a match rate of 42 percent. To increase the match rate, I digitized the index of the Murdock (1959), in which all the ethnic groups covered in the book are assigned cultural codes. Murdock assigns culturally proximate groups the same cultural code and also provides alternative names for the same group. The digitized index is then used to increase Afrobarometer and Murdock matches, as groups sharing the same code are then matched using the name that is on the Murdock map. This results in a match rate of 54 percent.

(a) Share of respondents with same ethnicity as Murdock homeland.

(b) Share of respondents of an ethnic group that are in their Murdock homeland.

FIGURE 6.2

Afrobarometer respondents and Murdock homeland. The figure uses data from Afrobarometer Rounds 3-6 (Afrobarometer Data, 2020) and the Murdock Index (Murdock, 1959). The ethnic group boundaries are the Murdock Map boundaries digitized from Murdock (1959).

For those ethnic groups for which it was possible to construct a match, Fig. 6.2a presents the share of respondents with a self-reported ethnicity that corresponds with the ethnic homeland where they are located. It is clear that there is substantial heterogeneity in the extent to which individuals randomly sampled for the Afrobarometer have an ethnicity that corresponds with the Murdock boundary where they are located. For example, in Southern Africa, only a small share of those sampled have a self-reported ethnicity that concords with the Murdock ethnic group boundary.

Fig. 6.2b undertakes a slightly different exercise. It presents the share of individuals with a self-reported ethnicity that are actually located in that ethnicity's homeland boundary. Again, there is quite a lot of variation in the mobility of groups. While some ethnic groups seem to be quite mobile, such that only a small percentage of individuals with that self-reported ethnicity live within their ethnic homeland, individuals from other groups are almost entirely located within their ethnic homeland boundaries. Thus, while the Murdock map boundaries do appear to be meaningful, there is also substantial variation in the diversity of some areas and the mobility of various groups.

6.2.2.2 Extensions of the Ethnographic Atlas

Giuliano and Nunn (2018) augment the data in the Ethnographic Atlas with several additional data sources. First, they use data from Korotayev et al. (2004), which has information on groups in Siberia and Bondarenko et al. (2005), which has data on groups in Eastern Europe. They also include data on European groups from Murdock (1957). Additionally, data from the Ethnologue: Languages of the World (Gordon, 2009) provide information on the current geographic distribution of over 7000 languages and dialects. Finally, Giuliano and Nunn include various geographic variables, such as climate, ruggedness, and distance to the coast. The ethnographic data are matched to the present day data on the distribution of language groups at the grid-cell level – effectively assuming that the transmission of ancestral traits is correlated with language. This comprehensive data set is described in detail in Giuliano and Nunn (2018). See Fig. 6.3 for the distribution of the cultural group boundaries in the Giuliano and Nunn (2018) data.
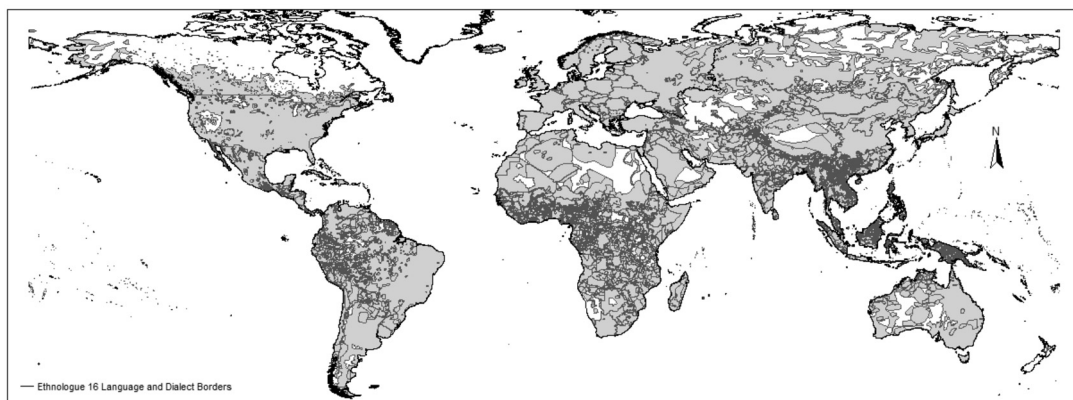

FIGURE 6.3

Ancestral characteristics of modern populations. This map is constructed using the shapefile provided by Giuliano and Nunn (2018).

There are other efforts to improve the quality, coverage, and historical depth of the data in the Ethnographic Atlas. This can be done by supplementing from other ethnographic data sources. One potentially rich data source for Africa is the Ethnographic Survey of Africa, a series of books edited by Daryll Forde and published by the International Africa Institute between 1950 and 1977 (and recently re-issued by Routledge). The series includes 50 books with detailed ethnographies on many groups (Forde, 2017). Often, this includes data outside of what is reported in the EA. For example, Moscona et al. (2020) use the books to code whether 145 ethnic groups have the practice of segmentary lineages, a form of kinship structure characterized by unilineal descent, a shared ancestor, and sub-units within the broader lineage. They use this newly coded data to test whether segmentary lineage systems increase conflict.

Lowes (2018b) uses detailed ethnographic data on the Democratic Republic of Congo from Vansina (1966). This allows her to digitize a more granular ethnic group boundary map for the DRC that may more accurately reflect ethnic group boundaries – as it allows for multiple groups to be present in one area and represents more granular cultural groups. She then assigns each group to matrilineal or patrilineal kinship status. Her resulting data has information on over 380 groups for DRC. She finds that matrilineal kinship structure undermines spousal cooperation but has benefits for investment in children and the well-being of women.

An alternative strategy for addressing the lack of historical depth for some of these traits is to construct measures that take into account changes over time. For example, Depetris-Chauvin (2016) examines how long-run exposure to statehood at a sub-national level affects conflict. To do this, he compiles a list of historical states, their boundaries, and their chronologies. This allows him to construct the fraction of years that a territory was exposed to a state-like institution between 1000 and 1850 CE. He finds that exposure to historical state-hood reduces conflict.

6.3 Additional data sources

6.3.1 Alternative culture and ethnographic data sets

There are many other cultural and ethnographic data sets that have yet to be widely used within economics. I briefly describe these various data sets, many of which are currently used in anthropology. Table 6.2 provides a summary of these data sources and the links to access them. Slingerland et al. (2020) describe the challenges associated with constructing and maintaining these types of cross-cultural databases. Some of the key challenges include how to choose a unit of analysis, appropriately coding data, managing uncertainty, and the sustainability of the databases.

6.3.1.1 Human relations area files

Human Relations Area Files (HRAF) are a collection of ethnographies that have been subject coded. While the original collection is in paper and microfiche, HRAF maintains two online databases: eHRAF World Cultures and eHRAF Archaeology. The eHRAF databases are online collections of ethnographic and archaeological texts that have been subject-indexed at the paragraph level. The indexing relies on the "Outline of Cultural Materials" – a classification system of social and cultural life developed by Murdock. The subject classification system has a hierarchical structure so that searches can be broadened or refined within a subject. The second index is the "Outline of World Cultures," also created by Murdock, which indexes cultures by region and country. It covers over 2500 cultures. All cultures

Table 6.2 Additional sources of cultural data.

Panel A: Culture databases

Name	URL	Subject	Overview
Database of Places, language, culture and environment (D-Place) (Kirby et al., 2016)	d-place.org	Culture, environment, language	Cultural, environment, linguistic, geographic for over 1400 societies.
Database of Religious History (DRH) (Slingerland and Sullivan, 2017)	religiondatabase.org	Religion	Approx. 400 entries for religious groups.
eHRAF World Cultures (eHRAF) (Ember, 2012)	ehrafworldcultures.yale.edu	Culture	Approx. 320 cultures; searchable subject indexed database.
eHRAF Archaeology (eHRAF) (Ember, 2012)	ehrafarchaeology.yale.edu	Culture	Approx. 100 archaeological traditions; searchable subject indexed database.
Ethnographic Survey of Africa (ESA) (Forde, 2017)	NA	Culture (Africa)	A series of 50 books on African ethnic groups and culture.
Pulotu: Database of Pacific Religious Beliefs and Practices (Pulotu) (Watts et al., 2015)	pulotu.shh.mpg.de	Religion (Austronesia)	Over 100 Austronesian cultures; 62 variables on religion, history, society, and the natural environment.
Seshat: Global History Databank (Seshat) (Turchin et al., forthcoming)	seshatdatabank.info	Culture	Historical political, economic and religious variables for 30 "natural geographic areas" around the world.

Panel B: Cross-national data

Name	URL	Subject	Overview
Cohn et al. (2019)	dataverse.harvard.edu/dataverse/honesty/	Honesty	Cross national experiment with wallets.
Global Preferences Survey (Falk et al., 2018)	briq-institute.org/global-preferences	Preferences	Cross national data set of 80,000 people from 76 countries with time and risk preferences, altruism, positive reciprocity, negative reciprocity, and trust.
Gachter and Schulz (2016)	https://datadryad.org/stash/dataset/https://doi.org/10.5061/dryad.9k358	Honesty	Die rolling experiment across 23 countries.
Values Survey Module (Hofstede, 1980)	geerthofstede.com	Cultural Values	Survey instrument for cross cultural value measurement. Country level values dataset.
Folklore (Michalopoulos and Xue, 2019) (Berezkin, 2015)	NA	Folklore motifs	Motifs from folklore for 1000 societies. Linked to EA.
newspapers.com (2020)	newspapers.com	Digitized newspapers	18,000 + newspapers from 1700s to 2000s.
Xu et al. (2020)	projectimplict.com	IATs	Materials for and data from IATs.

that are covered in the SCCS are also included in the eHRAF World Cultures database. Approximately 300 cultures are in the eHRAF World Cultures database (with new cultures added each year), covering nearly 600,000 pages of ethnographies. Topics covered include information on the economy, history, family and kinship, sociopolitical organization and religion. The eHRAF Archaeology data indexes archaeological traditions for over 100 societies. Data include culture name, region and sub region, subsistence type, and beginning and end dates.

Recent work using the eHRAF World Cultures database is Jackson et al. (2020) who examine the relationship between ecological threats and cultural tightness. The hypothesis is that ecological threats increase the need for coordination and cooperation. Societies that face these types of challenges will respond by creating "tighter" norms that more harshly punish deviant behavior. Using the eHRAF data, the authors find evidence that cultural tightness is associated with ecological threat.

6.3.1.2 Seshat: global history databank

Seshat is a database of human polities over time. It was established in 2011 and was compiled by scholars in the social sciences and humanities. The goal of the database is to systematically collect data on the social and political organization of societies and to document how they have changed over time. In particular, the database is intended to facilitate understanding the evolution of societies and the processes that generate cultural change. The Seshat data covers the time period between the Neolithic and Industrial Revolutions (approximately 4000 BCE to 1900 CE). The unit of analysis is a polity, which is defined as an independent political unit and can vary in scale from a village to a complex state. To construct a sample, the researchers divided the world into 10 regions. They define three "natural geographic areas" (NGA) within each region by identifying a polity that emerged early, a polity that emerged in an intermediate time period, and a polity that emerged relatively late. The resulting 30 NGAs serve as the initial sample, from which polities are tracked over time. The resulting database has over 1500 variables for 400 polities. The dataset includes variables on social complexity, warfare, religion, institutions, technology, and public goods provision. For more information on the dataset's construction, see Turchin et al. (forthcoming).

A recent paper that uses the Seshat data set is Whitehouse et al. (2019), who examine whether moralizing gods precede or follow the creation of complex societies. They argue that moralizing gods follow the creation of complex societies. This is in contrast to other theories that suggest moralizing gods help facilitate large scale cooperation and thus may promote complex societies (Norenzayan et al., 2016). However, Beheim et al. (2019) argue that data quality issues are driving these results. Missing data are treated as known absence of moralizing gods, representing 61 percent of the data in the analysis. The results reverse when this is recoded. Beheim et al. (2019) also suggest that the coding of Seshat data has some systematic inaccuracies and inadequate data quality management, highlighting the challenges of creating and maintaining these types of databases.

6.3.1.3 Database of religious history

The Database of Religious History (DRH) is a database that is intended to bring together the best scholarly opinions on historical religious traditions (Slingerland and Sullivan, 2017). The database includes qualitative and quantitative historical data that are contributed by field experts and are peer-reviewed. Unlike the SCCS or eHRAF, the unit of analysis is not a cultural group but a "religious group". The focus is on religious groups from the pre-modern period; the data are for groups up to 1700 CE, prior to Western colonialism. Religious scholars submit information on the attributes of these

various religious groups – such as beliefs and practices. The database relies on experts to synthesize their knowledge on a particular religious group and construct binary standardized data. Entries on religious groups are often accompanied with photos, manuscripts, and links to primary and secondary data sources. As of 2017, the DRH had 230 priority variables and 220 non-priority variables. There are approximately 400 entries. The selection of priority variables is driven by the observation that religions are associated with certain beliefs and practices and may extend pro-social behavior. Examples of variables include: presence of supernatural beings, size and structure of the religious group, scripture, presence of moral norms, and level of social complexity.

6.3.1.4 Others

I briefly describe several other cultural and ethnographic databases.

Pulotu: Database of Pacific Religions is a database of Austronesian supernatural beliefs and practices for 116 cultures. The data set includes 62 variables related to religion, history, society, and the natural environment. The data can be matched with Austronesian language phylogenies (Watts et al., 2015).

D-PLACE: Database of Places, Language, Culture and Environment (D-PLACE) is a database with information on geography, language, culture and environment for over 1400 human societies (Kirby et al., 2016). The data for D-PLACE combines data from the Ethnographic Atlas, the Binford Hunter-Gatherer dataset (Binford, 2001; Binford and Johnson, 2006), the Standard Cross Cultural Sample, and the Western North American Indians dataset (Jorgensen, 1980, 1999b,a). The Binford Hunter-Gather set describes cultural practices for 338 hunter-gather groups, a third of which are not included in the EA. The Western North American Indian dataset codifies cultural practices for 172 societies in Western North America, approximately 20 of which are not in the previous data sets.

The data are at the cultural group level at a given location and time. For each data point, D-PLACE includes reference to the original primary sources and comments regarding coding choices. D-PLACE links to eHRAF. D-PLACE also includes information on language affiliation, following the classifications of Glottolog (Hammarström et al., 2020). The data include a wide variety of environmental data: e.g. ecoregion, biome, elevation, slope, precipitation, and temperature.

6.3.2 Cross-national data

There has been increasing interest and ability to create cross-national data sets that measure cultural variation. Many of these efforts involve survey and experimental measures across cultures.

6.3.2.1 Hofstede's values survey module

The Values Survey Module (VSM) is a way to measure values across societies. The instrument was introduced in Hofstede (1980), where he proposes several key dimensions on which cultures vary: power distance, uncertainty avoidance, individualism versus collectivism, and masculinity versus femininity. Power distance is the extent to which less powerful individuals are willing to accept unequal power distributions. Uncertainty avoidance captures a willingness to tolerate uncertainty and ambiguity. Individualism versus collectivism is the extent to which individuals feel independent rather than being part of a collective whole. Masculinity is the extent to which emotional gender roles are distinct – in which men are supposed to be assertive and tough (Hofstede, 2013). Subsequent versions of the VSM measure additional attributes: long term orientation, the extent to which a culture is future oriented, and

indulgence, in which freedom rather than duty is valued. The survey instruments are publicly available and have been translated into many languages.

6.3.2.2 Global preferences survey

Falk et al. (2018) explore cultural variation by collecting survey data from 80,000 people across 76 countries. These countries represent approximately 90 percent of the world's population. The samples within each country are representative. The sample includes 15 countries in the Americas, 25 in Europe, 22 in Asia and the Pacific, and 15 in Africa. The median sample size per country was 1000 respondents. The survey includes questions to measure: time and risk preferences, altruism, positive reciprocity, negative reciprocity, and trust. While the survey questions are not incentivized, the survey modules were experimentally validated prior to the survey's administration. This minimizes the cost associated with collecting the data, as implementing experiments is expensive. The process of validation and the exact survey questions are described in detail in Falk et al. (2018). The authors then map the distribution of global preferences, how preferences vary by gender, age, and cognitive ability, examine geographic correlates, and show that the survey measures are correlated with relevant outcomes, such as savings.

6.3.2.3 Honesty

Gachter and Schulz (2016) explore the relationship between intrinsic honesty and a society level measure of "prevalence of rule violations" (PRV) based on 2003 country-level data on corruption, tax evasion, and fraudulent politics. Across 23 countries, they conduct a die rolling experiment with 2568 students as a measure of intrinsic honesty. In the die rolling experiment, individuals are asked to roll a six-sided die and to report the number they observe. Their payment is tied to the outcome of the die roll: if they roll a one they receive one money unit, a two they receive two money units etc. However, if they roll a six they receive nothing. In a fully honest society, the average money claimed would be 2.5; in a fully dishonest society it would be 5. They find that intrinsic honesty as measured in the die rolling task is higher in societies that have a lower PRV.

   Cohn et al. (2019) conduct an experiment to measure honesty in 355 cities across 40 countries. The authors "turned in" over 17,000 wallets to one of five types of societal institutions: banks, cultural establishments, post offices, hotels, or public offices. The authors experimentally varied whether the wallet contained money (approximately US $13.45). The key outcome was whether the recipient of the wallet contacted the owner, whose fictitious contact information was on a business card in the wallet. The first key outcome is that wallets are much more likely to be reported when they had money in them. Second, there is substantial variation across countries in the rates at which wallets are reported. In some countries more than 70 percent are reported (e.g. Denmark, Sweden) while in others less than 20 percent are reported (e.g. Kenya and Mexico). For a sub-sample of countries, the authors increase the amount of money in the wallet to $94.15. They find even higher rates of wallet reporting when there is more money in the wallet.

6.3.2.4 Folklore

Michalopoulos and Xue (2019) compile a folklore database based off of the life work of anthropologist Yuri Berezkin (Berezkin, 2015, 2016). The authors define folklore as "the collection of traditional beliefs, customs, myths, legends, and stories of a community". The database codes the spatial distribution of thousands of motifs – the unit of analysis in a tale or myth – across 1000 societies. The authors link the Berezkin database to the EA. They show that motifs are associated with the natural environment

and institutional setting. For example, groups with more earthquake related motifs live closer to earthquake areas. They also show that motifs are predictive of historical norms and how they are correlated with present day attitudes.

6.3.2.5 Names

Knudsen (2019) examines the relationship between emigration and individualism. Using emigration data from Scandinavia between 1850 and 1920, she first documents that those who are more individualistic are more likely to migrate. To overcome the challenge of measuring individualism, she constructs a measure based on the commonness of first names; those who chose more unique first names are considered more individualist. She validates this measure of individualism and collectivism against historical and present day data. She finds that as a result of this type of selective migration sending areas from Scandinavia are more collectivist. A similar strategy is employed in Bazzi et al. (2020), who examine the relationship between frontier culture and individualism in the US.

6.3.2.6 Implicit association tests

Implicit Association Tests (IATs) are intended to measure a subject's implicit attitude toward a subject, particularly those that a subject may be unable or unwilling to report. The idea is to measure the strength of an individual's association between various concepts (e.g. black people or women) and evaluations or stereotypes (e.g. good and bad). Individuals are shown words or stimuli related to the concept of interest and must sort those with the evaluation. The intuition is that if a subject has a stronger association between an object and an evaluation, then the subject will be able to more quickly sort the object and the evaluation together. For example, if an individual has a strong association between "women" and "the humanities", it will be easier to sort words related to women with words related to "the humanities" than with words related to "science".

Project Implicit is a non-profit organization that allows individuals to take IATs, administer their own IATs, and use the data from the IATs that have been administered on the website. Examples of the IATs available include: age IAT, Gender-Science IAT, Race IAT, Weapons IAT (Greenwald et al., n.d.; Nosek et al., 2007; Xu et al., 2020).

6.3.2.7 Newspapers

A potentially rich source of information on culture is newspapers.com, a digital archive of historical and present day newspapers (newspapers.com, 2020). It is one of the largest online newspaper archives, with more than 18,400 newspapers from the 1700s to the 2000s. It has digitized over 600 million pages of newspapers, for which it is possible to do keyword searches.

One example of how this data can be used comes from Ottinger and Winkler (2020), who examine the relationship between political threat and the use of anti-Black propaganda in the U.S. South following the 1892 presidential elections. To measure anti-Black propaganda, the authors develop an automated script that accesses the database and records keyword frequencies. Specifically, they proxy for anti-Black propaganda by searching for the presence of the words "rape" and "negro". The keyword frequencies can then be linked to data on the newspaper's location and the date of publication. They find that where Democrats faced more of a threat from the Populist Party there is an increase in anti-Black propaganda.

6.3.2.8 Public attitude surveys

Finally, there are several publicly available public attitude surveys that measure various cultural traits. These are periodic surveys conducted across many countries. Some of the key surveys are: the World Values Survey (WVS), Afrobarometer, AmericasBarometer, Arab Barometer, Eurobarometer, Latinobarometer, and Asian Barometer (World Values Survey Data, 2020; Afrobarometer Data, 2020; AmericasBarometer Data, 2020; Asian Barometer Data, 2020; Arab Barometer Data, 2020; Eurobarometer Data, 2020; Latinobarometer Data, 2020). The Pew Research Center also conducts surveys, particularly related to civic culture and religious beliefs (Pew Research Center, 2020). The associated websites for these organizations have detailed information on sampling, survey instruments, and available data.

6.4 Lab-in-the-field experiments

A complementary strategy to the use of pre-existing ethnographic and cultural data is the collection of new survey and experimental data. While this is still relatively infrequent – given the high costs of data collection – it is an important tool for examining mechanisms and outcomes in places with limited historical data.

6.4.1 What are lab-in-the-field experiments?

Lab-in-the-field experiments are lab experiments that are conducted in a "naturalistic" setting (Gneezy and Imas, 2017). Lab-in-the-field experiments may help address some of the key concerns with lab experiments. First, lab experiments are often conducted with populations of convenience, such as students. These populations may not be broadly representative, particularly given that most of these experiments are conducted with so-called "WEIRD" (Western, Educated, Industrialized, Rich and Democratic) populations.

Second, while lab experiments are often conducive to precise measurement because they are conducted in a highly controlled environment, the setting may be too abstract. Lab-in-the-field experiments may help address these issues by using validated lab experiments with relevant populations in a more naturalistic environment. Gneezy and Imas (2017) suggest that lab-in-the-field experiments be used as part of a randomized controlled trial (RCT) at baseline to test whether treatment depends on measured behavior or as an outcome of a RCT. See Gneezy and Imas (2017) for a detailed overview of the benefits of lab-in-the-field experiments, their relationship to RCTs, and a discussion of recent lab-in-the-field papers.

Common lab experiments are the dictator game, ultimatum game, public goods game (or voluntary contribution mechanism), measures to elicit time and risk preferences, random allocation game, cheating game, and joy of destruction game. Other measures include IATs, which measure an individual's implicit view towards a target object or person.

There is a growing interest in the use of lab experiments to complement work in historical economics. This is particularly appealing in settings with limited historical data. As of yet, there are few papers that combine lab-in-the-field work with historical economics. In historical economics, lab-in-the-field experiments are either used as outcomes or as a way of understanding mechanisms. In contrast,

Gneezy and Imas focus on lab-in-the-field experiments as a way of measuring social preferences or helping to design and target policies.

I will review the work in historical economics that makes use of lab-in-the-field experiments (see Table 6.3). The first set of papers are those that use the lab-in-the-field measures as the primary outcomes of interest, asking how a historical event or treatment shapes the experimental outcome. The second set of papers use the experimental measures as a way of understanding cultural or institutional mechanisms.

6.4.2 Lab-in-the-field experiments as outcomes
6.4.2.1 States, institutions, and colonialism
Lowes et al. (2017) examine the effects of the historical Kuba state on present day norms of rule following. The Kuba Kingdom was a historical Kingdom in Central Africa, what is today the Democratic Republic of Congo. The Kuba Kingdom had well developed state institutions, including an unwritten constitution, a capital city, separation of powers, a judiciary, a police force, and the provision of public goods. The Kingdom was created by an innovative outsider, who united multiple groups, including the Kuba, on one side of a river, but left other culturally similar groups, primarily the Lele, outside of the Kingdom on the other side of the river. This provides a natural experiment in which groups that had a similar history and culture were differentially exposed to the state.

The authors were interested in understanding how exposure to the state affects norms of rule following. However, there was no pre-existing data would have allowed them to answer this question. Therefore, the authors went to Kananga, the major city closest to the Kuba Kingdom's capital, Mushenge. In Kananga, they sampled individuals from the Kuba and Lele ethnic groups, as well as other culturally proximate groups in the region.

Respondents participated in a series of lab experiments intended to measure an individual's propensity to follow rules. The primary experiment was the Resource Allocation Game (RAG). In this task, individuals are given thirty 100 CF bills to allocate between themselves and another player. They are told that in order to allocate the bills, they must roll a die that has three white sides and three black sides. Before each roll, they decide in their heads which color to associate with themselves and which color to associate with the other player. They then roll the die, and make the allocation of the 100 CF bill based on the outcome of the die roll. However, given that the association made by the individual is not observable to the researcher, the respondent can choose to deviate from the rules and allocate to themselves if they wish. While this is not verifiable at the individual level, it is possible to assess whether on average groups deviate from the fifty-fifty split that should result from members of a group following the rules. Participants made allocation decisions with real money in the privacy of a tent. Instructions were administered in the local languages. See Fig. 6.4 for a depiction of the "mobile lab" set up and of enumerator training.

By comparing individuals from just inside the Kuba Kingdom to those just outside the Kuba Kingdom, the paper finds that Kuba individuals are less likely to follow the rules in the RAG, which is interpreted as less strong norms of rule following among the Kuba. This result is consistent with models in which strong states crowd out parental investment in the norm of rule following. They find that Kuba parents are also more likely to report that it is less important to teach values related to rule following to children.

Table 6.3 Historical economics and lab-in-the-field.

Authors	Journal	Location	Treatment	Experiments	Outcome variable
Bergeron (2020)	Mimeo	DRC	Missionaries	Referral Task	Kinship ties, universal morality
Blouin (2019)	Mimeo	Rwanda, Burundi	Forced Labor	TG	Trust, Contracts
Chaudhary et al. (2020)	J. of Econ. Behavior & Organization	India	British/Princely State	PG	Cooperation
De Juan and Koos (2019)	World Development	DRC	Bushi Kingdom	DG	Cooperation
Gangadharan et al. (2018)	Mimeo	Cambodia	Genocide	JOD, DG, honesty, TG, Risk	Pro-social
Gneezy et al. (2009)	Econometrica	India & Tanzania	Matrilineal Kinship	Competition Task	competitiveness
Heldring (forthcoming)	Review of Economic Studies	Rwanda	Nyiginya kingdom	RAG	Violence, Obedience
Hruschka et al. (2014)	Human Nature	Various	Pathogen Stress Material Security	RAG	Favoring In-group
Karaja and Rubin (2017)	Mimeo	Romania	Habsburg/Ottoman institutions	TG	Trust
Lowes (2018b)	Mimeo	DRC	Matrilineal kinship	DG, UG, PG, IAT Risk, Time, Stress	Cooperation, Health, Education
Lowes and Montero (2020)	Mimeo	DRC	Rubber Concessions	DG, RDG	Development, Pro-social
Lowes et al. (2017)	Econometrica	DRC	Kuba Kingdom	RAG, UG, IAT	Rule Following
Ramos-Toro (2019)	Mimeo	Colombia	Leper colony	DG	Pro-social, Trust
Rustagi (2020)	Mimeo	Switzerland	Institutions	PG	Cooperation
Schulz et al. (2019)	Science	Global	Medieval Church	PG	Individualism, Conformity, Impartial Pro-sociality
Valencia Caicedo and Voth (2018)	Mimeo	Paraguay	Missionaries	LOC, Cheating game, DG, TG, Risk	Non-cognitive Skills
Walker (2020)	J. Comparative Economics	Romania	Habsburg/Ottoman institutions	Risk, Time	Pro-social, Trust

DG is the dictator game. IAT is the implicit association test. JOD is the joy of destruction game. LOC is locus of control. PG is the public goods game. RAG is the resource allocation game. TG is the trust game.

(a) Enumerator Training

(b) Experimental Setup

FIGURE 6.4

Lab-in-field training and enumeration. These images depict an example of enumerator training and the experimental set up for administering lab-in-the-field in DRC.

In addition to experimental data, the authors collected other complementary data. For example, the respondents completed IATs to measure their implicit association towards Joseph Mobutu Sese-Seko, the president of DRC from 1965 to 1997. The concern was that perhaps the effect observed in the lab experiment was driven by differential treatment of the Kuba during Mobutu's rule. However, it is difficult to measure exposure to Mobutu's policies. The IAT thus served as proxy for the experience under Mobutu. See Fig. 6.5 for an example of an IAT screenshot.
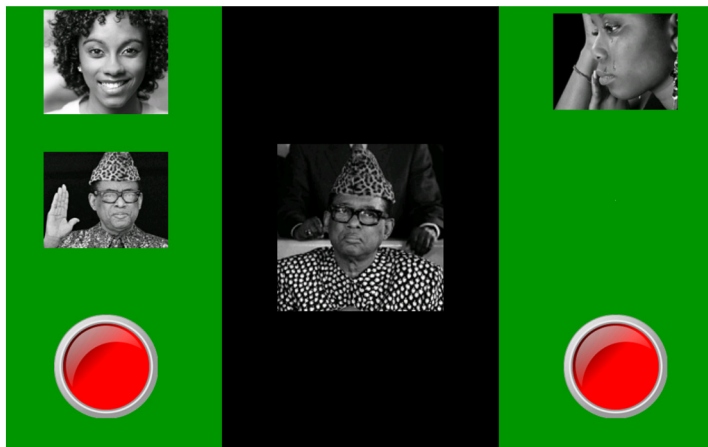

FIGURE 6.5

Screenshot of Mobutu IAT. This is a screenshot of the Mobutu IAT in which images related to Mobutu would be sorted to the left side of the screen along with "happy" images.

A related paper, De Juan and Koos (2019), explores how the pre-colonial Bushi state in Eastern Congo shapes cooperation. The Bushi Kingdom emphasized social integration and the creation of broad horizontal networks. The authors collect survey and experimental data from 1000 participants across 100 villages near the historical Bushi Kingdom border. Their primary outcome is participation in community works programs as reported by respondents. They find that individuals from villages from inside the Bushi Kingdom report participating more in these community work programs. As a behavioral measure, the authors give the respondents the opportunity to donate part of the compensation they receive for participating in the survey to an education program. They find that individuals from inside the former kingdom are more likely donate, which they interpret as evidence of more pro-social behavior.

Rustagi (2020) also examines the role of institutions for cooperation. He focuses on Switzerland, where during the middle ages some Swiss municipalities acquired self-governance while others remained under feudalism for an additional 600 years. He combines survey and experimental data to examine how historical self-governance affects cooperation. He conducts an online one-shot anonymous public goods game with 262 individuals from 174 municipalities. The experimental results suggest greater experience with self-governance increases conditional cooperation – e.g. willingness to increase public goods contributions as the other player increases their contribution. He finds a sim-

ilar increase in cooperative attitudes in World Values Survey data and data from the Swiss Household Panel.

Blouin (2019) explores how historical forced labor shapes ethnic relations in Rwanda and Burundi. During the colonial era, Belgian authorities implemented a coffee production quota. Additionally, the Belgians encouraged Tutsi chiefs to coerce Hutu farmers to produce coffee to meet the quota. Given that there was variation in coffee suitability but the quota was uniform there is variation in the extent to which meeting the quota would benefit from forced labor.

To examine the legacy of forced labor for inter-ethnic relations, he collects lab-in-the-field data with Hutu and Tutsi farmers in Rwanda and Burundi. Given that Rwanda prohibits explicit mention of ethnic affiliation, ethnic identity is inferred through eligibility for the genocide survivor fund (which is understood to mean Tutsi). He conducts in-person trust games with 869 farmers from 143 different villages. In the trust game, a player 1 is given an endowment. They can send part of that endowment to a player 2; any amount sent to the player 2 is doubled. Player 2 can then choose to return some of that increased amount to the player 1. Generally, the amount sent by player 1 to player 2 is interpreted as a measure of trusting behavior and the share returned by player 2 to player 1 as a measure of trustworthiness. Additionally, he conducts a "partner selection task", in which individuals can choose other participants in the session as their partner. The outcome of interest is the share of those chosen that are from the other ethnic group. Finally, he collects data on real world agricultural insurance contracts – as a measure of real world cooperation. Hutu from areas that experienced forced labor send less in the trust game when paired with a Tutsi, are less likely to choose a Tutsi partner, and make fewer agricultural agreements. The results suggest that the Belgian policy of manipulating social identity has had long run effects on inter-ethnic relations.

Chaudhary et al. (2020) examine how exposure to British colonialism relative to Princely States in India affects present day norms of cooperation. The hypothesis is that the institutions of British India may have affected cooperative norms because these individuals were exposed to taxation and had a longer history of living with outsiders relative to individuals in Princely States. The authors conduct public goods games with 554 individuals from three towns, one of which was formerly part of British India. They also vary the identity of the other members of the group in the public goods game; in some cases groups are mixed and include individuals from another town, in other cases other players are from the same town. They find that relative to a neighboring town in a Princely State, individuals from the town that was part of British India cooperate more with others, regardless of the other players' identities. The results are driven by individuals whose parents are from the town.

In a related paper, Karaja and Rubin (2017) compare towns that are along the former Habsburg/Austrian and Ottoman/Russian border in Romania. The Habsburg administration was relatively less corrupt and more efficient than the Ottoman administration. The authors hypothesize that the more rapacious Ottoman institutions may have undermined trust, particularly in outsiders. They take advantage of a natural experiment because the border between the Ottomans and Habsburgs was somewhat arbitrary. They conduct trust games with individuals in three towns along this historical border. They find that individuals from the former Habsburg side whose grandparents are from the town are more trusting of outsiders – i.e. they send more in the first stage of the trust game.

6.4.2.2 Environment

Hruschka et al. (2014) examine how pathogen stress affects willingness to favor an in-group member. The hypothesis is that greater pathogen stress leads individuals to be more likely to favor in-group

members. To test this, they administer lab-in-the-field experiments across eight different societies with 223 individuals. The experiment is the Resource Allocation Game (RAG), described above. In one version the allocations are made between an in-group and out-group member; in a second version the individual allocated between themselves and an anonymous out-group member. They find no evidence for the pathogen stress hypothesis. Rather, individuals are more likely to follow the impartial allocation rule when there is better institutional quality and material security.

6.4.2.3 The Church and missionaries

Schulz et al. (2019) explore how the Western Church (which became the Roman Catholic Church) shaped European kinship structures. The authors hypothesize that by undermining kin-based institutions (e.g. by banning cousin marriage), the Western Church encouraged the development of independent nuclear (or stem) families. This in turn led to social norms less dominated by in-group loyalty and conformism and to greater individualism and impersonal cooperation. To test this hypothesis, the authors compile a wide variety of surveys and lab experiments to measure their outcomes of interest: individualism, conformity, and impersonal pro-sociality. Some of the key lab experimental measures are a public goods games and a die rolling task, for which payments are linked to the reported outcome of the die roll as a measure of honesty. They find that greater exposure to the Western Church is associated with less intensive kinship, greater individualism, less conformity, and more fairness towards strangers.

Building on work that finds that the Guarani Jesuit missionaries have had a long-run impact on education and income in Argentina, Brazil, and Paraguay (Valencia Caicedo, 2019), Valencia Caicedo and Voth (2018) use a series of lab-in-the-field experiments and surveys to measure the effects of the Jesuit missionaries on non-cognitive skills. They collect data from approximately 500 individuals in Paraguay from areas with low and high presence of missionaries to examine the effect of missionary presence. They implement the Rotter Locus of Control Scale, which is a series of questions intended to measure the extent to which individuals feel that they have agency in their lives. They also conducted the dictator game, trust game, a cheating game (as in Hanna and Wang (2017); Lowes et al. (2017)) and implemented questions measuring time and risk preferences. They find that areas with greater exposure to the missionaries report having more of an internal locus of control, allocate more to the other player in a dictator game, return more money in the trust game to the other player, cheat less in the rule following game, and are more risk averse.

Related work explores how exposure to missionaries in the Democratic Republic of Congo is associated with the scope of cooperation (Bergeron, 2020). The paper examines the extent to which exposure to missionaries increases cooperation beyond kin (i.e. family members or co-ethnics) and whether individuals have more universal moral systems. To examine this question, he digitizes historical maps of missionary presence in the DRC and collects survey and lab-in-the-field data with 1000 individuals presently residing in the city of Kananga. He measures exposure to missionaries based on the distance of an individual's village of origin to the nearest mission station. He measures kin preference with a series of survey questions and with a lab experiment. The survey questions elicit attitudes toward various other groups including nuclear family members, extended family, coethnics, non-coethnics, foreigners etc. As part of the survey, participants are asked to refer social network members for paid and unpaid activities. This allows him to examine whether respondents are more likely to recommend kin relative to non-kin for the paid tasks. He finds that exposure to missionaries is associ-

ated with weaker kin ties and individuals are less likely to refer kin in the lab experiment. The survey responses are consistent with missionary exposure encouraging more universal moral values.

6.4.2.4 Social exclusion and violence

Ramos-Toro (2019) examines how social exclusion impacts social preferences. The setting is a former leper colony in Colombia. Historically, individuals with leprosy were forcibly isolated at specific locations, as the disease was mistakenly believed to be highly contagious. Treatment in the leper colony was characterized by isolation from family and friends and loss of citizenship. These policies were enforced by the colony physicians. By the 20th century, approximately 8000 lepers were living in the Agua de Dios colony. The author collects data from individuals living in and around Agua de Dios. Individuals participated in two dictator games, one in which the other player is from the same municipality (i.e. an in-group member) and one in which the other player is from a different municipality (an out-group member). He finds that individuals living in the former leper colony are more generous in the dictator game. However, they also demonstrate a larger in-group preference, suggesting greater identity awareness. He also collects data on how social exclusion affects views towards modern medicine. He finds that individuals from Agua de Dios are less likely trust physicians and less likely to believe the HPV vaccine is safe. This translates into lower infant vaccination rates.

To examine the transmission of these social preferences, he collects data to measure how aware individuals are of the history of exclusion. Additionally, he experimentally manipulates knowledge of the non-medical history of exclusion or the history of the role of medicine and physicians. The history of exclusion information increases in-group preferences and the medical history information decreases trust in modern medicine. A placebo treatment with information on trees has no significant effect. The results suggest long lasting effects of social exclusion on preferences, that this experience shapes views of the group that is associated with implementing the exclusion, and that knowledge of this history is an important transmission mechanism.

A large literature documents the effects of exposure to violence on pro-social preferences, suggesting that exposure to violence may actually increase pro-social preferences (see Bauer et al. (2016) for a review of this literature). However, few papers examine the long-run impact of exposure to violence. Gangadharan et al. (2018) examine the effect of exposure to the Cambodian genocide on anti-social behavior. During the Cambodian genocide an estimated 1.7 million Cambodians were killed by the Khmer Rouge. Most individuals that survived the Khmer Rouge rule were either directly affected by this violence or witnessed violence. The authors use variation in intensity of estimated deaths to measure exposure to violence. They collect data from 492 individuals across districts with estimated differential exposure to Khmer Rouge violence. They find that those directly exposed to Khmer Rouge violence in areas with a greater Khmer Rouge mortality rate are less altruistic, are more likely to destroy another player's endowment, and are more dishonest than those from areas with less exposure.

6.4.2.5 Kinship structure

In matrilineal societies, lineage is traced through female members rather than male members. This may have implications for a wide variety of social preferences. Gneezy et al. (2009) explore the effects of matrilineal relative to patrilineal kinship structure on preference for competition. Using a task where individuals can choose whether to compete or be paid in a piece-rate scheme, they find that there is a gap between men and women's preference for competition among a patrilineal group in Tanzania, where men compete more. However, among a matrilineal group in India, there is no longer a gap in

preference for competition. Subsequent papers have built on this work, but test this hypothesis with more groups (Anderson et al., 2013; Flory et al., 2017). Other work examines how various other preferences vary between matrilineal and patrilineal groups, including altruism and risk preferences (Gong and Yang, 2012; Gong et al., 2015; Lowes, 2018a). See Lowes (2020) for a review of this literature.

6.4.3 Lab-in-the-field experiments as mechanisms

Lowes and Montero (2020) examine how private concessions granted during the colonial era affect present day development in the DRC. The Congo Free State, which was the personal colony of King Leopold II of Belgium between 1892 and 1908, was divided into concessions where private companies were given monopoly rights over resource extraction. The most infamous of these concessions, Abir and Anversoise, focused on the extraction of rubber (see Fig. 6.6 for a map of concession granted in the CFS). The concession companies used extreme violence to force villages to meet rubber quotas and indirect rule – coopting local leaders – to enforce the rubber quotas. They examine the effects of exposure to these concessions using the arbitrarily defined borders of the two northern most concessions and a geographic regression discontinuity design. Using data from the Demographic and Health Surveys for DRC, they find that exposure to these concessions is associated with worse development outcomes: lower levels of education, health, and wealth.

FIGURE 6.6

Congo free state concessions. This is a map of the concessions granted in the CFS as of 1904. Abir and Anversoise are the two Northern concessions.

To understand mechanisms, they collected survey and experimental data from Gemena, a town along the boundary of one of the former concessions. They collect data on the role of culture and institutions for shaping present day development outcomes. They sample over 500 individuals from Gemena, whose ancestors come from in and outside the former concession boundary. They collect survey data on local institutional quality, how chiefs are chosen, public goods provision, and trust and closeness in a wide variety of others. They also conduct two lab-in-the-field experiments including a dictator game and a reverse dictator game. In the reverse dictator game individuals decide how much of another individual's earned endowment to allocate to themselves. They also complete the earnings task, once they have already made the allocation decision. This is meant to capture the extent an individual is willing to redistribute for themselves and tax another's earned income.

They find two key sets of results. First, individuals with ancestors from inside the former concessions come from villages with less accountable leaders. These leaders are less likely to be elected and more likely to be hereditary. They also provide fewer public goods. This suggests that local institutions inside the former concessions are of lower quality. Second, they find evidence of more pro-social norms and more acceptance of sharing and redistribution. Individuals from the former concessions report feeling more trusting of and close to others. They self-report believing sharing and redistribution are important, and also reallocate more of another's earned endowment to themselves. They find no significant differences in allocations in the dictator game, which is a measure of altruism. They interpret these results as consistent with the concession system undermining local institutions and with social norms responding to the weakened institutions.

Heldring (forthcoming) examines how exposure to the precolonial state affects violence and norms of rule following in Rwanda. The hypothesis is that states inculcate norms of rule following and that greater exposure to the state will lead to more obedience to state policy. To test this hypothesis, he leverages the slow expansion of the precolonial Rwandan state – the Nyiginya kingdom – which expanded over several centuries. He combines data on length of exposure to the precolonial state with data on violence perpetrated during the genocide and with lab-in-the-field data. He finds that greater exposure to the Nyiginya kingdom is associated with more violence during the genocide. To provide evidence on mechanisms, he conducts a lab-in-the-field experiment with individuals from areas with differential exposure to the historical state. He implements the RAG (as in Lowes et al. (2017)). He finds that those individuals from areas with longer exposure to the pre-colonial state are more likely to follow the rules – i.e. to not cheat for material gain – than those with less exposure. He interprets this as evidence that the historical state inculcates norms of obedience, which also led to greater violence during the genocide as individuals followed orders to participate in the killings.

Lowes (2018b) examines how kinship structure affects outcomes for women and children and spousal cooperation. The DRC is intersected by the so-called matrilineal belt, which describes the distribution of matrilineal ethnic groups across the center of Africa. See Fig. 6.7 for a map of matrilineal groups in Africa. In matrilineal systems lineage and inheritance are traced through female group members rather than through male group members. This means that children are part of their mother's kin group and that women in matrilineal systems generally have greater support from their kin. Anthropologists had hypothesized that matrilineal systems may improve outcomes for women, but that women's empowerment may also lead to decreased spousal cooperation. Using data from the DHS and a geographic regression discontinuity design along the matrilineal belt border, she finds that women from matrilineal areas are less likely to support domestic violence and less likely to experience domes-

tic violence. Children of matrilineal women also fare better; they are more educated and healthier, with many of these benefits accruing to girl children.
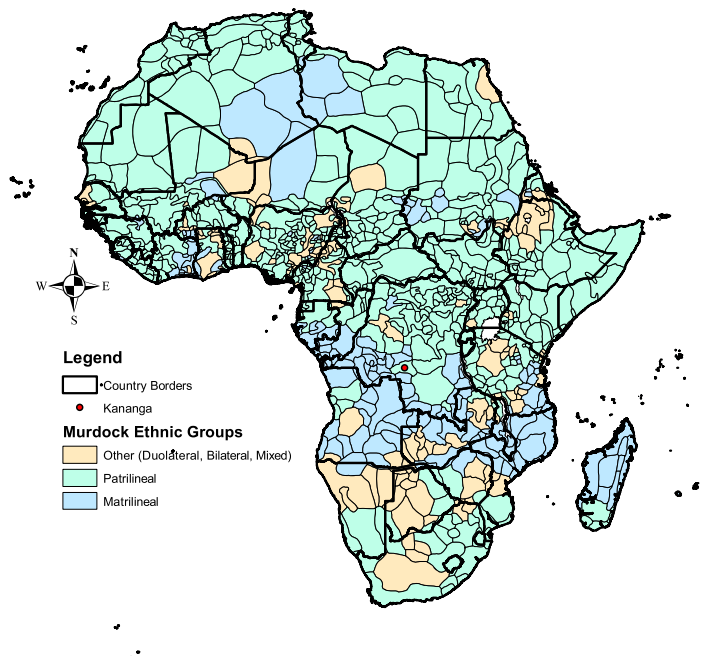

FIGURE 6.7

Matrilineal belt in Africa.

To examine mechanisms she collected survey and experimental data from 320 couples in the city of Kananga. About 40 percent of the sample are from ethnic groups that practice matrilineal kinship. While the individuals have villages of origin along the matrilineal belt, they are all presently located in the same institutional environment. The individuals in the sample complete a dictator game, an ultimatum game, and a modified public goods game with their spouse and with a stranger of the opposite sex. In the public goods game, individuals roll a die with three white sides and three black sides. If they see a black side, they get an additional 500 CF to their public goods game endowment of 1000 CF. They are then asked to allocate their endowment across an envelope for themselves and a "shared" envelope. Any contributions to the shared envelope are increased by 1.5 or by 2. For a household to maximize earnings in the experiment, each individual should contribute all of their endowment to the shared envelope. In practice, couples rarely allocate more than half of their endowment to the shared envelope. Matrilineal individuals allocate even less than patrilineal individuals to the shared envelope. This is particularly the case when they win the unobserved bonus and it becomes relatively easier to be less cooperative with the spouse. This differential behavior of matrilineal individuals is specific to being paired with a spouse; matrilineal individuals no longer differentially contribute less when they win the bonus and are paired with a stranger of the opposite sex. The results are robust to controlling

for altruism, as measured in the dictator game. The results are consistent with matrilineal kinship undermining spousal cooperation. However, by being less cooperative, women may retain more control over their earnings in the experiment.

Walker (2020) exploits the former Habsburg-Ottoman boundary discontinuity to explore how these imperial legacies shape savings behavior. The Habsburg Monarchy was more financially developed and more decentralized relative to the Ottomans. The Habsburg legal institutions were also known to be relatively less corrupt. She collects experimental and survey data with 331 semi-subsistence farmers along the former border. She measures risk preferences with choices between lotteries and time preferences by asking individuals to choose between smaller amounts in a near period and larger amounts in a later period. All of these experiments were incentivized. Using survey data, she finds that individuals from the former Habsburg side save more. However, she finds no evidence that this is driven by time or risk preferences. Instead, financial access seems to drive the results, with individuals on the former Habsburg side have greater access to financial institutions.

6.4.4 Practical issues

Implementing lab-in-the-field experiments presents a wide variety of practical challenges. While not all of these challenges are specific to lab-in-the-field experiments in historical economics, some of these challenges become particularly important when dealing with historical treatments. I highlight a few of these challenges and potential solutions.

There are several potential challenges with sample selection. Sample selection will likely take place in two parts. First, it will be important to choose a location or locations from which to collect data. Second, individuals must be recruited to participate in the study.

Choosing a location from which to collect data will likely be driven by the historical episode of interest and the identification strategy. For example, in Lowes et al. (2017), where they are interested in how the Kuba state affects norms of rule following, they focus on individuals living in a major city near the Kuba Kingdom. They sample individuals within the city of Kananga, some of whose ancestors come from the Kuba Kingdom and others whose ancestors come from outside the Kingdom. There are several benefits to this strategy. It is analogous to the epidemiological approach in which individuals from different cultural (or historical) backgrounds share a common institutional environment (Fernández, 2011). This helps separate institutions from internalized cultural norms. In the context of data collection and developing countries, it is also a very practical approach in that it decreases implementation costs and eases data collection demands. The historical treatment variable is then linked to where an individual is from, rather than to their current location (for other examples see e.g. Lowes (2018b); Lowes and Montero (2020); Bergeron (2020) where respondents' village of origin are mapped to the historical treatment variable).

A potential challenge, however, is addressing selection into migration based on the historical treatment of interest. The concern is that the historical variable itself may affect migration choices, making the sample of individuals in that location a selected sample and potentially not representative of the group of interest. Note, this issue applies to many lab experiments where convenience samples are used.

There are several strategies to deal with this. In Lowes et al. (2017) they collect detailed migration information, including reasons for migration and timing of migration. This allows them to show that the Kuba do not report different reasons for migration – for example, they are not more likely to have

migrated because they were asked to leave their village of origin. An additional strategy is to use other data to show how the sample selected in the location of choice differs from a potential broader and more representative sample for whom you may have only limited demographic data rather than detailed survey and experimental data.

The second strategy for choosing locations to sample would be to randomly select villages that meet a particular inclusion criteria. For example, Heldring (forthcoming) collects data in villages along a border that designated a longer period of time under the pre-colonial state. This strategy helps diminish the issue of selection into migration. However, it can be costly and logistically challenging, particularly in places with limited infrastructure. It also makes it more difficult to disentangle cultural and institutional variables.

The second part of sample selection is to recruit individuals to participate in the lab experiment. There may not be a pre-existing sampling frame from which to select individuals. This is often the case in developing countries where there may be limited administrative or public survey data available. One method of addressing this issue is to set up a sampling frame, perhaps by using satellite data, and a method of randomly choosing geographic units, and then randomly sampling individuals within these units. It may be important to record refusal data to be able to show individuals are not differentially refusing to participate based on the treatment of interest. Again, whether individuals are statistically representative of the group of interest is a challenge for lab experiments more broadly, but becomes more salient with lab-in-the-field experiments, as one of the benefits of lab-in-the-field experiments is working with the group of interest.

Finally, another practical consideration is writing and submitting a pre-analysis plan for the project prior to field work. Initially, primarily randomized controlled trials were expected to have pre-analysis plans. However, it is now common place for researchers to submit pre-analysis plans for lab experiments as well. A common repository for these pre-analysis plans is the AEA randomized controlled trial registry.[2]

6.5 Conclusion

Work in historical economics has relied on existing historical data. However, ethnographic data sets, lab-in-the-field experiments, and survey methods increase the scope of the research questions that can be empirically explored in historical economics. These approaches are particularly helpful in cases where there is limited written historical records and increase the representation of non-"WEIRD" societies in economics research.

This article first reviewed some of the most commonly used ethnographic data sources, including the Ethnographic Atlas and the Standard Cross Cultural Survey. I discuss how these data were constructed, potential limitations of the data, and efforts to validate and improve upon these data sets. Additionally, I provide examples of how these datasets have been used in economics research. I then describe alternative ethnographic data sources that have been compiled by anthropologists and historians, but have yet to be widely used in economics. I also discuss other survey and experimental resources that can be used to measure cultural traits across cultures.

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[2] The web address for the AEA RCT registry is https://www.socialscienceregistry.org/.

Finally, I discuss the use of lab-in-the-field experiments in historical economics. There are still few papers that combine historical economics and experimental methods. Lab-in-the-field experiments have been used both as outcomes and as a way of understanding persistence. I highlight some of the benefits of these methods, potential problems, and practical implementation issues. These data sets and methods offer an opportunity for future research in the realm of historical economics and to increase the connections between work in historical economics and other disciplines.

References

AfricaMap, 2020. https://worldmap.harvard.edu/africamap/.

Afrobarometer Data, 2020. afrobarometer.org.

Ahmed, A.T., Stasavage, D., 2020. Origins of early democracy. American Political Science Review 114 (2), 502–518.

Akbari, M., Bahrami-Rad, D., Kimbrough, E.O., 2019. Kinship, fractionalization and corruption. Journal of Economic Behavior & Organization 166, 493–528.

Alesina, A., Giuliano, P., Nunn, N., 2011. Fertility and the plough. The American Economic Review: Papers and Proceedings 101 (3), 499–503.

Alesina, A., Giuliano, P., Nunn, N., 2013. On the origins of gender roles: women and the plough. The Quarterly Journal of Economics 128 (2), 469–530.

Alesina, A., Giuliano, P., Nunn, N., 2018. Traditional agricultural practices and the sex ratio today. PLoS ONE 13 (1).

Alsan, M., 2015. The effect of the TseTse fly on African development. The American Economic Review 105 (1), 382–410.

AmericasBarometer Data, 2020. vanderbilt.edu/lapop.

Anderson, S., 2007. The economics of dowry and brideprice. The Journal of Economic Perspectives 21 (4), 151–174.

Anderson, S., 2018. Legal origins and female HIV. The American Economic Review 108 (6), 1407–1439.

Anderson, S., Ertac, S., Sneezy, U., List, J.A., Maximiano, S., 2013. Gender, competitiveness, and socialization at a young age: evidence from a matrilineal and a patriarchal society. Review of Economics and Statistics 95 (4), 1438–1443.

Arab Barometer Data, 2020. www.arabbarometer.org.

Ashraf, N., Bau, N., Nunn, N., Voena, A., 2020. Bride price and female education. Journal of Political Economy 128 (2), 591–641.

Asian Barometer Data, 2020. asianbarometer.org.

Bahrami-Rad, D., Becker, A., Henrich, J., 2018. Tabulated Nonsense? Testing the Validity of the Ethnographic Atlas and the Persistence of Culture. Working Paper. Harvard University.

Baker, M.J., 2008. A structural model of the transition to agriculture. Journal of Economic Growth 13.

Baker, M.J., Miceli, T.J., 2005. Land inheritance rules: theory and cross-cultural analysis. Journal of Economic Behavior & Organization 56 (1), 77–102.

Bauer, M., Blattman, C., Chytilová, J., Henrich, J., Miguel, E., Mitts, T., 2016. Can war foster cooperation? The Journal of Economic Perspectives 30 (3), 249–274.

Bazzi, S., Fiszbein, M., Gebresilasse, M., 2020. Frontier culture: the roots and persistence of "rugged individualism" in the United States. Econometrica 88 (6), 2329–2368.

Becker, A., 2019. On the Economic Origins of Restrictions on Women's Sexuality. Mimeo.

Becker, A., Enke, B., Falk, A., 2020. Ancient origins of the global variation in economic preferences. AEA Papers and Proceedings 110, 319–323.

Beheim, B., Atkinson, Q., Bulbulia, J., Gervais, W., Gray, R.D., Henrich, J., Lang, M., Monroe, M.W., Muthukr-ishna, M., Norenzayan, A., Purzycki, B.G., Shariff, A., Slingerland, E., Spicer, R., Willard, A.K., 2019. Corrected analyses show that moralizing gods precede complex societies but serious data concerns remain.

BenYishay, A., Grosjean, P., Vecci, J., 2017. The fish is the friend of matriliny: reef density and matrilineal inheritance. Journal of Development Economics 127, 234–249.

Berezkin, Y.E., 2015. Folklore and mythology catalogue: its layout and potential for research. In: Lukin, F., Lukin, K. (Eds.), Between Text and Practice: Mythology, Religion, and Research, Vol. 10 The Retrospective Methods Network Newsletter Folklore Studies/Department of Philosophy, History, Culture and Art Studies. University of Helsinki, Helsinki.

Berezkin, Y.E., 2016. Peopling of the New World in light of the data on distribution of folklore motifs. In: Kenna, R., Carron, M.M., Carron, P.M. (Eds.), Maths Meets Myths: Quantitative Approaches to Ancient Narratives, Vol. 10. Springer-Verlag, pp. 71–89.

Bergeron, A., 2020. Religion and the Scope of Morality: Evidence from Exposure to Missions in the D.R. Congo.

Binford, L.R., 2001. Constructing Frames of Reference: An Analytical Method for Archaeological Theory Building Using Ethnographic and Environmental Data Sets. University of California Press.

Binford, L.R., Johnson, A., 2006. Documentation for Program for Calculating Environmental and Hunter-Gatherer Frames of Reference (ENVCALC2).

Blouin, A., 2019. Culture and Contracts: the Historical Legacy of Forced Labor.

Bondarenko, D., Kazankov, A., Khaltourina, D., Korotayev, A., 2005. Ethnographic Atlas XXXI: peoples of easternmost Europe. Ethnology 44 (3), 261–289.

Botticini, M., Siow, A., 2003. Why dowries? The American Economic Review 93, 1385–1398.

Buggle, J., 2020. Growing collectivism: irrigation, group conformity and technological divergence. Journal of Economic Growth 25 (2), 147–193.

Chaudhary, L., Rubin, J., Iyer, S., Shrivastava, A., 2020. Culture and colonial legacy: evidence from public goods games. Journal of Economic Behavior & Organization 173, 107–129.

Cohn, A., Marechal, M.A., Tannenbaum, D., Zund, C.L., 2019. Civic honesty around the globe. Science 365, 70–73.

Corno, L., Hildebrandt, N., Voena, A., 2020. Age of marriage, weather shocks and the direction of marriage payments. Econometrica 88 (3), 879–915.

De Juan, A., Koos, C., 2019. The historical roots of cooperative behavior: evidence from eastern Congo. World Development 116, 100–112.

Depetris-Chauvin, E., 2016. State History and Contemporary Conflict: Evidence from Sub-Saharan Africa.

Desmet, K., Gomes, J.F., Ortuño Ortín, I., 2020. The geography of linguistic diversity and the provision of public goods. Journal of Development Economics 143.

Dippel, C., 2014. Forced coexistence and economic development: evidence from native American reservations. Econometrica 82 (6), 2131–2165.

Ember, C.R., 2012. Leadership in Science and Technology: A Reference Handbook, Vol. 2. Sage, Los Angeles.

Enke, B., 2019. Kinship, cooperation, and the evolution of moral systems. The Quarterly Journal of Economics 134 (2), 953–1019.

Eurobarometer Data, 2020. gesis.org/en/eurobarometer-data-service/home.

Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D., Sunde, U., 2018. Global evidence on economic preferences. The Quarterly Journal of Economics 133 (4), 1645–1692.

Fenske, J., 2013. Does land abundance explain African institutions? The Economic Journal 123 (573), 1363–1390.

Fenske, J., 2014. Ecology, trade and states in pre-colonial Africa. Journal of the European Economic Association 12 (3), 612–640.

Fenske, J., 2015. African polygamy: past and present. Journal of Development Economics 117, 58–73. Mimeo. Oxford University.

Fernández, R., 2011. Does culture matter? In: Jackson, M.O., Benhabib, J., Bisin, A. (Eds.), Handbook of Social Economics, Vol. 1A. Elsevier, pp. 481–510. Chapter 11.

Flory, J., Leonard, K.L., Tsaneva, M., Vasilaky, K., 2017. Changes in Competitiveness with Motherhood Stages and Culture: Evidence from Patrilocal and Matrilocal Society.

Forde, D., 2017. Ethnographic Survey of Africa. Routledge.

Gachter, S., Schulz, J.F., 2016. Intrinsic honesty and the prevalence of rule violations across societies. Nature 531.

Gangadharan, L., Islam, A., Ouch, C., Wang, L.C., 2018. The Long-term effects of genocide on antisocial preferences.

Gennaioli, N., Rainer, I., 2007. The modern impact of precolonial centralization in Africa. Journal of Economic Growth 12 (3), 185–234.

Giuliano, P., Nunn, N., 2013. The transmission of democracy: from the village to the nation state. The American Economic Review: Papers and Proceedings 103 (3), 86–92.

Giuliano, P., Nunn, N., 2018. Ancestral characteristics of modern populations. Economic History of Developing Regions 33 (1), 1–17.

Giuliano, P., Nunn, N., forthcoming. Understanding cultural persistence and change. The Review of Economic Studies.

Gneezy, U., Imas, A., 2017. Lab in the field: measuring preferences in the wild. In: Banerjee, A., Duflo, E. (Eds.), Handbook of Field Experiments, Vol. 1. Elsevier, North Holland.

Gneezy, U., Leonard, K.L., List, J.A., 2009. Gender differences in competition: evidence from a matrilineal and a patriarchal society. Econometrica 77 (5), 1637–1664.

Gomes, J.F., 2020. The health costs of ethnic distance: evidence from Sub-Saharan Africa. Journal of Economic Growth 25, 95–226.

Gong, B., Yang, C.-L., 2012. Gender differences in risk attitudes: field experiments on the matrilineal Mosuo and the patriarchal Yi. Journal of Economic Behavior & Organization 83 (1), 59–65.

Gong, B., Yan, H., Yang, C.-L., 2015. Gender differences in the dictator experiment: evidence from the matrilineal Mosuo and the patriarchal Yi. Experimental Economics 18, 302–313.

Gordon, R.G., 2009. Ethnologue: Languages of the World, 16th edition. SIL International.

Greenwald, T., Banaji, M., Nozek, B., n.d. https://www.projectimplicit.net.

Hammarström, H., Forkel, R., Haspelmath, M., Bank, S., 2020. Glottolog 4.2.1. Max Planck Institute for the Science of Human History, Jena.

Hanna, R., Wang, S.-Y., 2017. Dishonesty and selection into public service: evidence from India. American Economic Journal: Economic Policy 9 (3), 262–290.

Heldring, L., forthcoming. The origins of violence in Rwanda. The Review of Economic Studies.

Hofstede, G., 1980. Culture's Consequences: International Differences in Work-Related Values. Sage, Beverly Hills, CA.

Hofstede, G., 2013. Replicating and extending cross-national value studies: rewards and pitfalls - an example from middle East studies. Academy of International Business Insights 13 (2), 5–7.

Hruschka, D., Efferson, C., Jiang, T., Falleta-Cowden, A., Sigurdsson, S., McNamara, R., Sands, M., Munira, S., Slingerland, E., Henrich, J., 2014. Impartial institutions, pathogen stress, and the expanding social network. Human Nature 25, 567–579.

ICF, 2020. Demographic and Health Surveys.

Jackson, J.C., Gelfand, M., Ember, C.R., 2020. A global analysis of cultural tightness in non-industrial societies. Proceedings of the Royal Society of London. Series B, Biological Sciences 287, 20201036.

Jorgensen, J.G., 1980. Western Indians: Comparative Environments, Languages, and Cultures of 172 Western American Indian Tribes. WH Freema, San Francisco.

Jorgensen, J.G., 1999a. Codebook for western Indians data. World Cultures 19 (2), 144–293.

Jorgensen, J.G., 1999b. An empirical procedure for defining and sampling culture bearing units in continuous geographic areas. World Cultures 10 (2), 139–143.

Karaja, E., Rubin, J., 2017. The Cultural Transmission of Trust: Evidence from a Lab in the Field on a Natural Experiment.

Kirby, K.R., Gray, R.D., Greenhill, S.J., Jordan, F.M., Gomes-Ng, S., Bibiko, H.-J., Blasi, D.E., Botero, C.A., Bowern, C., Ember, C.R., Leehr, D., Low, B.S., McCarter, J., Divale, W., Gavin, M.C., 2016. D-PLACE: a global database of cultural, linguistic and environmental diversity. PLoS ONE 11 (7), e0158391.

Knudsen, A.S.B., 2019. Those Who Stayed: Selection and cultural change during the Age of Mass Migration.

Korotayev, A., Kazankov, A., Borinskaya, S., Khaltourina, D., Bondarenko, D., 2004. Ethnographic Atlas XXX: peoples of Siberia. Ethnology 43, 83–92.

Latinobarometer Data, 2020. latinobarometro.org.

Lowes, S., 2018a. Kinship Structure, Stress, and the Gender Gap in Competition.

Lowes, S., 2018b. Matrilineal Kinship and Spousal Cooperation: Evidence from the Matrilineal Belt. Mimeo.

Lowes, S., 2020. Kinship structure and women: evidence from economics. Daedalus.

Lowes, S., Montero, E., 2020. Concessions, Violence, and Indirect Rule: Evidence from the Congo Free State.

Lowes, S., Nunn, N., Robinson, J.A., Weigel, J.L., 2017. The evolution of culture and institutions: evidence from the Kuba Kingdom. Econometrica 85 (4), 1065–1091.

Mace, R., Pagel, M., 1994. The comparative method in anthropology. Current Anthropology 35 (549–557).

Mayshar, J., Moav, O., Pascali, L., 2020. The Origin of the State: Land Productivity or Appropriability? Mimeo.

Michalopoulos, S., 2012. The origins of ethnolinguistic diversity. The American Economic Review 102 (4), 1508–1539.

Michalopoulos, S., Papaioannou, E., 2013. Precolonial ethnic institutions and contemporary African development. Econometrica 81 (1), 113–152.

Michalopoulos, S., Papaioannou, E., 2014. National institutions and subnational development in Africa. The Quarterly Journal of Economics 129 (1), 151–213.

Michalopoulos, S., Papaioannou, E., 2016. The long-run effects of the scramble in Africa. The American Economic Review 106 (7), 1802–1848.

Michalopoulos, S., Xue, M., 2019. Folklore.

Michalopoulos, S., Putterman, L., Weil, D., 2019. The influence of ancestral lifeways on individual economic outcomes in Sub-Saharan Africa. Journal of the European Economic Association 17 (4), 1186–1231.

Moscona, J., Nunn, N., Robinson, J.A., 2017. Keeping it in the family: lineage organization and the scope of trust in Sub-Saharan Africa. The American Economic Review: Papers and Proceedings 107 (5), 565–571.

Moscona, J., Nunn, N., Robinson, J.A., 2020. Social structure and conflict: evidence from Sub-Saharan Africa. Econometrica 88 (5).

Murdock, G.P., White, D.R., 2006. Standard Cross-Cultural Sample: online edition. UC Irvine Working Paper.

Murdock, G.P., 1957. World ethnographic sample. Ethnology 59 (4), 664–687.

Murdock, G.P., 1959. Africa: Its Peoples and Their Cultural History. McGraw-Hill Book Company, New York.

Murdock, G.P., 1967. Ethnographic Atlas. University of Pittsburgh Press, Pittsburgh.

Murdock, G.P., White, D.R., 1969. Standard cross-cultural sample. Ethnology 8 (4), 329–369.

newspapers.com, 2020. newspapers.com.

Norenzayan, A., Shariff, A.F., Gervais, W.M., Willard, A.K., McNamara, R.A., Slingerland, E., Henrich, J., 2016. The cultural evolution of prosocial religions. Behavioral and Brain Sciences 39, 1–65.

Nosek, B.A., Smyth, F.L., Hansen, J.J., Devos, T., Linder, N.M., Ratliff (Ranganath), K.A., Smith, C.T., Olson, K.R., Chugh, D., Greenwald, A.G., Banaji, M.R., 2007. Pervasiveness and correlates of implicit attitudes and stereotypes. European Review of Social Psychology 18, 36–88.

Nunn, N., 2008. The long-term effects of Africa's slave trades. The Quarterly Journal of Economics 123 (1), 139–176.

Nunn, N., Wantchekon, L., 2011. The slave trade and the origins of mistrust in Africa. The American Economic Review 101 (7), 3221–3252.

Obikili, N., 2016. The trans-Atlantic slave trade and local political fragmentation in Africa. The Economic History Review 69 (4), 1157–1177.

Ottinger, S., Winkler, M., 2020. Political Threat and Propaganda: Evidence from the U.S. South.

Pew Research Center, 2020. pewresearch.org.

Ramos-Toro, D., 2019. Social Exclusion and Social Preferences: Evidence from Colombia's Leper Colony.

Rijpma, A., Carmichael, S.G., 2016. Testing Todd and matching Murdock: global data on historical family characteristics. Economic History of Developing Regions 31 (1), 10–46.

Rustagi, D., 2020. Historical Self-Governance and Norms of Cooperation.

Schulz, J., 2017. The Churches' Bans on Consanguineous Marriages, Kin Networks and Democracy. Mimeo. Yale University.

Schulz, J.F., Bahrami-Rad, D., Beauchamp, J.P., Henrich, J., 2019. The Church, intensive kinship, and global psychological variation. Science 707.

Slingerland, E., Sullivan, B., 2017. Durkheim with data: the database of religious history. Journal of the American Academy of Religion 85 (2), 312–347.

Slingerland, E., Atkinson, Q.D., Ember, C.R., Sheehan, O., Muthukrishna, M., Bulbulia, J., Gray, R.D., 2020. Coding culture: challenges and recommendations for comparative cultural databases. Evolutionary Human Sciences 2 (29).

Teso, E., 2019. The long-term effect of demographic shocks on the evolution of gender roles: evidence from the transatlantic slave trade. Journal of the European Economic Association 17 (2), 497–534.

Todd, E., 1985. The Explanation of Ideology: Family Structures and Social Systems. Blackwell Publishers, Oxford.

Turchin, P., Whitehouse, H., Francois, P., Hoyer, D., Alves, A., Baines, J., Baker, D., Bartkowiak, M., Bates, J., Bennett, J., Bidmead, J., Bol, P., Ceccarelli, A., Christakis, K., Christian, D., Covey, A., De Angelis, F., Earle, T.K., Edwards, N.R., Feinman, G., Grohmann, S., Holden, P.B., Juliusson, A., Korotayev, A., Kradin, N., Kristinsson, A., Larson, J., Litwin, O., Mair, V., Manning, J.G., Manning, P., Marciniak, A., McMahon, G., Miksic, J., Garcia, J.C.M., Morris, I., Mostern, R., Mullins, D., Oyebamiji, O., Peregrine, P., Petrie, C., Preiser-Kapeller, J., Rudiak-Gould, P., Sabloff, P., Savage, P., Spencer, C., Stark, M., ter Haar, B., Thurner, S., Wallace, V., Witoszek, N., Xie, L., forthcoming. An introduction to seshat: global history databank. Journal of Cognitive Historiography.

Valencia Caicedo, F., 2019. The mission: human capital transmission, economic persistence, and culture in South America. The Quarterly Journal of Economics 134 (1), 507–556.

Valencia Caicedo, F., Voth, H.-J., 2018. Christ's Shadow: Non-Cognitive Skills and Prosocial Behavior Amongst the Guarani.

Vansina, J., 1966. Introduction a l'Ethnographie du Congo, Centre de Recherche et d'Information Socio-Politiques.

Walker, S., 2020. Historical legacies in savings: evidence from Romania. Journal of Comparative Economics 48 (1), 76–99.

Watts, J., Sheehan, O., Greenhil, S.J., Gomes-Ng, S., Atkinson, Q.D., Bulbulia, J., Gray, R.D., 2015. Pulotu: database of Austronesian supernatural beliefs and practices. PLoS ONE 10 (9), e0136783.

Whitehouse, H., Francois, P., Savage, P.E., Currie, T.E., Feeney, K.C., Cioni, E., Purcell, R., Ross, R.M., Larson, J., Baines, J., ter Haar, B., Covey, A., Turchin, P., 2019. Complex societies precede moralizing gods throughout world history. Nature 568 (7751), 226–229.

World Values Survey Data, 2020. worldvaluessurvey.org.

Xu, K., Nosek, B.A., Greenwald, A.G., Ratliff, K.A., Bar-Anan, Y., Umansky, E., Banaji, M.R., 2020. Project implicit demo website datasets. https://osf.io/y9hiq/.