

Long-Run Development and the New Cultural Economics

Boris Gershman*
American University

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Abstract

This paper reviews recent economics literature on culture, with an emphasis on its relation to the field of long-run growth and development. It examines the key issues debated in the new cultural economics: causal effects of culture on economic outcomes, the origins and social costs of culture, as well as cultural transmission, persistence, and change. Some of these topics are illustrated in application to the economic analysis of envy-related culture.

Keywords: Culture, cultural persistence, cultural transmission, long-run development

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*Department of Economics, American University, 4400 Massachusetts Avenue NW, Washington, DC 20016-8029 (e-mail: boris.gershman@american.edu).

1 Introduction

The interaction between culture and economic behavior is certainly not a new subject on the research agenda of economics. Classical economists wrote extensively on culture and so did Max Weber whose famous 1905 work “The Protestant Ethic and the Spirit of Capitalism” is fairly considered to be a cornerstone of early research on the economics of culture. Despite this long history, the study of culture has traditionally been the “turf” of other social sciences, such as anthropology and sociology. It is only in the last twenty years or so that the research on culture within economics witnessed a true revival generating an impressive body of empirical and theoretical work. Employing the state-of-the-art methodological toolkit of economics, this new literature often borrows, builds upon, and expands the ideas advanced in other social sciences, as well as evolutionary biology, contributing to a truly productive interdisciplinary dialogue. This body of work is henceforth referred to as the “new cultural economics” (Guiso et al., 2006), with a recognition that such label artificially separates the most recent literature from its no less worthy predecessors.¹

This overview is organized around three major intertwined themes that emerge in the new cultural economics: causal effects of culture on economic outcomes and institutions, the origins of culture, and the issues of cultural transmission, persistence, and change. It emphasizes the studies related to the field of long-run economic growth and development which explores culture as one of the key “deep determinants” of economic performance (Spolaore and Wacziarg, 2013). The following section clarifies the notion of culture as it has been viewed in the new cultural economics and summarizes the approaches to measuring culture. Section 3 reviews some of the recent empirical studies attempting to identify the causal effects of culture. Section 4 explores the research on the origins of culture, its social benefits and costs. Section 5 considers the evidence on cultural persistence and discusses the mechanisms of cultural transmission and change. Section 6 illustrates some of the main issues reviewed in the essay in application to the author’s work on the economics of envy and related culture. Section 7 concludes.

¹There is a number of reviews summarizing recent research on various aspects of culture. Many of those are cited in this essay and may be found in the latest volumes of Elsevier’s *Handbook of Social Economics* (2011), *Handbook of Economic Growth* (2014), and *Handbook of the Economics of Arts and Culture* (2014). For a compilation of important writings on the economics of culture and growth see Spolaore (2014).

2 What is culture?

It is notoriously hard to define culture. In fact, any detailed definition of culture necessarily embeds certain artificial assumptions. Take, for instance, a popular definition of culture as “customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation” (Guiso et al., 2006). Such view essentially *assumes* that culture is persistent even though, as discussed further in section 5.1, evidence on persistence is not clear-cut.² It also emphasizes vertical intergenerational transmission of culture while ignoring other important channels of socialization.³

Instead of adopting a narrow definition of culture at the cost of assuming some of its properties, this essay intentionally keeps the notion very broad and follows a layperson’s view of culture as people’s preferences, values, attitudes, beliefs, and social norms. This is, of course, nothing more than enumeration of related attributes falling under the elusive umbrella term “culture.” Considering the vagueness of the subject matter, a constructive way to describe it would be to give specific examples from the new cultural economics literature.

2.1 Culture in examples

A popular approach to cultural traits, especially in theoretical models, is to view them as elements of preferences, often heterogeneous across individuals and endogenously evolving over time. Such traits include patience, or long-term orientation, work ethic, risk preferences, concern for relative standing or social status more generally, fairness considerations and other types of interdependent preferences. The popularity of this approach is partly due to the fact that it allows to conveniently interpret some standard building blocks of economic models as culture and examine them in a more or less conventional fashion.

A related, but not as easy to formalize variety of culture comes in the form of attitudes, values, and beliefs. These include trust, family ties, respect for others, attitudes towards government institutions and income redistribution, views of gender roles, prospects of upward mobility, and beliefs about the extent to which luck and hard work determine success in life. From a theoretical perspective, such objects are difficult to pin down as

²In Roland (2004), persistence is also viewed as an integral property of culture that differentiates it from “fast-moving” institutions.

³In contrast, the crucial role of all kinds of social learning is underscored by Richerson and Boyd (2005) who define culture as “information capable of affecting individuals’ behavior that they acquire from other members of their species through teaching, imitation, and other forms of social transmission.”

elements of preferences, which is why alternative modeling strategies have been developed. For instance, a common device to model trust is to rely on some sort of cooperation game, where a principal can make an offer to a potentially opportunistic agent who then chooses to either cooperate or cheat. In this setup, the equilibrium proportion of principals who decide to make an offer represents a natural overall measure of trust (Breuer and McDermott, 2012).⁴ Beliefs, on the other hand, can be modeled directly in a suitable game-theoretic framework, as in Piketty (1995) and Bénabou and Tirole (2006). As explained further below, in addition to specific traits, some researchers also explore cultural “dimensions” or “orientations” reflecting sets of related values and beliefs, while others focus on cultural diversity and proximity.⁵

The study of religion, one of the most vigorously explored layers of culture, occupies an important place in the new cultural economics.⁶ While some research in this area focuses on particular beliefs (e.g., in God, afterlife, heaven, and hell), it is also common to examine world religions as a whole. For example, there is a substantial literature exploring, in the tradition of Max Weber, the effects of Protestantism and the legacy of Christian missions around the world. Fundamental contributions by economists also explore the long-term consequences of Islamic law (Kuran, 2011) and Judaism (Botticini and Eckstein, 2012). Further important objects of study in the economics of religion include religiosity, church attendance, religious donations, and the processes of secularization and religious conversion, to name a few. Although major world religions have understandably received most attention in the literature, there is also a growing interest in the study of traditional religions, practices, and beliefs (e.g., the Vodun religion in West Africa and witchcraft beliefs) that are still widespread in many developing societies.

Finally, a wide array of “social norms” including customs, conventions, and mores, have been recently investigated by economists. For instance, an important direction of research attempts to understand the effects and the evolution of stigma attached to certain activities, such as applying for welfare benefits or bankruptcy, engaging in premarital sex and having out-of-wedlock children, or selling a kidney.⁷

⁴For other possible approaches to formalizing trust and trustworthiness in various contexts see Francois and Zabojnik (2005), Guiso et al. (2008), Tabellini (2008b), Bidner and Francois (2011), and the overview by Algan and Cahuc (2014).

⁵Ashraf and Galor (2011) and Desmet et al. (2016) construct indices of cultural heterogeneity based on responses in the World Values Survey. Approaches to measuring cultural distance are offered in Spolaore and Wacziarg (2009), Desmet et al. (2011), Grosjean (2011), and Schwartz (2014).

⁶See Aldashev and Platteau (2014) and Iyer (2016) for recent overviews.

⁷In an insightful article, Roth (2007) gives further examples of stigmatized, or “repugnant” activities.

The variety of examples given above demonstrates that the notion of culture covers a very long list of features. It is thus useful to point out what does *not* count as culture in the context of this essay. First, there is a well-established field of “cultural economics” that studies creative and performing arts, tangible cultural heritage, and related issues, often from the perspective of industrial organization. While fascinating, this literature is obviously different from that on “intangible” culture reviewed in this essay. Second, it is important to differentiate culture from institutions. There is a tradition going back to North (1990) to distinguish between formal and informal institutions, where the latter notion is essentially synonymous to culture. Throughout this overview the term “institutions” refers only to formal economic and political institutions such as laws regulating individual property rights protection, distribution of power, and checks and balances in society (Acemoglu et al., 2005). There is a new exciting research agenda on the interaction between culture and institutions which is touched upon further below.⁸

2.2 Measuring culture

Systematic collection of data on cultural traits around the world was initiated by teams of social scientists within the past fifty years and resulted in a number of datasets which are the key ingredients of the empirical research on culture in economics. Perhaps the main sources of data used in this work are the numerous “values surveys” such as the World Values Survey (WVS), European Social Survey (ESS), regional “barometers” (Afrobarometer, Arab Barometer, AsiaBarometer, Asian Barometer, Eurobarometer, Latinobarómetro), Life in Transition Survey (LiTS), International Social Survey Programme (ISSP), and popular country-specific projects like the German Socio-Economic Panel and the U.S. General Social Survey (GSS). These surveys ask a wide range of questions aimed to elicit people’s preferences, values, attitudes, and beliefs.⁹ In order to measure the prevalence of certain cultural characteristics in a country or region, survey responses are just properly aggregated at the corresponding level of analysis.

⁸See Alesina and Giuliano (2015) for an excellent overview.

⁹For example, Dohmen et al. (2012) employ the following question from the German Socio-Economic Panel to measure risk attitudes on the ordinal 0–10 scale: “How do you see yourself: are you generally a person who is fully prepared to take risks or do you try to avoid taking risks?” Similarly, one of the most frequently used measures of “generalized trust” is based on the answers to the following question: “Generally speaking, would you say that most people can be trusted or that you can’t be too careful in dealing with people?”

Two other survey-based national-level datasets on culture are commonly used in empirical research, one developed by Geert Hofstede and his colleagues and the other produced by the team of Shalom Schwartz. These datasets combine and aggregate individual responses to various survey questions in order to pin down “cultural dimensions” capturing sets of related values and beliefs. Countries are then assigned numeric scores for each of the cultural dimensions or “orientations.” The Hofstede dataset relies on the values surveys conducted among IBM employees working in company’s subsidiaries around the world. The most recent version of the dataset includes the following six cultural dimensions: power distance, uncertainty avoidance, individualism vs. collectivism, masculinity vs. femininity, long-term vs. short-term orientation, and indulgence vs. restraint (Hofstede et al., 2010). The original Schwartz dataset is derived from surveys administered to K-12 schoolteachers and college students who were asked to identify the importance of various values (such as social justice, humility, creativity, and ambition) as “guiding principles” of their lives. Based on the aggregated responses to these questions Schwartz and his collaborators coded various cultural orientations that can be summarized as three bipolar scales: embeddedness vs. autonomy, hierarchy vs. egalitarianism, and mastery vs. harmony (Schwartz, 2014). Similar to the approaches of Hofstede and Schwartz, Ronald Inglehart, the founding father of the World Values Survey, introduced two important cultural scales constructed using multiple WVS questions: traditional vs. secular-rational orientations and survival vs. self-expression values (Inglehart and Baker, 2000). Of course, the cultural dimensions suggested by Hofstede, Schwartz, and Inglehart are not orthogonal across approaches and some of them are rather tightly connected (Schwartz, 2014).

While values surveys are great data sources, unfortunately, they do not go far back in time and cover at most the last few decades. Researchers doing longer-run analyses have to rely on archival data to obtain proxies for culture such as exposure to Christian missions in colonial Africa (Nunn, 2014). Two useful sources of historical data recently used in the literature are the Ethnographic Atlas (Murdock, 1967) and the Standard Cross-Cultural Sample (Murdock and White, 1969) constructed by anthropologist George Peter Murdock and his colleagues. Both datasets offer a wealth of information on the economic, social, and cultural characteristics of ethnic groups from all over the world coded on the basis of ethnographic fieldwork and historical documents.

One of the important ways in which economists directly contributed to the measurement of culture is through developing lab and field experiments attempting to elicit cultural traits from people’s behavior in certain standardized settings such as ultimatum, dictator, and

public goods games. Examples of traits that can to some extent be captured in experiments include trust and cooperation, prosocial behavior, egalitarian norms, and altruism.¹⁰

3 Culture matters

Perhaps the main reason for the growing wave of research on culture in economics is the realization that culture does affect economic outcomes and vice versa. While this may be self-evident from anecdotes and ethnographic case studies, whether culture, to quote David Landes (2000), “makes almost all the difference” is ultimately an empirical question.

3.1 In search of instruments for culture

Naturally extending the literature on cross-country income differences, early empirical studies provided interesting motivating correlations between cultural characteristics and economic outcomes. For instance, in an influential paper, Knack and Keefer (1997) reported a positive correlation between GDP growth and “social capital,” as captured by measures of trust and civic cooperation, in a sample of 29 countries.¹¹ Alesina et al. (2001) found another intriguing correlation: the average strength of belief that luck determines income is positively associated with the ratio of social spending to GDP in a sizable cross-section of countries. While there are plausible theoretical channels underlying the correlations between culture and economic outcomes, these early approaches suffer from common problems of omitted variable bias and reverse causality, as cultural traits are not randomly assigned either across countries or within nations and regions.

In order to move towards causal identification, early research suggested using instrumental variables (IV) as sources of exogenous variation in culture. In an early paper, Barro and McCleary (2003) explore the relationship between economic growth, church attendance, and religious beliefs in a panel of countries. They instrument for cultural variables of interest using data on the presence of state religion, regulation of the religion market, composition of religious adherence, and an index of religious pluralism and find that economic growth is positively associated with beliefs in heaven and hell and negatively with church attendance. Guiso et al. (2006) use religion and ethnic origin as instruments

¹⁰See Henrich et al. (2004) and Alesina and Giuliano (2015) for applications.

¹¹Zak and Knack (2001) extended the original analysis to a broader sample of 41 countries. They also offered a theory formalizing the relationship between trust, investment, inequality, and economic growth, and empirically explored the correlates of trust.

for several survey-based measures of culture. Their estimates indicate that there is a statistically significant positive association between the following pairs of variables: trust and the probability of becoming an entrepreneur, importance of encouraging children to learn thrift and the ratio of national savings to GDP, supportive attitudes towards government's role in reducing income differences and the actual ratio of direct to indirect taxation in a cross-section of U.S. states.

While a step in the right direction, the early IV approaches were criticized on the grounds of instrument validity. For example, while it is plausible that religious and ethnic backgrounds shape people's values, it is hard to argue that they affect economic decisions and policy outcomes *only* via their impact on specific cultural traits such as trust. If there are channels other than trust connecting, say, religious affiliation and the decision to start a business, the exclusion restriction is violated rendering the IV estimates reported in Guiso et al. (2006) inconsistent. Hence, more recent empirical studies using this approach have been striving to come up with better instruments for culture. Licht et al. (2007) investigate the impact of culture on the quality of governance using Schwartz's dataset on cultural dimensions discussed earlier. They instrument for the embeddedness vs. autonomy dimension by using a specific characteristic of predominant spoken language, known as the pronoun drop property.¹² They find that good governance (the rule of law, absence of corruption, and democratic accountability) is positively associated with cultural autonomy, which emphasizes individual independence in pursuing ideas and goals, and negatively associated with embeddedness, which instead stresses the importance of conformity and group solidarity. Tabellini (2008a) uses the same pronoun drop variable, along with an additional language characteristic, namely the number of second-person pronouns, to instrument for two indicators of "generalized morality," trust and respect, and establishes a positive correlation between those values and the quality of governance in a cross-section of countries.¹³

Gorodnichenko and Roland (2011) run "horse races" between different measures of culture in order to find the most robust cross-country correlates of long-run economic growth. Specifically, they explore the cultural dimensions of Hofstede and Schwartz, as well

¹²In a "pro-drop" language, certain pronouns may be omitted without making the meaning of a given sentence ambiguous or unclear. The original dataset on this property across country-language pairs and the idea of linking it to cultural dimensions were introduced in Kashima and Kashima (1998).

¹³Tabellini (2010) also finds that trust and respect are positively associated with income per capita across European regions. He uses historical quality of political institutions and literacy rate at the end of 19th century as instruments for these cultural variables.

as multiple WVS-based variables including trust, tolerance, attitudes towards markets, the importance of hard work and thrift, and equality. They show that Hofstede’s individualism vs. collectivism indicator is the most robust correlate of economic growth, with coefficient estimate on individualism consistently significant and positive.¹⁴ In order to identify a causal effect of this cultural dimension on growth, Gorodnichenko and Roland (2016) offer IVs for individualism at the country level. Their baseline instrument is a measure of genetic distance (based on frequencies of blood types) between the population of a given country and the population of the United Kingdom, the second most individualistic country in their sample. They view genetic distance as a proxy for differences in parental transmission of culture which implies that this instrument is also plausibly correlated with cultural characteristics other than individualism. To mitigate this issue the authors use additional instruments, namely the prevalence of specific genes that have been linked directly to personality traits related to collectivist culture and the historical presence of pathogens. The IV estimates imply that individualism has a strong effect on long-run economic growth which may be attributed to social rewards associated with innovation in individualistic cultures.

A fruitful recent literature uses the IV approach to tackle Max Weber’s famous hypothesis on the role of Protestantism in fostering economic development. Becker and Woessmann (2009) investigate the effects of Protestantism using the data from late-19th century Prussia. They employ distance from Luther’s city of Wittenberg, from which Reformation spread to other parts of Europe, as an instrument for the prevalence of Protestantism in Prussian counties and establish that a larger share of Protestants in the population is associated with higher economic prosperity and better education. The authors argue that Protestantism promoted economic growth primarily by stimulating the acquisition of human capital required to read the Bible and teach the God’s word, a channel different from Weber’s original “work ethic” hypothesis.¹⁵ Bai and Kung (2015) explore the effects of Protestant missionary activity in China during 1840–1920. To capture exogenous vari-

¹⁴The formal study of the role of individualist vs. collectivist cultural values in driving long-run development, specifically through their impact on institutional structure, goes back to the seminal contribution by Greif (1994).

¹⁵The positive effect of Protestantism on education is also present in a sample of Prussian counties in 1816, that is, prior to industrialization, further highlighting the importance of the human capital channel (Becker and Woessmann, 2010). Cantoni (2015) tests the Weber hypothesis using panel data on population of German cities in 1300–1900. He finds that Protestant cities were not growing any differently than the Catholic ones in the post-Reformation period. As explained in his paper, this result does not really contradict those of Becker and Woessmann.

ation in the diffusion of Protestantism in Chinese counties they construct an instrumental variable based on the retreat of missionaries in response to the Boxer Uprising involving a series of violent anti-Christian riots. They find that the diffusion of Protestantism, as measured by the share of communicants in the county population, fostered economic prosperity and argue that most of this effect can be attributed to the spread of knowledge associated with schools and hospitals founded by the missionaries.¹⁶ These two papers are also great examples of an important methodological shift in the empirical literature on culture to more disaggregated within-country analyses.

Overall, while the search for even better instruments continues, substantial progress has been made in improving the credibility of the IV approach in establishing the causal effects of culture.

3.2 The culture of immigrants and their descendants

A different strand of literature exploits data on immigrants and their descendants to identify the effects of culture on economic outcomes and is known as the “epidemiological” approach to culture (Fernández, 2011).¹⁷ On the one hand, immigrants are likely to bring bits of their homeland’s culture to the destination country and transmit it to their offspring. On the other hand, they share the economic and institutional environment with the rest of the population residing in the same geographic region. Conceptually this helps to tease out the effects of culture when comparing the economic outcomes of immigrants from different countries of origins or their descendants while keeping the region-of-residence characteristics fixed. In empirical studies, the “cultural baggage” of immigrants and their offspring is captured by measures of culture in their countries of ancestry.¹⁸

¹⁶Nunn (2014) exploits historical data on the geographic locations of Catholic and Protestant missions in colonial Africa to test whether those had any positive long-term effects on education. He finds that, while both types of missions indeed mattered, the Protestant ones had a much larger long-term effect on the education of females relative to males. Valencia Caicedo (2014) finds a persistent positive impact of the historical presence of Jesuit missions on educational attainment in modern-day Argentina, Brazil, and Paraguay.

¹⁷This label stems from epidemiological studies comparing health outcomes of immigrants to those of the natives in order to distinguish between genetic and environmental causes of diseases.

¹⁸Evidence on the correlation between direct measures of values and attitudes of immigrants and those prevalent in their home countries is discussed in section 5.1. Note that the epidemiological approach can be also applied to within-country migrants, see Guiso et al. (2004) for a pioneering study on the effects of social capital on financial development using the data on “movers” within Italy.

The epidemiological approach has recently been used in a variety of applications to explore the role of culture in driving economic and social outcomes. For example, Fernández and Fogli (2009) examine the labor market and fertility decisions of the second-generation female immigrants in the United States using the indicators from their countries of ancestries to proxy for culture, namely the views about gender roles in society. They show that women whose parents arrived from countries with historically higher female labor force participation rates tend to work longer hours. Similarly, women with ancestry in countries characterized by higher total fertility rates have more children on average. Alesina and Giuliano (2010) study the relationship between family ties and a variety of economic decisions. In one of their exercises, they explore the behavior of second-generation immigrants in the United States and find that stronger family ties in the country of ancestry are associated with less geographic mobility of youth, higher likelihood of children living with their parents, lower labor force participation of women and young adults, and higher home production.¹⁹

Despite the ingenuity of the epidemiological approach, it is important to understand its limitations in establishing the causal effects of culture related to sample selection problem, omitted variable bias, and the fact that immigrants from different countries may not face identical economic and institutional environments even while residing in the same country or province. In addition, by construction, the epidemiological approach is biased towards not finding a significant effect of culture. First, the coefficient estimate on the cultural proxy reflects only the effect of culture beyond its possible impact on other socio-demographic characteristics included as controls. Second, that proxy variable relies heavily on a single cultural transmission channel, namely from parents to children. Third, while studying the descendants of immigrants rather than the first-generation movers themselves has some obvious advantages, in such cases the influence of culture inherited from the country of ancestry is likely to be attenuated.²⁰ These potential pitfalls and other aspects of the epidemiological approach are discussed in detail in a lucid overview by Fernández (2011).

Apart from the two popular methodologies described in this section, other strategies have been followed to identify the causal effects of culture on economic outcomes. Algan

¹⁹The two studies discussed in this paragraph are great example of the growing economics literature on the interaction between culture and demographic outcomes. Bachrach (2014) contains a brief overview of the demography literature on the role of culture.

²⁰Most first-generation immigrants experience high costs of moving and adapting to life in a new country. These include language barrier and other elements of “culture shock,” as well as disrupted connections to family members in home countries. Such problems are less severe for the descendants of the first movers.

and Cahuc (2010), in a study reminiscent of the epidemiological approach, creatively use the data on the descendants of immigrants in the U.S. to construct a time-varying measure of “inherited” trust and identify its impact on economic growth. Specifically, since the WVS only covers the most recent decades, they use GSS to measure trust among descendants of immigrants who arrived in the U.S. at different points in time and use these metrics to proxy for trust in their countries of origin in the past. They demonstrate that, in a sample of 24 countries, inherited trust changed over time between 1935 and 2000 and its increase was associated with economic growth during the same time period. Campante and Yanagizawa-Drott (2015) exploit exogenous cross-country variation in the length of the fasting period, due to rotating Islamic calendar, to explore the effects of the observance of Ramadan. They find that longer fasting has a negative effect on output growth in Muslim countries but increases subjective well-being among Muslims. In addition, a growing number of experimental approaches, whether in the lab or in the field, try to elicit the impact of cultural traits on behavior, along the lines of the contributions to Henrich et al. (2004).

Detecting the causal effects of culture remains one of the main challenges of the empirical work in the new cultural economics. Nevertheless, the use of novel data, better research design, and interdisciplinary collaboration in recent years have provided plenty of convincing evidence on the importance of culture in economic life.

4 The origins of culture

As follows from the previous section, the first-order issue in the empirical research on the effects of culture is that the latter is not exogenous but shaped by economic environment, institutions, geography, history, and other factors. Flipping the question, a growing research agenda in the new cultural economics investigates the origins of preferences, values, attitudes, beliefs, and norms rather than their consequences for economic development.

4.1 The social benefits of culture and its deep roots

A long-standing tradition in anthropology has been to rationalize the existence and persistence of various aspects of culture, including customs and practices that may seem strange and counterproductive at the first glance. According to this approach, which is often referred to as “functionalism,” culture is an environmental adaptation that fulfills specific functions and provides important social benefits for the community. For instance, in a classic contribution, Harris (1977) provides an intriguing narrative on how ecological con-

straints may have shaped cultural practices around the world, from food taboos in the Middle East and India to cannibalism in the Aztec empire.

Not surprisingly, the power and logic of the functionalist approach is quite appealing to economists who naturally view most phenomena in life through the lens of cost-benefit analysis. A nice illustration of this method in the new cultural economics is the research program that Peter Leeson dubbed “the law and economics of superstition” which attempts to explain seemingly bizarre culture using standard economic models.²¹ Recently, rational explanations have been proposed for such phenomena as judicial ordeals (Leeson, 2012), vermin trials (Leeson, 2013), the use of oracles (Leeson, 2014), and the evil eye belief (Gershman, 2015). A recurring argument in this line of research is that traditional practices are socially useful because they fill in the gap left by the absence of modern government and institutions, such as those securing property rights. In a way culture, even coming in the forms of superstitions, acts as a substitute, perhaps imperfect, for high-quality institutions.²²

Taking functionalism to the extreme, one may say that the prevalent cultural practices are socially optimal, given the economic, ecological, institutional, and other constraints. According to this “efficient culture” view, “every durable social institution or practice is efficient, or it would not persist over time” (Stigler, 1992). In other words, the mere existence of certain long-standing practices, however bizarre for an outsider, is *prima facie* evidence that their social benefits exceed the costs.

A somewhat less radical version of the functionalist approach views culture as useful heuristics or rules of thumb for “guessing the right thing to do in a complex and variable environment” (Richerson and Boyd, 2005). The key idea is that, in the imperfect-information world in which individual learning through experimentation is costly, simple rules approximating rational behavior may be adaptive and become encoded in culture in the form of beliefs, values, attitudes, and “gut feelings” (Gigerenzer, 2008).²³ Even if they do not guarantee optimal response in any given situation, the burden of occasional

²¹The seminal contribution to this literature is Posner (1980).

²²Beyond superstitions, Carvalho (2013) offers a theory rationalizing the practice of veiling among Muslim women. He argues that veiling serves as a commitment device against violation of religious norms that enables women to take advantage of the existing economic opportunities while maintaining their reputation within community. Bidner and Eswaran (2015) propose an economic model of the origins of the caste system in India which, they argue, optimally exploits spousal complementarity in household production.

²³See Nunn (2012) for an excellent summary of this approach and its applications in economics.

mistakes is compensated by cutting the costs of finding a perfect solution.²⁴ Similarly, Diamond (2012) argues that traditional societies often adopt behavioral rules that minimize risks in a dangerous environment. Although these rules may seem overly cautious, such “constructive paranoia” may be adaptive since it helps to avoid potentially grave consequences of risky behavior.

Pointing out the benefits of certain traits and behaviors in a given environment has been an effective strategy to motivate a number of empirical studies on the origins of culture. Nunn and Wantchekon (2011) combine contemporary data from the Afrobarometer surveys with historical ethnic-level data on slave exports to investigate the origins of mistrust in Africa. They find that representatives of ethnic groups that suffered most from the slave trade in the past are less trusting today. Furthermore, most of this effect can be attributed to the long-term persistence of the cultural norm of mistrust that presumably was beneficial to ethnic groups historically exposed to the danger of slave raids.²⁵ Alesina et al. (2013) trace the origins of gender roles back to the historical use of plough in agriculture. Conceptually, since men have a natural comparative advantage in using the heavy plough, this innovation contributed to gender-based division of labor, with men working in the field and women doing housework. The hypothesis is that such gender roles were encoded in culture reflecting and reinforcing the existing pattern of specialization. Combining contemporary surveys with historical data from the Ethnographic Atlas the authors show that the reliance on plough-based agriculture in the past is associated with higher prevalence of attitudes favoring gender inequality, lower female labor force participation, and relatively poor representation of women in business and politics in present times.²⁶

²⁴Boyd and Richerson (1985) provide formal evolutionary models showing that imitation and other forms of social learning can be adaptive as they allow to acquire useful knowledge without incurring the individual costs of discovery and testing. See also the critique of their framework by Rogers (1988) which motivated revisions of the original theory (Boyd and Richerson, 1995; Enquist et al., 2007).

²⁵In a related study, Dalton and Leung (2014) show that historical exposure to transatlantic slave trade is associated with higher contemporary polygamy rates at the ethnic-group level in Africa. The argument is that slave trade led to a skewed sex ratio thus creating a demographic environment conducive to the acceptance and spread of the practice of polygamy which persisted over time. Fenske (2015) explores other correlates of polygamy in Africa and discusses recent economics literature on the subject.

²⁶To establish causality, both Nunn and Wantchekon (2011) and Alesina et al. (2013) employ instrumental variables strategies. In the first paper, distance to the coastline is used as an instrument for the volume of slave exports. In the second paper, the authors instrument for historical plough use in agriculture using the suitability of land for growing crops that especially benefit from the adoption of the plough.

A number of empirical studies link contemporary cultural characteristics to geography and climate. Durante (2010) argues that the norms of trust developed in preindustrial times to facilitate collective action and mutual insurance mechanisms that helped subsistence farmers cope with climatic risk. He combines data on historical weather patterns with multiple rounds of the ESS to show that the population of European regions characterized by higher levels of climatic volatility is more trusting today. Michalopoulos et al. (2012) theorize that Islamic norms were instrumental in promoting trade and resolving conflict driven by social inequality. Consistent with the theory, the authors find that current Muslim adherence within and across countries is positively related to the proximity of historical trade routes and inequality of geographical endowments as measured by the suitability of land for agriculture. Galor and Özak (2016) exploit exogenous variation in agro-climatic characteristics to establish a significant positive effect of higher potential crop yields in the preindustrial era on various contemporary measures of long-term orientation. This result is in line with the theory proposed by the authors according to which high return on agricultural investment increased the representation of patient individuals in the population during the Malthusian era.

Another line of empirical research on the deep roots of culture emphasizes the role of institutions in fostering certain cultural traits. Guiso et al. (2016) revisit the hypothesis of Putnam et al. (1993) who argue that the experience of self-government in medieval Italian cities promoted the formation of “civic capital” which persisted until modern times. They find that the historical free city-state experience is indeed associated with higher levels of civic capital today as captured by the number of non-profit organizations per capita, blood and organ donations, and the incidence of students’ cheating on national exams. The authors conjecture that this association is mediated by the development of persistent self-efficacy beliefs, that is, confidence in one’s ability to effectively complete tasks and reach stated goals. Becker et al. (2016) use the LiTS dataset to explore the consequences of historical affiliation with the Habsburg Empire on contemporary trust attitudes. They exploit the fact that the border of the Empire cut through the territory of five present-day countries of Eastern Europe producing within-modern-country variation in exposure to historical institutions. It turns out that, although the border has long been erased, communities that once were part of the Empire’s territory currently display higher trust in courts and police and lower incidence of corruption among public officials. The authors hypothesize that high-quality governance and well-functioning formal institutions

in the times of the Habsburg Empire created good culture which persisted over time.²⁷ Beyond Europe, Lowes et al. (2015) examine the long-term impact of state centralization on cultural norms in Central Africa. They exploit the unique case of the precolonial Kuba Kingdom which had many features of a modern state, including a sophisticated legal system, professional bureaucracy, and police force, as well as established historical boundaries defined by the structure of the river system in the area. The study conducts field experiments with individuals residing within the historical frontier of the Kuba Kingdom and those just outside that frontier and finds that the former are less likely to follow rules and more likely to steal. This curious result implies that formal institutions are in fact capable of eroding the norms of rule-following.

4.2 The social costs of culture

Most research on the origins of culture focuses on its social benefits. However, along with such benefits culture may also carry substantial costs.

In anthropology, one of the few challengers of the functionalist approach to culture is Robert Edgerton who argued that the prevalent view of culture as adaptive is inconsistent with many striking examples (Edgerton, 1992). He criticized the fierce defenders of functionalism and cultural relativism for painting an idealistic picture of life in traditional societies and rationalizing such practices as cannibalism, infanticide, female genital mutilation, and ceremonial rape instead of focusing on their obvious negative sides. From Edgerton's perspective, while most persistent cultural phenomena do play a useful role in society and represent environmental adaptations, some of them may be or become harmful and inefficient. He illustrates the huge potential cost of culture using numerous examples such as the Xhosa cattle-killing movement. In 1856–1857, based on a prophecy of a 15-year-old girl, the Xhosa slaughtered an estimated 400,000 cattle, the main source of their livelihood, destroyed corn supplies, and refused to plant new crops expecting the arrival of the spirits of ancestors and purification of all evil. Instead, famine arrived and thousands of Xhosa died of starvation.

²⁷In a related paper, Grosjean (2011) studies the long-term effects of the exposure to Ottoman, Habsburg, Russian, and Prussian empires across 21 modern countries of central, eastern, and southeastern Europe. Using the data from LiTS she estimates a “cultural gravity model” exploring similarities in responses to the generalized trust question and finds that being part of the same historic empire reduces contemporary cultural distance in terms of social trust.

Researchers studying cultural evolution have long admitted the possibility of existence and accumulation of maladaptive traits. Richerson and Boyd (2005) argue that the acquisition of maladaptive traits is in fact a natural by-product of social learning. Cavalli-Sforza and Feldman (1981) show that such traits can persist for a long time under the pressure of cultural transmission. As an example of a very costly persistent practice they discuss the intriguing case of the kuru virus. The deadly disease spread among the Fore people of New Guinea as a result of their tradition of eating the bodies of dead relatives and killed scores of the tribe members until the cause of illness was identified in 1950s and the cultural practice was discontinued.

More recently, interdisciplinary research at the intersection of anthropology, evolutionary biology, and economics developed a number of formal models of cultural evolution contributing to the debate on the benefits and costs of cultural norms. One of the key results in this literature is that the process of cultural evolution in the presence of norm-sustaining mechanisms like reputation and costly punishment may yield multiple stable equilibria characterized by alternative bundles of social norms (Chudek and Henrich, 2011). This creates fertile ground for the competition between societies with different cultures the relative “fitness” of which is ultimately determined in the process of intergroup competition, or cultural group selection. In sum, the presence and persistence of costly culture is not unnatural. While the cases of the kuru virus among the Fore and the Xhosa self-genocide represent extreme examples, they are nonetheless important illustrations of just how costly traditional practices and belief systems may be.

Development economists paid some attention to the costs of traditional culture in terms of inhibiting growth. For instance, Platteau (2014) argues that traditional redistributive norms act as a brake on capital accumulation, prevent social mobility, and hamper the incentives to do business in communities of Sub-Saharan Africa. Similarly, Hoff and Sen (2006) show that, while kin-based sharing norms are an important mutual insurance mechanism in a subsistence economy, they can become dysfunctional in the process of economic development and modernization.²⁸ Traditional beliefs in various forms of supernatural punishment for violation of social norms can also have discouraging effects. There is, for instance, abundant anecdotal evidence on the inhibiting effect of the evil eye and witchcraft beliefs on the incentives for economic self-advancement (Gershman, 2015; Platteau, 2009).

²⁸See Baland et al. (2016) for an empirical investigation of the side-effects of kin-based transfers on the labor market, education, and fertility decisions among extended family members in Western Cameroon.

The study by Gershman (2016) goes beyond anecdotal evidence to systematically explore one of the potential side-effects of witchcraft beliefs, namely the erosion of social capital. Conceptually, witchcraft beliefs, defined as ability to use supernatural techniques to harm others or acquire wealth, may have a direct negative effect on trust and cooperation by generating two types of fear: the fear of interacting with witches who are perceived by believers as inherently dangerous and untrustworthy and the fear of witchcraft accusations resulting in potentially severe sanctions on part of other community members. The results of the empirical analysis, based on recent surveys conducted by the Pew Forum on Religion and Public life in 19 countries of Sub-Saharan Africa, are consistent with this hypothesis and available ethnographic evidence. In a large sample of subnational administrative units, there is a robust negative association between the prevalence of self-reported beliefs in witchcraft and various measures of trust, even after accounting for country fixed effects and a variety of potentially confounding factors. Furthermore, people who claim to believe in witchcraft or reside in regions where such beliefs are widespread are less likely to engage in charitable giving and participate in religious group activities, suggesting that witchcraft beliefs are systematically associated with antisocial culture.²⁹ This finding complements and contrasts the well-known argument regarding the positive impact of religions with moralizing high gods on cooperation and prosocial norms (Norenzayan and Shariff, 2008). The presence of such competing “cultural bundles” of mutually reinforcing beliefs and norms, prosocial or antisocial, is consistent with the multiple equilibria narrative of the literature on cultural evolution discussed above.

In principle, the presence of costs related to certain practices, beliefs, and values does not contradict the efficient culture view as long as it is likely that those costs are still outweighed by the generated social benefits. However, this view appears less credible when the costs are much more obvious than the benefits and when the environment that plausibly contributed to the emergence or adoption of certain cultural traits becomes irrelevant. If witchcraft beliefs erode trust and cooperation, impede innovation, contribute to a paranoid worldview, and lead to killings of innocent people, why are they still so prevalent in Sub-Saharan Africa? If mistrust was a useful norm in the times of African slave trade, why has it persisted until today given that trust and cooperation are so crucial for the functioning of society? The following section turns to these challenging questions of cultural persistence and change.

²⁹In a related exercise, Gershman (2016) follows the epidemiological approach to investigate the persistence of antisocial culture associated with witchcraft beliefs. He shows that those second-generation immigrants in Europe whose parents were born in countries with higher prevalence of witchcraft beliefs are generally less trusting.

5 Cultural transmission, persistence, and change

Although this is often taken for granted, there is no a priori reason to assume that culture is persistent or slow-moving. For instance, looking at the United States, it is hard to ignore a massive shift in attitudes towards female labor force participation or same-sex marriage over a relatively short time span. Similarly, long-standing practices such as dueling in Europe or foot binding in China that existed for centuries disappeared relatively quickly.³⁰ On the other hand, witchcraft beliefs are still highly widespread around the world and pork consumption is essentially absent in the Middle East. Beyond anecdotal evidence, empirical research provides mixed findings on the issue of cultural persistence.

5.1 Evidence on cultural persistence and change

One of the first data-driven studies on cultural dynamics was conducted by Inglehart and Baker (2000). They employ multiple waves of the WVS to track the evolution of values across countries during 1981–1998 and test the so-called “modernization theory,” according to which economic development is expected to cause cultural shifts. Interestingly, the authors find evidence of both persistence and change. On the one hand, consistent with modernization theory, they find that economic development is associated with the evolution of values from “traditional” to “secular-rational” manifested, for instance, in rising trust and tolerance. On the other hand, parts of deep-rooted cultural heritage, primarily captured by historically predominant religious and political ideology, appears to endure despite modernization. As a result, societies around the world still form relatively distinct cultural zones, or value systems.

The ambiguity of results in Inglehart and Baker (2000) has not been resolved in more recent studies. Some of them show that cultural change can happen pretty quickly. Alesina and Fuchs-Schündeln (2007) explore the convergence of attitudes among Germans in the aftermath of their country’s reunification in 1990. First, they find that the support for an active role of state in the economy is much stronger among Germans from the East relative to those from the West, due in large part to the direct effects of living under socialism. Second, according to the authors’ estimates, it will take one or two generations for the attitudes of former East and West Germans to converge, a rather brief time period.

³⁰Peyton Young calls this feature of norms which may persist for a long time and then drastically disappear the “punctuated equilibrium” effect, or tipping. See Young (2015) for a recent overview and applications of his approach to modeling the dynamics of social norms using evolutionary game theory.

Gruber and Hungerman (2008) explore the dynamics of religious participation following the repeal of the “blue laws” which prohibited retail activity on Sundays in some of the U.S. states. They show that the increased secular competition from “the mall” led to the decline of religiosity as captured by church attendance and donations. Fernández (2013) reports a remarkable change in attitudes towards female labor force participation in the U.S. during the 20th century. According to survey results that she cites, in 1945 only 20% of the population approved of a “married woman earning money in business or industry if she has a husband capable of supporting her,” while in 1998 fewer than 20% disapproved. Similar sweeping cultural change took place with regard to acceptance of premarital sex. Fernández-Villaverde et al. (2014) report that, although only 16% of the female population in the U.S. had a permissive attitude towards premarital sex in 1948, this number jumped to 45% by 1983.³¹

On the other hand, a large number of empirical studies argue in favor of very long-term cultural persistence. In fact, most of the results surveyed in section 4.1 are commonly viewed this way, as they find a strong connection between contemporaneous culture and historical or geographical characteristics. The standard interpretation is then that the relevant culture emerged in the past and persisted until present times. For instance, the argument in Nunn and Wantchekon (2011) is that mistrust emerged as a useful norm in the times of African slave trade and persisted through generations until today, long after the demise of slavery. Similarly, Alesina et al. (2013) argue that, although norms regarding gender roles can be traced back to the practice of plough-intensive agriculture in the past, they endured over time despite the diminished role of gender-based division of labor.

Interesting and more direct evidence of very long-term cultural persistence is offered by Voigtländer and Voth (2012) who examine the data on German localities to explore the durability of antisemitic attitudes. They show that pogroms in 1348–1350, that resulted from scapegoating the Jews for miseries of the plague, reliably predict 20th century violence against the Jews, votes for the Nazi party, and other indicators of antisemitism. This striking result implies persistence of culture over some 600 years. In a related paper, Grosfeld et al. (2013) estimate the long-term effects of Jewish presence in Eastern Europe exploiting the historical existence of the Pale of Settlement that defined the pattern of Jewish residency in the Russian Empire for more than a century until 1917. The authors

³¹The notion that culture has a malleable component is also supported by the evidence that attitudes and beliefs can be affected by one-off important events such as participating in a Hajj (Clingingsmith et al., 2009) or exposure to relatively short-term shocks such as recessions happening during childhood (Giuliano and Spilimbergo, 2014) or periods of ethnic conflict (Rohner et al., 2013).

follow a regression discontinuity approach using data from LiTS to compare contemporary values and attitudes of people living near the historical boundary of the Pale. Interestingly, they find that individuals currently residing within the historical boundary of that territory have less support for the market economy and more trust. Their interpretation is that antisemitism within the Pale generated antimarket culture and trust among non-Jewish population, traits that persisted over time.³²

Another way to explore cultural persistence and change is by using the data on immigrants. As explained in section 3.2, one of the premises of the epidemiological approach is that immigrants and their descendants to some extent carry the cultural baggage of their country of ancestry. At the same time, a new environment is likely to trigger a cultural change. Some findings imply that the culture of immigrants is indeed strongly correlated with that in their country of origin. For instance, Guiso et al. (2006) use the data from WVS and GSS to show that trust attitudes of immigrants in the United States are strongly positively correlated with those in their home countries.³³ Ljunge (2014) uses the ESS data to study trust attitudes among second-generation immigrants in 29 European countries with ancestry all over the world. He finds evidence in favor of substantial persistence of trust, especially in relation to mother's country of birth. Luttmer and Singhal (2011) employ the ESS data to study the transmission of preferences for redistribution. They find strong empirical support for persistence: immigrants' preferences for redistribution reflect those in their countries of birth. Giavazzi et al. (2014) examine the persistence and evolution of values and attitudes of different generations of European immigrants in the United States. They find that the speed of convergence towards U.S. culture varies greatly by specific traits. Some of them, such as religious and family values, are very persistent, while others, like trust and preferences for redistribution, seem to adjust rather quickly. The authors' analysis also shows that persistence is less pronounced for descendants of immigrants beyond the first two generations.

Given the multi-faceted evidence on cultural persistence, a natural question arises regarding the factors contributing to the durability of culture or fostering its change. The next section explores the channels of cultural transmission and the mechanisms of persistence.

³²In contrast, Jha (2013) argues that the history of inter-ethnic cooperation in medieval trading ports in South Asia generated a persistent legacy of ethnic and religious tolerance.

³³Algan and Cahuc (2010) establish similar correlations in their study of inherited trust reviewed in section 3.2. See also Tabellini (2008a).

5.2 Cultural transmission and mechanisms of persistence

From the perspective of the efficient culture view, the shifts in values, attitudes, and norms are easy to understand: culture persists as long as its social benefits outweigh the costs and evolves following the changes in the underlying cost-benefit calculus. Some evidence is consistent with this reasoning. Grosjean (2014) finds that places of original settlement of Scottish and Irish immigrants in the United States are characterized by higher contemporary homicide rates in Southern states. Her interpretation is that those settlers brought with themselves the “culture of honor” that contributed to violence, but, being particularly useful in an environment with weak institutions, only persisted in the South. Over time, as the quality of institutions in the North and the South is converging, the benefits of the culture of honor and its salience are expected to dissipate. One of the results in Voigtländer and Voth (2012) is also consistent with the cost-benefit approach to cultural persistence. Specifically, they show that persistence of antisemitic attitudes is less pronounced in cities with higher levels of trade or immigration, in which the costs of xenophobic culture were quite substantial. On the other hand, the main result of the study suggests centuries of persistence of culture that does not yield any immediate economic benefits. This implies that revising the usefulness of culture may take an enormous amount of time representing a challenge for the efficient culture view.

In order to pin down some of the plausible mechanisms of persistence it is necessary to understand how culture is shaped and transmitted. Theoretical studies on cultural transmission in economics focus on the endogenous formation and evolution of preferences.³⁴ The first way to model cultural transmission is the altruistic, or utilitarian approach, according to which parents maximize the well-being of their offspring by molding their preferences. This approach is used, for instance, by Doepke and Zilibotti (2008) who explore the interaction between the process of industrialization, formation of social classes, and the evolution of two elements of preferences, patience and work ethic. In their model, culture is akin to human capital that is partly inherited from parents but also accumulated due to parental costly investment in socialization. Cultural traits and occupational choices (characterized by the steepness of income profiles and the importance of labor effort) are

³⁴Some research, such as Bénabou and Tirole (2006) and Guiso et al. (2008), models the transmission of beliefs rather than preferences. In Fernández (2013), women’s beliefs about the long-run costs of employment evolve endogenously in the process of intergenerational learning. Her original model generates a simultaneous change in women’s attitudes to labor force participation and in their actual labor market decisions, consistent with the trends in the U.S.

mutually reinforcing and the society is endogenously stratified into classes. Middle-class dynasties in occupations that require effort, skill, and experience gradually develop patience and work ethic, whereas upper-class dynasties living off rental income cultivate a taste for leisure. With the onset of the Industrial Revolution, patience and the work ethic become the key assets leading to the economic rise and advancement of the middle class. Doepke and Zilibotti (2014) employ a similar methodological approach to model the interaction between culture, as captured by risk tolerance and patience, and economic growth driven by endogenous innovation activities.³⁵

The altruistic approach to modeling cultural evolution via preference formation is somewhat similar to the efficient culture view. Parents always choose the preferences that are optimal for their children’s welfare taking into account the underlying economic and institutional environment. Hence, preferences evolve based on the costs and benefits that they offer. There is no scope for inefficient persistence of “wrong” preferences except to the extent that they are mechanically inherited from parents.

Another way to model the evolution of preferences in the process of long-run development is the Darwinian approach.³⁶ In this line of work, changes in the prevalence of certain cultural traits in the population are driven by the process of natural selection and fertility rates are directly affected by the cultural type. Preferences are perfectly inherited from parents and it is the economic environment that largely determines which cultural type propagates due to its evolutionary advantage. In their seminal contribution, Galor and Moav (2002) consider the evolution of preferences for quantity vs. quality of children and its role in triggering a take-off from Malthusian stagnation. The key insight is that during the Malthusian era the quality-biased individuals gain an evolutionary advantage as they are wealthier and thus have higher fertility rates. As the proportion of the quality type in the population increases, technological progress is intensified due to accelerated human capital accumulation which ultimately leads to the transition from stagnation to growth. In a related paper, Galor and Michalopoulos (2012) examine the evolution of risk preferences. They argue that in the early stages of economic development risk-tolerant (en-

³⁵In another notable recent study applying the altruistic approach, Fernández-Villaverde et al. (2014) propose a theory accounting for the decline in stigma associated with premarital sex. In their setup, parents optimally shape the attitudes of their daughters, modeled as shame associated with out-of-wedlock births, and explore the key role of contraceptives in reducing the cost of premarital sex and ultimately leading to its de-stigmatization.

³⁶There is a large related literature in economics exploring the evolutionary basis of preferences, including patience, risk attitudes, and status concerns, see Robson and Samuelson (2011) for an overview.

trepreneurial) traits had an evolutionary advantage which led to the spread of this trait in the population and contributed to faster technological progress. However, in later stages of development, risk-averse traits gain the evolutionary advantage contributing to economic convergence across societies.

The Darwinian view of cultural change is similar to the altruistic approach in that it is also based on the costs and benefits of cultural traits. However, in this case it is the process of natural selection, rather than optimizing parents, that determines which preferences are “fitter” in terms of delivering higher income and thus, in the Malthusian era, higher fertility rate. In addition, the evolutionary mechanism operates over a long time horizon and it may take many generations for the composition of the population to change.³⁷

The third approach to modeling cultural change emphasizes different types of cultural transmission. A cornerstone in this literature is the book by Cavalli-Sforza and Feldman (1981) summarizing years of their research on the subject.³⁸ The authors distinguish between three modes of cultural transmission: vertical (from parent to offspring), horizontal (between members of the same generation such as fellow students, coworkers, and friends), and oblique (between members of different generations, excluding parent-offspring pairs, such as teachers and students). A variety of social interactions than emerge in the population gives rise to “cultural transmission matrices” which allow to model the evolution of culture over time. The relative importance of different modes of cultural transmission, as well as the number of “transmitters” and “receivers” participating in the process, can help explain the variation in persistence of certain cultural traits. For example, oblique transmission through social classes in which a large group creates cultural pressure on the individuals in the next generation, is a conservative mode of transmission promoting cultural persistence. On the other hand, in the case of teacher-students interaction transmission, is of the “one-to-many” type and cultural change can happen more rapidly.

A drawback of the framework in Cavalli-Sforza and Feldman (1981) is that the probabilities of acquiring cultural traits through vertical transmission are assumed to be exogenous. In a series of papers, Bisin and Verdier (1998; 2000; 2001) enhance that original framework to incorporate intentional and costly parental socialization of children. Furthermore, in contrast to the perfectly altruistic approach discussed above, they assume a type of pater-

³⁷See, for example, the calibration of the Galor and Moav (2002) model in Collins et al. (2014).

³⁸An overview that would do justice to the rich literature on cultural transmission, change, and gene-culture co-evolution spurred by the seminal contributions of Cavalli-Sforza and Feldman (1981) and Boyd and Richerson (1985) is beyond the scope of this essay. See Richerson and Boyd (2005) and Henrich (2015) for a popular overview.

nalistic altruism, or “imperfect empathy,” on part of the parents. Specifically, children’s welfare is evaluated through the lens of their parents’ preferences giving rise to biased socialization of children to their parents’ own cultural traits, rather than those that are objectively optimal. The modeling framework of Bisin and Verdier can account for long-run cultural heterogeneity and is therefore consistent with the observed resilience of cultural traits.

The imperfect empathy approach to cultural transmission gained popularity in the economics literature on cultural change and has been applied in the studies of social status (Bisin and Verdier, 1998), corruption (Hauk and Sáez-Martí, 2002), trust and cooperation (Francois and Zabojnik, 2005; Tabellini, 2008b; Bidner and Francois, 2011), discrimination (Sáez-Martí and Zenou, 2012), and risk attitudes (Klasing, 2014).³⁹ Because of the imperfect empathy assumption, this approach yields cultural persistence, even in the face of changing economic environment, since children’s welfare is not perfectly internalized by their parents. Hence, the framework of Bisin and Verdier is often used to explain the long-term persistence of even those cultural traits that seem obsolete.

Empirical studies have attempted to evaluate the importance of various channels of cultural transmission. Some research yields evidence on vertical transmission by directly exploring the association between cultural traits of parents and their children. In an early contribution, Cavalli-Sforza et al. (1982) find strong evidence of vertical transmission of political and religious attitudes and affiliations, and, to a lesser extent, habits and supernatural beliefs, between surveyed Stanford undergraduates and their parents. More recent empirical studies found significant evidence of vertical transmission of generosity as captured by charitable giving (Wilhelm et al., 2008), risk and time preferences (Arrondel, 2013), and gender role attitudes (Farré and Vella, 2013; Dhar et al., 2015).⁴⁰ While these studies do find a positive significant association between the culture of children and parents, those correlations are far from perfect implying that vertical transmission is an important, but not the only factor in the process of socialization.

Dohmen et al. (2012) use the German Socio-Economic Panel data to explore three channels of cultural transmission of two important traits, risk and trust attitudes. Specifically, they consider the channels that have been theoretically explored in Bisin and Verdier (2000): vertical transmission from parents to children, the impact of average attitudes in

³⁹See Bisin and Verdier (2011) for further examples and a detailed overview.

⁴⁰In contrast, Cipriani et al. (2013) explore experimental data on prosocial behavior in a standard public goods game and find no significant correlation between the degree of cooperation of children and that of their parents.

the local environment, and positive assortative mating of parents (which presumably enhances the transmission of their own traits to children). Evidence is consistent with all three modes of transmission. Children's risk and trust attitudes are positively correlated with those of their parents and those prevalent in their region of residence. Furthermore, cultural traits are strongly positively correlated within married couples.

Evidence on persistence and non-persistence of culture among immigrants and their descendants may also be interpreted from the perspective of cultural transmission. For instance, if the attitudes of second-generation immigrants are strongly correlated with those prevalent in their countries of ancestry, this should imply strong vertical transmission, controlling for the composition of population in their place of residence and other confounding factors. Interestingly, the ambiguous findings in Giavazzi et al. (2014) regarding persistence of cultural traits among the descendants of immigrants, mentioned in section 3.2, may also be interpreted in terms of differential importance of various transmission modes. In particular, they find that traits for which horizontal transmission is likely to be more important (such as norms of cooperation) converge more quickly to the prevalent U.S. norms relative to those traits for which vertical transmission is more effective (such as deep moral and religious values).

The findings on the importance of vertical transmission of culture certainly helps to understand the observed cultural persistence. In fact, biased transmission, due to either imperfect empathy in socialization or mechanical imitation of parental traits, can even explain the persistence of inefficient culture. The possible conflict between vertical transmission of cultural traits and natural selection was pointed out in Cavalli-Sforza and Feldman (1981) who argue that some cultural traits may contribute negatively to Darwinian fitness. They show in a simple model that substantial pressure of vertical cultural transmission can effectively counteract negative natural selection and maintain maladaptive traits in populations.⁴¹ They also point out another obvious, but important reason for possible persistence of inferior culture in the population, namely ignorance. In the case of the kuru virus described in section 4.2, the traditional practice of endocannibalism contributed to the spread of this fatal disease among the Fore. However, the custom of eating the dead persisted simply because the Fore people were unable to link it to the incidence of kuru

⁴¹Henrich (2015) discusses the phenomenon of culturally transmitted suicide pointing out the contribution of prestige-biased learning and self-similarity cues to copying extremely costly behavior.

which was instead attributed to sorcery. In other words, it may be difficult to eliminate a maladaptive trait unless it is perceived as such.⁴²

Yet another mechanism of cultural persistence recently explored in the literature has to do with the interplay between culture and institutions. Specifically, beliefs and values may lead to the adoption of specific institutions which then reinforce the original cultural traits and their intergenerational transmission (Nunn, 2012; Alesina and Giuliano, 2015). Such interaction between culture and institutions is explored in the theoretical framework of Tabellini (2008b) in which there is complementarity between cooperative values and people’s support for legal institutions that enforce cooperation.⁴³ As a result, otherwise identical societies may end up in equilibria with different combinations of institutions and culture depending on initial conditions or random shocks.⁴⁴ Because culture, institutions, and economic outcomes are co-determined, the issue of whether institutions generate culture or the other way round turns into a “chicken-and-egg problem” and, depending on specific historical context, the original impetus may come from either cultural or institutional side giving rise to a stable equilibrium.⁴⁵

As shown in this section, there are many potential explanations for why culture persists and how it evolves. Exploring the relative importance of these and other channels of cultural transmission and persistence is at the research frontier of the new cultural economics.

⁴²Belloc and Bowles (2013) offer a model in which inferior “cultural-institutional conventions” may persist not due to the pressure of vertical cultural transmission or ignorance, but due to the fact that individual conformity to the status quo institutions and cultural norms may simply be a mutual best response. Fudenberg and Levine (2006) show that false beliefs about off-equilibrium actions, which they call “superstitions,” can persist for a long time if they prevent behavior that could reveal the information needed to disconfirm those false beliefs.

⁴³See also Bisin and Verdier (2015) for a more general theoretical model studying the interaction between culture and institutions and its effect on economic activity.

⁴⁴In a related paper, Aghion et al. (2010) model the interaction between trust and regulation. Similarly, because institutions and culture reinforce each other, multiple equilibria are possible, with high trust and low regulation and vice versa. Consistent with their theory, the authors report a strong negative correlation between trust and measures of regulation in a cross-section of countries.

⁴⁵Compare, for instance, the studies of Licht et al. (2007) and Tabellini (2008a), which attempt to identify the effects of culture on institutions, to those of Guiso et al. (2016) and Becker et al. (2016) who argue for the opposite channel of causality.

6 Envy and related culture

So far this essay discussed the key themes of the new cultural economics in application to a variety of cultural traits. Envy, defined in what follows simply as concern for relative standing, and envy-related culture represent a curious case illustrating some of the main issues in the literature including the interaction between culture, institutions, and the economy, the origins of culture, its social benefits and costs, and the relationship between economic and cultural change. This case is especially interesting because envy can have strikingly different implications for economic performance as it triggers competing incentives, constructive and destructive.

6.1 The two sides of envy

Conceptually, there are two major ways to satisfy envy: to increase one's own consumption or income (constructive envy) and to decrease that of the reference group (destructive envy). Given the two sides of envy, individuals face a trade-off: while striving for higher relative standing, they also want to avoid the destructive envy of those falling behind. The resolution of this trade-off largely shapes the role of envy in society.

The analysis of envy from the perspective of its two sides is motivated by case studies from around the world.⁴⁶ The starkest evidence on the destructive side of envy comes from developing peasant societies of Latin America, Africa, and Southeast Asia, as well as more recent experiences of transition economies like Russia and China. In many cases, the fear of provoking destructive envy has been shown to motivate envy-avoidance behavior: people undermine their own productive activities and conceal wealth in order to avoid malicious envy of their neighbors manifested in plain destruction, theft, or forced sharing. On the other hand, a view of envy that is more common in economics focuses on its constructive side which makes people engage in conspicuous consumption, work hard, and spend in pursuit of higher relative standing. Under “keeping up with the Joneses” (KUJ), envy acts as an incentive to increase effort and labor supply to be able to match the consumption pattern of the reference group. The fear of destructive envy is virtually non-existent, and instead, emulation and competition for status are at play.

In order to reconcile this seemingly controversial evidence, Gershman (2014) develops a comprehensive theory that captures the fear of envy and keeping up with the Joneses as alternative equilibria, identifies the conditions that give rise to them, and explores the

⁴⁶See Gershman (2014) for a detailed discussion of relevant anecdotal evidence and further references.

transition between the two in the process of economic development. The basic model is set up as a two-stage dynamic game between two unequally endowed social groups or individuals who care about relative consumption and are each other's reference points. In the first stage of the game, they undertake productive investment that, combined with initial endowments, raises their future productivity. In the second stage, individuals split their time between own production and the disruption of the other player's production process. The optimal mix of constructive and destructive activities in this setup depends on the scope of available investment opportunities, disparity of the first-stage investment outcomes, quality of institutions (level of property rights protection or, more generally, the effectiveness of destructive technology) and strength of social comparisons. The game is characterized by a unique equilibrium whose qualitative features can be very different depending on the model's parameters reflecting the economic, institutional, and cultural environment.

If the initial inequality is low, institutions are good, social comparisons are mild, and investment opportunities are abundant, constructive envy dominates and the conventional KUJ equilibrium arises. Individuals compete peacefully for their relative standing, and envy motivates high effort and output. In contrast, high inequality, bad institutions, strong social comparisons, and scarce investment opportunities lead to the emergence of the "fear equilibrium," in which the better endowed individual anticipates destructive envy and prevents it by restricting his first-stage investment.⁴⁷ Hence, a combination of economic, institutional, and cultural factors jointly determine whether envy affects economic performance positively, by encouraging status competition, or negatively, by discouraging effort in anticipation of envious retaliation.

To explore the evolution of the role of envy in the process of economic development, the basic model is embedded in an endogenous growth framework, in which new investment opportunities arise from learning-by-doing and knowledge spillovers. As a result of this growth dynamics, the society may experience an endogenous transition from the fear of envy to keeping up with the Joneses: envy-avoidance behavior, dictated by the destructive side of envy, eventually paves the way to emulation, driven by its constructive side.

In Gershman (2014), the only "cultural" component is the preference parameter capturing the importance of relative standing, or the strength of social comparisons. Interest-

⁴⁷Such envy-avoidance behavior captures precisely the evidence cited above. A third equilibrium type, in which actual envy-motivated destruction takes place, is also possible. However, redistributive transfers on part of the "rich" can mitigate or even completely eliminate any destructive activities.

ingly, the equilibrium role of envy in society and its dominant side, whether destructive or constructive, generate a whole layer of related attitudes, norms, and beliefs.

6.2 Envy-related culture, its origins and evolution

The first cultural bundle, which may be referred to as the fear-of-envy or envy-avoidance culture, corresponds to the fear equilibrium of the framework laid out in the previous section, in which the anticipation of destructive envy prevents people from engaging in profitable activities and raising their standard of living. Such culture is characterized by a systematic, often exaggerated fear of envy-motivated sanctions related to visible improvements in someone's well-being, whether in the form of malicious gossip of neighbors or supernatural punishment. A quintessential example of the fear-of-envy culture is the evil eye belief, an ancient and widespread superstition according to which people can cause harm by a mere envious glance at coveted objects or their owners.

Gershman (2015) investigates the origins of the evil eye belief based on the rational theory of the fear of envy combined with the popular approach to culture as useful heuristics described in section 4.1. Specifically, the study argues that the belief emerged as a useful rule of thumb under conditions in which envy-avoidance behavior, prescribed by the evil eye belief, was a proper response to the threat of destructive envy.⁴⁸ As follows from earlier discussion, these conditions include wealth inequality, bad institutions or ease of envious retaliation, and strong social comparisons. In the context of weakly institutionalized traditional societies, where the evil eye belief emerged and spread thousands of years ago, wealth differentiation, along with vulnerability and visibility of main productive assets, were the key features enabling destructive envy and favoring the adoption of this superstition as a cultural defense mechanism limiting the exposure to other people's envy-motivated actions.⁴⁹

These predictions are explored using the Standard Cross-Cultural Sample, a dataset on 186 well-described preindustrial societies from around the world. The data show that the incidence of the evil eye belief across the SCCS societies is indeed positively and significantly associated with measures of wealth inequality. This finding is robust to the inclusion

⁴⁸Numerous case studies show that the fear of the evil eye discourages investment and fosters unproductive activities such as concealment of assets, see Gershman (2015). These adverse effects on people's incentives represent an obvious social cost of the superstition.

⁴⁹Note also that the evil eye belief shifts the blame for harm to the supernatural force of envy which helps to avoid accusations and costly open hostility in the community.

of potential confounding factors such as spatial and cross-cultural diffusion, various dimensions of economic development, exposure to major world religions, and continental fixed effects. To provide further evidence in favor of the main hypothesis and partly mitigate the potential reverse causality issue, the study explores the relationship between the prevalence of the evil eye belief and the subsistence mode of production, the technological basis of inequality in small-scale society that is less likely to be directly affected by the presence of the evil eye belief. The belief turns out to be more widespread in agricultural and pastoral societies which tend to sustain higher levels of inequality compared to foragers and horticulturalists. The theoretical framework yields two further possible explanations of this result that go beyond the role of inequality. First, material wealth, which is more important in agro-pastoral societies, is highly visible and thus, is more likely to trigger comparisons and destructive envy. Second, material wealth such as livestock and crops is highly vulnerable, making envious retaliation easier and the fear of destructive envy more pronounced. Altogether, the empirical analysis of the relationship between inequality, production mode, and the prevalence of the evil eye belief is consistent with the view of the latter as a useful cultural response in an environment conducive to destructive manifestations of envy.

The second type of envy-related culture is associated with the KUJ behavior and constructive envy and may be called envy-provocation or consumer culture. These phenomena have been studied closely by social scientists, especially since Thorstein Veblen's 1899 work "The Theory of the Leisure Class" presenting a ground-breaking analysis of status competition and pecuniary emulation. Matt (2003) argues that the American society experienced a cultural change with respect to envy towards the beginning of the twentieth century, around the publication time of Veblen's magnum opus. From a deadly sin, envy gradually turned into one of the primary engines of consumer society and a beloved tool for advertising new products, from perfumes to electronics. One of the fascinating aspects of consumer culture is its stark contrast to the fear-of-envy culture examined earlier: instead of hiding their wealth to avoid envy, individuals consume conspicuously and perceive other people's envy as a sign of success in life.

A remarkable case study illustrating the evolution of envy-related culture in the context of a small-scale community is offered by Foster (1979) in his ethnography of the Mexican village of Tzintzuntzan. At the beginning of Foster's fieldwork in 1940s, the village represented an isolated peasant community, marked by low productivity in agriculture and a few other economics activities. Foster made a puzzling observation: despite the low living standards in the community, villagers were reluctant to fully use even those limited opportunities that were available to them due the fear of envy-driven hostility of their neighbors.

In his view, the fear of envy was a major obstacle to economic development and innovation exacerbating the vicious cycle between meager investment opportunities and destructive envy. By 1970s, Tzintzuntzan was showing signs of a remarkable transformation: beliefs in the destructive force of envy and cognitive orientation that Foster dubbed the “image of limited good” were being replaced by consumer culture with open competition in dress, hair styles, weddings, and baptisms. Thus, the transformation in the material life of the community brought about a critical change in the envy-related culture.

The economic analysis of envy helps to understand the change in envy-related culture in the process of economic and institutional development, whether in the context of small peasant communities like Tzintzuntzan or larger societies. In an environment favoring destructive envy, the fear-of-envy culture makes sense as a set of rules guiding the proper behavior. However, as the economy develops, the trade-off tilts towards exercising constructive envy, the costs of envy-avoidance become too large, and the fear-of-envy culture becomes obsolete. While this logic is sound, the actual process of interaction between economic and cultural change is more complicated. On the one hand, there is a negative feedback loop between the fear-of-envy culture and economic growth. Envy-avoidance causes underinvestment which slows down productivity growth and delays the process of cultural change. If the pace of economic change is insufficient and external spillovers are absent, this vicious cycle may leave the economy in the fear equilibrium for a long time. Moreover, as shown in Gershman (2014), adopting better institutions that would take the economy out of the fear equilibrium may not be welfare-improving in the short run due to the negative consequences of the consumption externality unleashed under keeping up with the Joneses. Hence, under myopic preferences, another vicious cycle is active: unwillingness to adopt better institutions and redistribute wealth reinforce the fear of envy and related culture.⁵⁰ Poor institutions and envy-avoidance culture reinforce each other setting a barrier to both economic and cultural change.

7 Concluding remarks

The last few decades witnessed a rise of the new cultural economics, a vibrant interdisciplinary research agenda applying the toolkit of modern economics to the study of culture. This essay outlined some of the main directions and findings of this research program. In

⁵⁰Naturally, biased intergenerational transmission and other channels discussed in section 5 may also contribute to the persistence of the fear-of-envy culture.

the line of work showing that “culture matters,” causal identification and the search for exogenous variation in cultural traits remain the key challenges. Research on the origins of culture is currently dominated by the idea of efficient or useful culture, while its potential social costs or side-effects received less attention than they deserve. In the work on cultural persistence, sorting out the relative importance of different modes of transmission and the mechanisms underlying cultural evolution are the issues at the research frontier. Although important challenges remain to be addressed, the progress made over the past twenty years is truly remarkable and the outlook for future research in this exciting field is highly optimistic.

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