

*Book Review Article*

***The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous***

Joseph Henrich

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**Understanding Western Uniqueness: A Comment on Joseph Henrich's *The WEIRDest People in the World***

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Despite its many strengths, Joseph Henrich's *The WEIRDest People in the World* has several weaknesses: 1.) It conceptualizes the uniqueness of the West as solely the result of cultural evolution set in motion by the medieval Church, thereby ignoring the strong tendencies toward individualism in the Greco-Roman world of antiquity, the Indo-European groups that conquered the continent in pre-historic times, and the primordial northern European hunter-gatherers. 2.) It conceptualizes analytic thinking and representative government typical of the West as resulting from the cultural shift brought about by the medieval Church, whereas analytic thinking can be found in the ancient world, particularly among the Greeks, and representative government can be found in ancient Greece and Rome, and in pre-Christian Germanic and Scandinavian cultures. 3.) Henrich's portrayal of Westerners as non-conformists is overdrawn. Although Westerners are more likely to dissent from a group consensus compared to kinship-based cultures, moral communities based on a variety of psychological mechanisms are a powerful force for conformity in individualistic Western societies, with dissenters subject to guilt, ostracism, and altruistic punishment. 4.)

Henrich analyzes the accomplishments of the West solely in terms of social learning and culturally constructed personality variation in traits related to conscientiousness, thereby ignoring data on the biological basis and adaptive significance of variation in personality and general intelligence.

**Key Words:** Individualism, Western culture, Cultural evolution, Cultural group selection, Analytic thinking, Altruistic punishment, Conscientiousness, Intelligence

*The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous* (Henrich, 2020) (hereafter *WEIRDest*) is a fascinating journey focused on an exceptionally difficult intellectual challenge: explaining the uniqueness and dynamism of the West. If I have some disagreements with it, which I do, I have nothing but the highest regard for Henrich's breadth of knowledge and his ability to bring a wealth of research from economic and social history, anthropology, and psychology together into a coherent account of Western uniqueness.

Henrich is professor and chair of the Department of Human Evolutionary Biology at Harvard and thus is well acquainted with evolutionary perspectives. However, while he acknowledges there are evolved, genetically based influences on human behavior and that cultural changes may result in genetic changes (e.g., genes for lactose tolerance spreading in some populations consequent to utilizing milk from domesticated cattle), he argues that the prime mover of human evolution is culture. In this scenario, there was nothing special or unique about Western populations prior to the Middle Ages, and that indeed, European populations in the year 1000 AD were markedly less advanced than Muslim societies and China. However, around this time there was a momentous cultural shift: The Catholic Church succeeded in imposing its marriage and family policy which essentially "demolished" intensive kinship relations (i.e., kinship embedded within closely related groups — clans and kindreds with distinct hierarchies and based on degree of genetic relatedness) commonly found in agricultural societies. Freed of their ties to intensive kinship groups, Westerners gradually gravitated to voluntary associations based on common interests, ranging from merchant guilds to religious sects and scientific societies that ultimately gave birth to the modern world.

This approach has much in common with my book, *Individualism and the Western Liberal Tradition: Evolutionary Origins, History, and Prospects for the Future* (hereafter, *Individualism*). However, my theory proposes that Western uniqueness derives ultimately from unique ancestral environments in

northwestern Europe, with emphasis on a north-south genetic cline in the relative genetic contributions of northern hunter-gatherers, Indo-Europeans, and Early Farmers from the Middle East. Based on research by family historians, I show that there is important regional variation within Western Europe that does not at all map onto exposure to the Western Church but reflects primordial genetic differences stemming from unique ancestral environments.

My approach thus combines pre-historic natural selection for individualist psychology with particular cultural contexts, one of which is the influence of the medieval Catholic Church, the latter interpreted as building on pre-existing tendencies. I argue on the basis of data similar to that cited by Henrich that the Church facilitated individualism, and may well have sped up the full flowering of individualism, but did not cause it.

Besides his views on the causative influence of the Catholic Church, the “guts” of *WEIRDest* revolves around research on what Henrich has termed “WEIRD psychology”—the psychology of Western, educated, industrialized, rich, and democratic people. A major point is that the psychology of Western peoples is unique in the context of the rest of the world: “highly individualistic, self-obsessed, control-oriented, nonconformist, and analytical. ... When reasoning, WEIRD people tend to look for universal categories and rules with which to organize the world. ... Emotionally, WEIRD people are often racked by guilt if they fail to live up to their culturally inspired, but self-imposed, standards and aspirations” (pp. 21-22).

This is supported with a great deal of cross-cultural research, much of which is also reviewed in *Individualism* (Chapter 3). The upshot is that Westerners are different, but why? For Henrich, the answer is culture, and especially social learning—our ability to learn from others. “By selectively attending to particular circumstances, our cultural learning abilities adaptively rewire our brains and biology to better calibrate them for navigating our culturally constructed world.” (p. 65). “Natural selection favored expanding brains that were increasingly capable of acquiring, storing, organizing, and retransmitting valuable cultural information” (p. 67). Within this perspective, there is no discussion of neurobiological research on psychological systems linked to personality and intelligence, or indeed, on exactly how social learning results in neurobiological changes that “rewire” the brain, or on what parts of the brain have been altered—a process that would presumably have resulted in structurally different brains among Westerners. Moreover, there is no discussion of genetic influences on individual and group differences in psychological systems.

## 1. Anthropology and history

### *The uniqueness of Indo-Europeans*

In Henrich's discussion of scaling up in Chapter 3, the issue is how societies develop mechanisms that enable ever larger, more inclusive groups while effectively dealing with kinship divisions. In getting to the state level, intensive kinship predominated, both among upper and lower strata, and at lower levels various mechanisms to unify kinship groups into larger entities were developed (p. 118). For example, chiefdoms are typically hierarchical, with a particular clan on top, but dominant clans retained kinship connections with other clans via polygynous marriage. But the bottom line is that "premodern states remained rooted in intensive kin-based institutions, both at the lower strata and at the elite level" (p. 118).

None of the cases reviewed in *WEIRDest* fits the Indo-European model. The Indo-European cultural invention was an emphasis on a free market in military success, resulting in the *Männerbünde*, military associations of males which were permeable and open to defection to another Männerbund if the latter was perceived as more likely to be successful; membership and prestige were not dependent on kinship connections. The Indo-Europeans are one source of European individualism. Their invention of a military meritocracy, a completely militarized culture, and various technological improvements, allowed them to expand over all of Europe and much of Asia.

With the exception of the Greeks, the Indo-European groups in Europe did not set up permanent barriers between themselves and surrounding peoples in an effort to maintain genetic isolation (*Individualism*, Chapter 2). Rome is a prototypical example, with conquered peoples absorbed and often offered rights of marriage, citizenship, and eventually the prospects of high political office (Forsythe, 2005). Conquered peoples were incorporated into the Roman armies, thus allowing Rome to create the large armies necessary for its rise and eventually enabling it to conquer most of the known ancient world.

### *Individualism in Ancient Greece and Rome*

Because *WEIRDest* argues that the Catholic Church created the West, it must analyze ancient Greece and Rome as clan-based cultures typical of the rest of the world until the onset of Church influence. However, clans and intensive kinship and corporate ownership of resources such as land were foreign to classical Greek and Roman culture, and socially imposed monogamy and exogamy were real and enforced by practices also seen in the medieval Church. Although an observer from Muslim areas may have seen Western Europe as a backwater "for much of the first half of the second millennium" (*WEIRDest*: 434),

a similarly situated observer certainly would not have made such a judgment of Athens or Rome at their height. Indeed, the Greeks under Alexander the Great and the Romans in later centuries dominated most of the territory eventually conquered by Muslims.

### *Greece*

In the Greek world of Sparta, scaling up was accomplished by combining the five Dorian tribes into a civic unit in which identification with the city was far more important than with the original tribal unit, resulting in “a remarkably compact and almost indestructible community. ... It generated intense patriotism and dynamic energy” (Hammond, 1986:101).

For most of its history, there was a substantial egalitarianism within the citizen body of Sparta (i.e., the Spartiates), combined with individual (i.e., not corporate) property ownership and heirship (Patterson, 2001). Like prototypical Indo-European cultures, Sparta was completely militarized. Children were communally socialized by the state for a military life, and there was intense competition among young men for status as determined by military ability (Holland, 2007:88). As has been common in Western societies — and quite unlike clan-based societies, there were institutional structures to prevent despotism, including two hereditary kings with equal authority, designed to prevent one from dominating the other; over time, the power of kings declined and the *ephors* “began to operate as both inquisitor and guardian of the kings” (Holland, 2007:95); elected by the Spartiates, *ephors* came to be in charge of foreign policy and the military. The *Gerousia*, a body of men over age 60 elected by the citizens, further diffused power within Sparta; it had the power to propose legislation to be voted on by the Spartiates and acted as a Supreme Court with the power to try any Spartan citizen, including kings. “Since, aside from its role as guardian of the constitution, it also had the right to forestall all motions put before it, and to present the fruits of its own deliberations as *faits accomplis*, the *Gerousia* might easily exert a stranglehold over the politics of Sparta” (Holland, 2007:81).

As in Sparta, there was no role for clans as biological descent groups or as owners of property in Athens. Citizenship in the Athenian *polis* was the primary identity beyond the immediate family. “Despite typically vague modern notions of a primitive clan-based society as the predecessor to the historical society of the *polis*, early Greek society seems securely rooted in individual households — and in the relationships focused on and extending from those households (Patterson,

2001:46-47).<sup>1</sup> As in other Western societies and unlike clan-based societies, kinship was bilateral rather than patrilineal, with relationships reckoned through both sides of the family; inheritance was partible, with property flowing through both sides of the family, although women's inheritance rights "were subordinated to those of men or to the household as a whole, but not eliminated" (Patterson, 2001:1272-1273). Thus, inheritance of property was also bilateral and confined to close biological relatives (*anchisteia*), moving to maternal kin through the degree of children of cousins when the paternal side was empty (Patterson, 2001:1120). Finally, marriage involved the setting up of a new household (*synoikein*) rather than moving in with brothers or parents (Patterson, 2001:1365-1366), i.e., neolocal residence, another marker of individualist social structure.

Monogamy is an important marker of individualist social structure. Henrich claims that in Athens and pre-Christian Rome, men "were limited to one wife but were otherwise not strongly constrained. Not only could men easily divorce, but they could also purchase sex slaves, take foreigners as concubines, and use numerous inexpensive brothels" (p. 273). However, there are theoretical and data-driven objections to supposing that marriage practices in Classical Greece and pre-Christian Rome were not part of the Western tradition.

In Sparta, marriage was monogamous and divorce rare (Hooker, 1980; Tigerstedt, 1974). Women had a relatively high status despite their non-participation in the military — e.g., they could inherit property. Spartan women were famous for their fidelity, although multiple authors claim that men could seek access to others' wives for the purpose of bearing children with the permission of the husband; there is no record of Spartan men siring children by women from the Helot slave class. There is also no evidence of bridewealth, and dowry did not occur until the early fourth century B.C. when economic inequalities increased and there was competition for eligible males.

In Athens, Solon's laws regarding marriage (early sixth century B.C.) had a strongly egalitarian thrust. Indeed, the purpose of his laws was to "resolve problems of deep-seated social unrest involving the aristocratic monopoly on political power and landholding practices under which the 'many were becoming enslaved to the few'" (Lape, 2002-2003:117). As in the case of the medieval Church, the focus of Solon's laws on marriage was to rein in the power of the

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<sup>1</sup> "There were groups called *genē* in historical post-Solonian Athens, but like the phratries with which they were often associated, these were clearly fictive kin groups. They were recognizable corporate groups with specific social and religious roles who used the language of common kinship as a form of group identity" (Patterson, 2001:1089-1091). The *genē* did not have corporate ownership of property.

aristocracy by limiting the benefits to be gained by extra-marital sexual relationships. Reminiscent of the policy of the medieval Church and in marked contrast to the Mycenaean world of Homer, bastards were cut off from inheritance, and bastard children could not be adopted by the father or anyone else, so “the citizen who was bereft of legitimate children but had fathered a bastard was unable to name that child as his heir” (Lape, 2002-2003:122), although such children could receive a small monetary allowance. Indeed, bastards were regarded as having no *anchisteia* — no biological relatives.

In Solon’s laws, legitimate children with the possibility of inheritance were the product of two Athenian citizens, a policy approved by popular vote in 451 B.C. As Pericles noted, bastards were to be “excluded from both the responsibilities and privileges of membership in the public household” (Patterson, 2001:1378). Given that wealthy males are in the best position to father extramarital children and provide for multiple sexual partners, it’s critical that Solon’s legislation (like the Church’s policies in the Middle Ages) was explicitly aimed at creating sexual egalitarianism among men by

discouraging practices specifically associated with aristocrats and/or the wealthy. By eliminating a man’s bastard children from the family, Solon’s laws made it less socially useful for a man to father bastards or to keep a concubine either in addition to or in place of a wife. In this way, the family laws, like Solon’s sumptuary legislation, worked to inhibit a source of aristocratic power and prestige. While the family laws curbed a traditional vehicle of aristocratic self-fashioning, they also made available a new source of commonality and community for Athenian men. By standardizing the family form, the laws created a domain of shared family practices that fed into and fostered an egalitarian ideology for men. (Lape, 2002-2003:119-120).

Solon’s laws did not prohibit concubinage but made it less attractive. “This evidence suggests that the privileging of legitimate children over bastards entailed a concomitant privileging of wives over concubines. In fact, the complete absence of the concubine from Solon’s family legislation (at least as it is now known) seems to be a sign of her waning fortunes” (Lape, 2002-2003:125). Another egalitarian aspect of the legislation was that it limited the size of a bride’s *trousseau*, thus eliminating dowry competition (which also favored the wealthy).

There is a tradition suggesting that Solon’s laws provided for “state-subsidized brothels staffed with cheap and therefore readily available female prostitutes” (Lape, 2002-2003:134), a measure seen as channeling male sexual desire into non-reproductive outlets and therefore attesting “to the conceptual association between democratic ideology and prostitution, as commentators have

remarked” (Lape, 2002-2003:135). Although Henrich proposes that the availability of inexpensive prostitutes indicates that marriage in classic Greece (and Rome) was not within the Western tradition, Lape’s comment is a sound proposition from an evolutionary perspective. Because it is not procreative, prostitution available to all mitigates real sexual competition. In the context of Western institutions favoring monogamy, prostitution functions as a substitute for polygyny by wealthy males, not as an aspect of a sexually competitive society.

### *Rome*

Roman monogamy was maintained by controls on sexual behavior (bigamy and polygyny were illegal) and laws relating to legitimacy. Bastards suffered social opprobrium: “Rome ... offered no status or honor for the illegitimate” (Syme, 1960:322). Inheritance laws penalized children who were not the products of monogamous marriage: Bastards could not inherit, and the children of slaves retained the status of the mother. A bastard could not be legitimized if the parents married, and there was an ideology of monogamy as the ideal form of marriage (MacDonald, 1990, 1995a) — all of which are similar to policies enacted by the Athenians and the medieval Church to dampen polygynous relationships by powerful men. Regarding the critical question of illegitimacy, Syme (1960:322) writes that bastards “must have been fairly numerous” given the opportunities available to Roman men, but there is no “direct imputation” of their existence despite the subject being fertile ground for rhetoricians smearing opponents or for writers entertaining readers (Syme, 1960:324; see also Balsdon, 1963). There are certainly examples of adultery but no record of a man “having planted a son in another family” (Syme, 1960:327), and if the husband knew about the illegitimacy of his wife’s child, he could divorce his wife; subsequently the wife’s family would likely encourage an abortion or exposure at birth (Balsdon, 1963).

This lack of a historical record of bastards is from the last century of the Republic and the Empire, during which times there was considerably more wealth and slaves (offering more opportunity for powerful males), as well as more sexual license and divorce than during the early Republic. The truly remarkable thing is that the culture of silence among rhetoricians and writers, the social opprobrium, and the lack of social mobility for bastards persisted in later Roman culture despite these vast changes. The self-perception of educated Romans in the time of Augustus (27 B.C. - 14 A.D.) was that sexual standards had lapsed from earlier times, resulting in unstable families and low fertility — hence Augustus’s attempts to legislate sexual behavior.

Long before the influence of Christianity, there were periods in the later Empire when conservative sexual behavior became a cultural ideal (MacDonald,



1990). Veyne (1987:43) notes a “new morality” occurring during the second century A.D. toward a more conservative sexual morality that emphasized marriage characterized by affection and sexual restraint for both men and women, not only during marriage but before marriage also. Similarly, Brown (1987:262) notes that “By the early third century, long before the establishment of the Christian church, aspects of Roman law and of Roman family life were touched by a subtle change in the moral sensibilities of the silent majority of the provincials of the Empire. Respectable wedlock was extended to include even slaves. Emperors posed increasingly as guardians of private morality.”

In an intensively polygynous society such as classical China, none of these occurred, so that, for example, the offspring of a concubine were entirely legitimate and could inherit property, depending on the wishes of the father, and there was competition among wives and concubines to advance the fortunes of their children. From an evolutionary perspective there is a major difference between a society that legitimates non-monogamous sexual relationships and one that doesn't. Moreover, at least during the first centuries of the Republic, marriage of the most elite class of Roman society, the patricians, was by *confarreatio* — monogamous marriage in which divorce was rare and difficult (MacDonald, 2020). And again, the existence of inexpensive brothels is irrelevant because such sexual relationships are non-reproductive. Brothels were common in China and were the only sexual outlet for many men because of the shortage of marriageable women resulting from the common practices of female infanticide (Lee, 1981) and polygyny by wealthy males. In Greece and Rome, prostitution functioned as part of a relatively egalitarian mating regime, channeling male sexual desire into non-reproductive sex.

Individualist cultures, with their bilateral kinship relations and marriages based more commonly on personal attraction rather than family strategizing, typically have more egalitarian relationships between men and women. The traditional idea that Athenian women were sequestered from public life is much contested. “When we look more carefully at the evidence of women's activities from the democratic era itself, the picture becomes more complex. Women can be seen to have had economic, social, and religious interests which regularly took them outside the confines of their houses” (Patterson, 2001:1622-1623). In Rome, “women were not meant to be publicly invisible, and domestic life does not seem to have been formally divided into male and female spaces, with gendered no-go areas. Women also regularly dined with men” (Beard, 2015:307), and it has often been noted that Roman men and women socialized together at private parties and public celebrations.

Although men had a legal right to murder an adulterous wife, “there is not a single known example of this ever happening” (Beard, 2015:308). Women were not under the complete legal authority of the husband, and after the death of their father, women could buy, sell, own, and inherit property—“many of the rights that women in Britain did not gain till the 1870s” (Beard, 2015:308); such rights and practices are utterly foreign to clan-based patrilineal cultures where sequestration of women and separate social worlds for men and women are the norm. The requirement for women to have a guardian seems to have been unenforced in practice and was abolished by Augustus toward the end of the first century B.C. in cases where women had borne three children.

Finally, although there are a few individual cases of cousin marriage, as cited in *WEIRDest* (p. 163), cousin marriage was prohibited in Roman law for the first centuries of the Republic—the formative period of Roman civilization that is most likely to reflect its primordial origins as a fundamentally individualist Indo-European culture. In any case, there is no indication that cousin marriage was ever common either during the Republic or the Empire or that it functioned to reinforce corporate, clan-like social organization. According to St. Augustine (d. 430), cousin marriage had always been “*raro per mores*” (‘rare in customary practice’), well before the imposition of Christian prohibitions in the late Empire (Shaw & Saller, 1984:439). Grubbs (2002:165) notes that Augustine lived in the Latin West “where marriage between close kin had always been frowned on in law and custom.”

Indeed, as Henrich notes in numerous places, clans based on intensive kinship typically have customs of cousin marriage that strengthen biological relatedness among clan members. Such clans were foreign to Greek and Roman culture. Like the Greeks, Romans owned property individually, rather than as a corporate entity as is common in clan-based cultures. Beginning with the work of Shaw and Saller (1984), the dominant view is that the nuclear family was the main household structure in Roman Western Europe (Huebner, 2011).<sup>2</sup> In Rome, the power of individual Romans was based on having *clientes* (dependents) where the relationship between patron and client was not based on kinship but rather on reciprocity. In these relationships, less-wealthy people were tied via reciprocal

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<sup>2</sup> Shaw and Saller’s data come from urban areas. As noted in MacDonald (2019, 2020), extended kinship structure with brothers living together was typical of southern France and elsewhere in southern Europe in the medieval period and beyond. I suggest these areas may well have had extended family structure in Roman times but these families were in non-urban areas, whereas the urban areas were dominated by Roman citizens who settled there after the conquest of the area.

obligations to wealthy, powerful persons. As in Indo-European culture generally, reciprocity, not kinship or despotism, was the rule (*Individualism*, Ch. 2); the *cliente* system is likely a holdover from pre-historic Indo-European cultures in which warlords and their followers had mutual obligations. In Roman society, the patron-client institution mitigated social and economic disparities (Forsythe, 2005). There were multiple levels, so a single person might be patron to poorer people and client to someone wealthier and more powerful than himself: “later Roman society was loosely bound together by a vast interlocking network of such relationships” (Forsythe, 2005:216). Reflecting the non-despotic nature of Roman society and the reality of reciprocity, patrons had obligations toward their clients and could be “accursed” for injustice against *clientes* and hence killed or ostracized (*Ibid*).

The Goths who invaded the Western Empire were similar to the Romans in that, while there were barriers early on, they eventually assimilated with conquered groups via intermarriage; kinship and marriage within the kinship group became of lesser importance (Heather, 1996; *Individualism*, Ch. 2). For example, after attaining dominance in Spain, Gothic group identity tended to dissipate, replaced by a class-structured society where elites were composed of both Romans and Goths, with a great deal of intermarriage. Family strategizing related to social class became more important than identity based on descent. It was only in the High Middle Ages that elite family strategies in the high aristocracy became ossified, enshrining the principle of succession by a close biological relative, typically the eldest son, so that talent and accomplishment became less important. “The picture one gets is the gradual development in the West of an aristocracy based on the simple household and freed from obligations to collateral kin dominating a peasantry characterized by the simple family and embedded in a society of neighbors and friends rather than in [a wider] kinship group” (*Individualism*: 209, citing Hanawalt, 1986; Barthelemy, 1988).

### *The origins of Western individualism*

There can be little doubt that European patterns of marriage and kinship are unique by cross-cultural measures — Henrich concludes that 0.7 percent of world cultures have the traits of bilateral descent, little or no marriage to cousins, monogamy, nuclear families, and neolocal residence. The fundamental thesis of *WEIRDest* is that this suite of traits defining Western culture is the result of the cultural invention of the Catholic Church’s marriage and family policy whereby intensive kinship relations were “slowly degraded, dismantled, and eventually demolished” between 400 and 1200 A.D. (p. 159).

I have argued against this position in a separate paper directed at critiquing a paper by Schulz et al. (2019a) that forms the basis of Part II of *WEIRDest* (MacDonald, 2020). Briefly:

1. In addition to the primordial roots of Indo-European aristocratic individualism, northwestern European hunter-gatherers managed to scale up their social organization to a relatively high level of complexity compared to most hunter-gatherer cultures while nevertheless maintaining their hunter-gathering lifestyle and an individualistic psychology. This occurred because of their unique ecology which did not enable a kinship group to dominate a critical resource (such as a large river valley which was the basis of many other ancient civilizations) on a year-round basis but allowed seasonally limited large groups. The northern environment selected for a suite of traits conducive to bilateral kinship relations, monogamy, paternal provision of offspring, and extensive kinship relations. (Regarding extensive kinship, Henrich [p. 74] notes that typical hunter-gatherer bands are composed of over half non-blood relatives.) Whereas an individual's position in societies based on intensive kinship depends on status in a strongly hierarchical kinship group, hunter-gatherer cultures are much more egalitarian (egalitarian individualism, as opposed to Indo-European aristocratic individualism), with strong controls against despotic leadership.

2. The Church facilitated individualism by pursuing the policies highlighted in *WEIRDest* and *Individualism* (rules on incestuous marriage, developing ideologies and enforcing social controls supporting monogamy, preventing divorce, preventing bastards from inheriting), but did not cause Western individualism. As noted above, similar policies were also customary in Greece during the classical period and in Rome, especially during the Republic. The Church was able to exert its power over marriage because it had created the image of reproductive altruism by enforcing clerical celibacy and suppressing corruption as a result of the Papal Revolution beginning in the tenth century and completed by the High Middle Ages. (Corruption reemerged in later centuries and was a major cause of the Protestant Reformation.)

Church rules on incestuous marriage were not a response to a common situation in the late Roman Empire. For example, the extreme rules on cousin marriage were observed by the French aristocracy only in the tenth and eleventh centuries, after which they often used the rules to obtain annulments and the ability to remarry; their psychology had not fundamentally changed. The Church was far more concerned about marriages of the nobility; many commoners disregarded the rules and, given the lack of mobility at the time, perforce married individuals within the prohibited degrees of relatedness. This contrasts with

Henrich's claim, without citing data, that the Church's policies "dissolved intensive kinship from the middle outward. The elites of Europe would be the last holdouts" (p. 180). On the contrary, elites were the main target. Males with little wealth or power could hardly aspire to cementing a powerful kinship group via marriage ties any more than they could aspire to polygyny or having concubines. I know of no evidence that those of more modest means avoided marriage within the prohibited degrees of relatedness apart from very close blood relatives. The discussion of actual cases shows little concern with the seven degrees of relatedness, but much concern with near blood relatives (e.g., uncle, niece) or affinal relatives. In general:

However much the Church rationalized its position and strove to enforce it, it is evident from ecclesiastical correspondence, court records, and well-known scandals of the time that the rules were ignored or honoured in the breach by many Christians during the Middle Ages, or were manipulated for personal advantage to get around the principle of the indissolubility of marriage. ... In spite of the determination with which the Church insisted on its complex rules of who could marry whom, the ecclesiastical authorities were remarkably lenient in interpreting many parts of the incest legislation, especially in regard to more distant relations and affines. It is also clear that many people in the Middle Ages were not particularly bothered by breaches of the incest rule, such as the marriage of second cousins [who on average share only around three percent of their genomes by descent]. (Archibald, 2001:410)

3. Areas of Western Europe with prolonged Church influence (e.g., southern France) continued their relatively collectivist family patterns (e.g., corporate land ownership, brothers and wives living together in joint families) (Hartman, 2004), while areas exposed to Christianity relatively late (Scandinavia) exhibit the most individualist family structures in Western Europe (Heady, 2017; Iacovou & Skew, 2010; Trägårdh, 2014).

Henrich mentions the Germanic *Sippe* as indicating a strong tribal culture in pre-Christian Europe (p. 162) and implies that Church policy must have created the manorial system because there was corporate, clan-based land ownership among the Irish prior to coming under Church influence (p. 188). However, this ignores the hypothesis that the Celtic and Germanic peoples differed in their social organization prior to Church influence.

Within the manorial system typical of the Germanic peoples, land was owned individually with obligations to a lord, not by corporate kinship groups — true not only in the Frankish Empire of the early Middle Ages (Mitterauer, 2010), but also noted by Tacitus in his treatise on the Germans (§25) around A.D. 100: "each

[slave] has the management of a house and home of his own. The master requires from the slave a certain quantity of grain, of cattle, and of clothing, as he would from a tenant, and this is the limit of subjection.” Henrich notes that corporate ownership by kinship groups was characteristic of Celtic Ireland, but not Germanic areas. However, there is no indication that individual ownership among the Germanic peoples was a consequence of Church influence. As noted below in the contrast between the Germanic *Sippe* and Celtic Septs, corporate ownership by the latter continued throughout the medieval period (Henrich, 2020:188; Herlihy, 1985:55). Henrich writes that “The Irish, having been Christianized too early, did not experience the full force of the [Church’s marriage and family policy] until they were conquered by England in the 12th century” (p. 190). However, suggesting an ethnic difference, even in the middle of the sixteenth century after at least four centuries of the full influence of the Church and more than a millennium after St. Patrick converted the Irish, there were major differences between the Gaelic areas of Ireland and the Anglo-Norman areas, with non-kinship based religious confraternities commonly occurring in the Anglo-Norman areas but absent in the Gaelic areas — likely due to the “exceptional strength” of kinship institutions in the Gaelic areas (Bossy, 1985:59). “The *erenagh* clan ... provided a ready-made kinship network, the absence of which would have necessitated the creation of artificial bonds of fraternity and sorority” [i.e., voluntary rather than kinship-based associations typical of Anglo-Norman areas that loom so large in Henrich’s account of individualism] (Lennon, 2006:37).

In addition, regarding Celtic cultures, Henrich notes that although Celtic Brittany (along with Ireland and southern Italy) “have long been Christian, they weren’t under the papal umbrella — and the full force of the [Church’s marriage and family policy] until later than England and regions within the Carolingian Empire” (p. 233). However, although not a part of the Frankish Empire, Brittany was exposed to Church influence quite early, the first diocese established in the fifth century, although the dating is uncertain. In any case, the density of bishoprics in 1000 and 1500 is central to Schulz et al.’s (2019a) argument that centuries of Church influence are responsible for Western individualism. However, their Figure S1.2 (Schulz et al., 2019b) indicates a similar density of bishoprics in Brittany in 1000 and 1500 as in other parts of France.

Moreover, Brittany was never part of the open-field manorial system characteristic of the Frankish-Germanic areas (Homans, 1957/2016:180), but had a *bocage* system of small fields surrounded by hedges. Ladurie’s (1986:341) “eternal line” separating northwestern France from southeastern France and their very different family patterns (*Individualism*: 140-141) begins at St. Malo in the northwesternmost part of Brittany, thus indicating that Brittany is part of the

moderately collectivist family patterns of France south of the line between St. Malo and Geneva. Thus the moderately collectivist family structure of France below the St. Malo–Geneva line occurred whether or not the area was dominated by the Frankish Empire, and even though all of France was subjected to Church influence from an early time.

There is no evidence that the Germanic manorial system was the result of Church policy. Separate households “dominate northwestern Europe as far back as medieval records go” (Hartman, 2004:75). In other words, this pattern may well be primordial among the Germanic peoples of northwest Europe—which fits well with the present perspective that the roots of these patterns lie in the evolutionary/biological realm. As Peter Laslett (1977:113) notes, “the further we go back, so it appears at the moment, the more elusive the origins of the interrelated characteristics of the Western family. As of the present state of knowledge, we cannot say when ‘the West’ diverged from the other parts of Europe.” Hartman (2004:76) maintains that this comment “still holds.” Further, there is no evidence that the northwest European family pattern is part of a historical progression or that different aspects of the northwest European family pattern or the pattern itself represent a developmental continuum.

Moreover, Henrich exaggerates the importance of the Germanic *Sippe*. As noted, the *Männerbund* was above the level of the *Sippe* and superior to it, but not based on kinship. It was the upholder of “censorious justice” if the familism of the *Sippe* got out of control (Hasenfratz, 1992:51). In Norse culture, public punishment was meted out by a “sib[i.e., *Sippe*]-transcending legal community” (in Iceland, the *Althing*)—for outlawry, execution, and for settling wergild claims. The *Männerbünde* also exacted *Sippe*-transcending punishment (Hasenfratz, 1992:56). Herlihy (1985:44) notes that among the Germanic tribes, *Sippe* is “rarely encountered in the early sources.” The Germanic *Sippe*...was weakening and losing functions and visibility on the Continent very early in the Middle Ages,” [while Ireland] “long clung to its archaic institutions” (Herlihy, 1985:55).

Herlihy (1985:48; emphasis added) claims that the *Sippe* was never of prime importance:

The larger kin group and households of some type had existed side by side since time immemorial. Moreover, the *Sippe* always played a secondary role in production and reproduction, the two functions which households have classically assumed. And these basic functions, often mentioned in the documentation, lend to households a special visibility. It was not the small household that replaced the *Sippe*; rather, larger social groupings, based on territory [i.e., dominated by military elites not based on clan-type intensive kinship], edged it into the shadows. *And the households*

*continued to be centers of production and reproduction, even as the larger society was changing.*

4. Finally, Henrich (2020) links centuries of Church influence to representative government (p. 315). However, ancient Athens had gradually broadened representative government beginning with the reforms of Solon in the early sixth century, continuing with the reforms of Cleisthenes in the late sixth century, and reaching its most democratic with the reforms of Ephialtes in 462 when the powers of the aristocratically controlled areopagus were transferred to the assembly of male citizens (*ekklesia*), with the majority determining policies (Asmonti, 2015). As noted above, in Sparta, in addition to having two kings, the council of elders (*gerousia*) was elected by an assembly of all Spartiates and was the highest authority (Hooker, 1980). The Roman Republic had aristocratic political institutions that prevented despotism (e.g., term-limited dual consulships elected by the *comitia centuriata*, a convocation of the military, divided into centuries, where people with property had the majority of the vote), and plebeians gradually achieved representation and power (Forsythe, 2005). And consider Tacitus's comment on the Germanic tribes:

In the election of kings, they have regard to birth; in that of generals, to valor. The kings have not an absolute or unlimited power; and their generals command less through the force of authority than of example. If they are daring, adventurous, and conspicuous in action, they procure obedience from the admiration they inspire. ... [In assembly,] the king or the chief, and such others who are conspicuous for age, birth, distinction in war, or eloquence, are heard; and gain attention rather from their ability to persuade than their authority to command. If a proposal displeases, the assembly reject it with an inarticulate murmur; if agreeable, they clash their javelins; for the most honorable assent among them is the sound of arms. (Tacitus, 1977, §§7, 11)

This agrees with Heather's (1996: 75, 76, 88) comments on the Goths in the fourth century A.D.: "Controlling these men [i.e., men of "at least quasi nobility"] was far from easy. The best sources portray fourth-century Gothic leaders 'urging' and 'persuading' their followers rather than just issuing orders, and leaders' counsels could be overruled. ... Power was not solely the preserve of a very restricted group of families. ... [The elite] "remained relatively numerous: a broad social caste of emergent nobles and freemen, rather than a very restricted noble class."

Moreover, Sweden, despite being Christianized quite late (first diocese established in 1164), had representative political institutions long before any



substantial Christian influence. “The weakness, not to say absence of feudal institutions [as found in the Frankish Empire], corresponds with a history of self-reliance, self-rule, land ownership, representation as an estate in parliament, and the consequent willingness and ability to participate in the political affairs of the country” (Trägårdh, 2014:32; elaborated in MacDonald, 2020).

Similarly, Iceland’s representative body, the *Althing*, was established in 930, prior to even the slightest Christian influence. Byock (2015:1) notes “the obvious egalitarian tendencies, personal freedoms, and legal and political enfranchisement so strikingly evident in historical, legal, and saga sources of medieval Iceland.” The leaders (*goðar*) who convened in the Althing were not territorial lords, as in Feudal Europe, but had reciprocal obligations toward the free farmers who elected them; farmers could switch their allegiance at will. The rule of law prevailed: “Built into this system of annual Althing courts was the concept of impartiality, embracing an intense desire to avoid partisanship” (*ibid.*:11); judges could be disqualified on the basis of kinship.

## 2. Psychology

*Moral communities as mechanisms for conformity in Western, individualist societies*

As noted, Henrich emphasizes that WEIRD people are highly nonconformist (p. 21). This is based on data correlating the prevalence of cousin marriage or kinship intensity with agreement with statements such as “In this country, if someone acts in an inappropriate way, others will strongly disapprove,” or with dissenting from a group consensus on the relative lengths of lines (the Asch Conformity Experiment) (*Weirdest*: 201-202).

This certainly has intuitive plausibility and I have no doubt that the data are accurate. However, one shouldn’t suppose that in general Westerners are free-spirited and highly nonconformist. It is certainly true that in paradigmatic Western societies people have been free to choose which military leader to follow (the Männerbünde), but also which intellectual or scientific movement to join; science, which originated in the West, implies freedom to defect to non-orthodox points of view.

Nevertheless, given Henrich’s emphasis on guilt rather than shame as characteristic of the West, it’s not surprising that the moral communities typical of the West have powerful mechanisms for social cohesion and conformity, based not only on guilt, but also on several other mechanisms (*Individualism*, Ch. 8):

1. fear of punishment, either from God in the afterlife or from earthly consequences (e.g., altruistic punishment by others in the moral community [see below], imprisonment, or ostracism);

2. rewards for conforming to the values of a moral community, either in the afterlife or in this life (e.g., as benefiting job prospects if one is known as upholding the values of the moral community);

3. advertising moral righteousness in order to obtain rewards, avoid punishment, or increase social status within the moral community;

4. social learning mechanisms whereby people emulate others with high prestige (e.g., celebrities) who subscribe to the moral values of the community;

5. the personality system of conscientiousness (see below) — conscientious people are motivated to have a good reputation in long-term relationships that would be damaged (e.g., by dishonesty within a moral community);

6. the personality system of love/nurturance (see below) — individualists high on this system are prone to wanting to be liked and to have empathy for suffering others relatively independent of factors such as the race of the sufferers, and they are more likely to dread others' morally tinged disapproval;

7. the high trust characteristic of Western societies — Westerners tend to conform to elite consensus on moral issues, trusting elites to have honest, fact-based opinions;

8. ideologies of moral idealism that motivate behavior enabled by prefrontal mechanisms of explicit processing (e.g., an ideology that there are no biological differences between races that influence academic outcomes and that rationalizes punishments for dissenters);

9. social controls that reinforce ideologies (e.g., by mandating that the ideology be taught in the school system or that dissenters be imprisoned);

10. avoiding cognitive dissonance by ignoring data that call into question the moral basis of the community.

There is a long history of persecutions of individuals and groups who dissent from a moral consensus in the West, ranging from the Huguenots in France during the sixteenth and seventeenth centuries to Communists in 1950s' United States. *Individualism* discusses moral communities based on religion or ideology rather than kinship ties as the basis for conformity in Western societies with an extensive set of examples: Puritan and Puritan-descended communities, the British anti-slavery movement beginning in the late eighteenth century, and contemporary Sweden as being the extreme — if paradoxical-seeming — example. Reputation as a military leader was central to Indo-European warrior societies in order to recruit followers. And the northern hunter-gatherer groups developed egalitarian, exogamous customs and a high level of social complexity in which interaction with non-relatives and strangers was the norm; again, reputation was critical to remaining in the group, and being excluded from the group was an evolutionary

dead end.

The reputation-based moral communities of the West thus have deep historical roots both in Indo-European culture and in hunter-gatherer culture. In the Middle Ages, Christian Europe became a moral community based on Christian religious beliefs rather than ethnic or national identity; dissenters were often severely punished and straying from the Church's policies often resulted in guilt. Moreover, the abbots and prelates of the medieval Church, the Puritan and Quaker religious leaders of the seventeenth and eighteenth centuries, and the liberal intellectuals of the nineteenth century and later carried on the primeval tendency to create moral communities as a source of identity (*Individualism*, Chs. 5-7), such as, for example, the moral communities created by abolitionists attempting to end slavery of Africans in England and the United States. Finally, such moral communities have come to define the contemporary culture of the West, from academic culture (Haidt, 2011) to media and political culture, particularly on issues related to the influence of genetics on traits like racial and ethnic egalitarianism, intelligence, and gender.

These non-kinship-based moral communities are indigenous products of the culture of the West — products of Western culture in the same way that kinship-based clans with their different moral standards for ingroup and outgroup, cousin marriage, sequestering women, and the harems of elite males are products of the peoples of the Middle East.

Ideologies underlying moral communities are particularly important. Such ideologies often rationalize social controls (e.g., Marxist rationalizations for advocating a “dictatorship of the proletariat” that would forcefully eradicate dissent from political orthodoxy); in turn, the social acceptance of ideologies may be strengthened by such controls (e.g., enforcing the teachings of Marxism throughout the Soviet educational system) (MacDonald, 2009, 2010a). In the contemporary West, the most successful moral communities develop from top-down control in which elites with access to the media, academic culture, and the educational system are able to create moral communities with powerful effects on attitudes, beliefs, and behavior (*Individualism*, Ch. 8).

Sweden, with the most individualistic family patterns in Western Europe, exemplifies egalitarian individualism with a strong component of conformism based on reputation in moral communities. It is a culture that has been able to successfully combine individual liberty with egalitarianism and conformism (see Blanc-Noel, 2013, for a review). Decisions are by consensus, and there is a strong informal ethic described by the “Jante Laws”, as formulated by Norwegian writer Axel Sandemose who was critical of the tyranny of conformity in traditional Nordic

peasant society. These “laws” essentially enjoin Swedes to not think they are better than others or stand out from the consensus of the group.

Given that decision-making in egalitarian Western societies such as Sweden is by consensus, people who fail to go along with the consensus are subject to social ostracism and feelings of guilt — an emotion that is far more typical of Western than non-Western cultures, as Henrich (2020:34) notes. Swedish individualism is thus combined with high levels of conformity. High trust — also a characteristic of Swedish society (and, relatively speaking, of Western societies generally) — feeds into proneness to conformity, as people trust others to have honestly held opinions and therefore are reluctant to dissent from a morally based group consensus, especially if the opinions form a consensus among elites (*Individualism*, Ch. 8).

Regarding trust, Henrich (2020) cites data indicating that first- and second-generation immigrants from countries with intensive kinship remain relatively untrusting of strangers, foreigners, and people from other religions; they are less individualistic-independent and more conformist-obedient (pp. 207, 244). Further, people from societies with intensive kinship contribute less to group projects, volunteer less, are less likely to donate blood to strangers, are more willing to lie under oath to help a friend, and more likely to hire relatives. “Cultural transmission can perpetuate a clannish psychology for generations, even after clan organizations have vanished” (p. 195). Whether one supposes that individualist attitudes can be socialized over a period of several centuries (as occurred in the West in Henrich’s view), or that there is genetic inertia for such attitudes (the thesis of *Individualism*), this suggests that Western societies would be well advised to avoid immigration from societies with intensive kinship if they want to retain high levels of society-wide trust and other traits making up the individualist ethos.

### *Altruistic punishment as a characteristic of Western culture*

A particularly important feature of the moral communities of the West is the phenomenon of altruistic punishment, studied via experiments in the Public Goods Game in which players can contribute to a group project or keep some or all of the money for themselves (*Individualism*:106-107; *WEIRDest*:216-220). After the contribution phase, the experimenter adds 50 percent to the total contributed to the group project and then divides the money equally. Self-interest would be to contribute nothing and then hope to gain more money by free-riding when others contribute. In games with multiple rounds, where subjects can punish others by taking money away from them at a cost to themselves, subjects in Western countries who made high contributions tended to punish people who did

not contribute, even though they incurred a cost in doing so, and the punished individuals subsequently made higher offers, quite possibly motivated by guilt. In non-WEIRD countries, subjects who donated a small amount tended to seek revenge against high contributors, assuming that the high contributors had punished them in earlier rounds.

I regard altruistic punishment as a key feature of Western moral communities. Westerners are more willing to punish people they see as not behaving morally, even at cost to themselves. Such behavior likely developed as an enforcement mechanism to prevent free-riding in a non-kinship-based community, and may well have developed a genetic underpinning via processes described by West-Eberhard (2003). And because Westerners are more likely to see other people as individuals rather than, say, members of a clan or ethnic group, they are willing to punish those they see as immoral without regard to offender's group membership or kinship connection — a situation that may change given the current upsurge of identity politics in the West. Thus individualists are more likely to exhibit morally tinged anger against people very much like themselves in terms of race, ethnicity, religion, etc. once they are seen as defectors from a moral consensus — a tendency that is currently being exploited by critical race theorists (e.g., DiAngelo, 2018) to make White people willing to punish other Whites for failure to adhere to an ideology of racial egalitarianism. Chastened individualists, concerned about their reputation in the moral community, readily conform and participate in punishing non-conforming Whites. For altruistic punishers, relative genetic distance is irrelevant. Defectors from a moral consensus are seen as strangers in a free-market situation; i.e., they have no familial or tribal connection with the altruistic punisher; e.g., Donald Trump's presidency has radically increased political polarization and divided families and friends based on moral judgments of political affiliation (e.g., National Public Radio, 2020), despite the fact that individuals typically have their strongest ties of affection and love within families and among friends. And once a moral community is established, conforming to it may be highly rewarding in terms of job prospects, publishing opportunities, etc., so that punishing dissenters ceases to be at cost to self, but may conform to individual self-interest.

Puritans and their descendants, the dominant group in the United States until the mid-twentieth century, were exemplars of this tendency toward creating moral communities based on utopian visions of the future, combined with punishment of dissenters. Heretics were whipped, burned, and exiled; all the while Puritans believed themselves to be the beleaguered defenders of liberty. Both New England and East Anglia (the center of Puritanism in England) had the lowest relative rates of private crime (murder, theft, mayhem) in their respective

societies, but the highest rates of public violence — “the burning of rebellious servants, the maiming of political dissenters, the hanging of Quakers, the execution of witches” (Fischer, 1989:189).

Whereas in the early Puritan settlements of Massachusetts the moral fervor was directed at keeping fellow Puritans in line, in the nineteenth century it was secularized and directed at the entire country as their descendants rose to elite status via their domination of the Ivy League universities, commerce, and manufacturing. The moral fervor that had inspired Puritan preachers and magistrates to rigidly enforce laws on fornication, adultery, sleeping in church, or criticizing preachers was universalized and aimed at correcting the perceived ills of capitalism and slavery — essentially creating a moral community in which opponents were seen as the epitome of evil. Puritan-descended abolitionists, the main promoters of the Civil War in the North, framed it as a holy war based on an ideology of moral righteousness and the evil of enslaving Africans, and they did so even against ethnically similar others — a form of altruistic punishment given the devastating costs to co-ethnics on both sides of the Civil War (*Individualism*, Ch. 6).

### *Cultural group selection*

Without mentioning cultural group selection, Henrich describes social norms as “arising directly from cultural learning and social interaction, that is via cultural evolution” (p. 69). Within the group, reputation is important; people with a bad reputation may be penalized, exiled, or even murdered — essentially acknowledging that human groups become, like a military unit, vehicles of selection because they are able to police group membership by expelling cheaters who accept the benefits of group membership without paying the costs. Groups with better norms, especially the ability to inculcate high levels of intragroup dependence and cooperation, are able to prosper by growing faster, and this has genetic consequences. “Wherever we look, from the Arctic to Australia, hunter-gatherer populations compete, and those with the best combinations of institutions and technologies expand and gradually replace or assimilate those with less effective cultural packages”; e.g., the Inuit replaced the “fragmented and isolated communities that had lived there for millennia” (p. 80). The relevance to the expansion of the West after 1500 is obvious.

Henrich accepts the idea that intergroup competition is pervasive, and that groups with higher levels of cooperation, mutual support, and interdependence outcompete other groups. Whether consciously produced or not, creating a highly cooperative culture gives a group a leg up in the evolutionary game. This may include eugenic selection for high intelligence and resource-acquisition ability, combined with high levels of cooperation and interdependence, socialization for

fear and hostility toward outgroups, monitoring and expelling members for non-compliance, and adopting different moral standards vis-à-vis ingroup and outgroup (MacDonald, 2002[1994]). Together these qualities result in a “common destiny” syndrome well known to lead to very high levels of group commitment, including even martyrdom (MacDonald, 2001). Similarly, high levels of intragroup cooperation and the long history of eugenic selection among Ashkenazi Jews have enabled Jews to have an outsized influence on the contemporary cultures of the West ultimately due to attaining elite positions in the media, the academic world, and as political donors (MacDonald, 2002[1998], 2010b).

### *The psychology of creativity*

The West has been extraordinarily creative, but why? In Henrich’s view, creativity comes from simple social learning — a strong contrast with the view of Dutton and Woodley of Menie (2018) that the major creative achievements of the West are the product of genetic outlier geniuses. What’s missing in *WEIRDest* is any discussion of the evolution of domain-general processes that enable creativity — being able to adaptively combine various information, often by analogical reasoning, in order to create new solutions to old problems — an ability that is central to general intelligence (Chiappe & MacDonald, 2005; Geary, 2004; MacDonald, 2013; MacDonald & Woodley of Menie, 2017); whereas Henrich attempts to explain human creativity exclusively with social learning, intelligence is much more powerful and implicates quite separate psychological mechanisms. Psychometric intelligence is a necessary condition for solving novel problems — prototypically the inventions that have so shaped the modern world and have been so central to the prosperity of the West. Intelligence involves top-down processing using mechanisms intimately intertwined with the highly heritable trait of general intelligence (*g*) and unevenly distributed both within and between populations. Discussions or even mention of intelligence or IQ are nowhere to be found in *WEIRDest* despite the fact that a central concern is to understand why the West became so prosperous and essentially invented the modern world. There is now substantial research linking IQ with the wealth of nations (Lynn, 2008; Lynn & Vanhanen, 2002).

Henrich’s example of making an arrow poison by Congo hunter-gatherers (p. 66) is not ideal for seeing this. It’s a complicated formula to say the least, and once an effective formula was found, the best way to figure out how to kill someone with an arrow would be to simply copy the process via social learning. But we don’t know what the process of discovery was like or even if all the ingredients and steps in the process are necessary. Is some of it the result of

superstition? Were mental models involved, or was it simply operant conditioning or trial and error?

As Henrich notes, “most inventions are really just novel recombinations of existing ideas, techniques, or approaches; a tool is taken from one domain and applied in another” (p. 437). Yes, but this implicates analogical reasoning which involves domain-general processes of general intelligence that depend on explicit processing in which people consciously manipulate information in attempts to achieve goals — processes quite separate from social learning. Such conscious manipulation of information contrasts with implicit, automatic processing that occurs outside of conscious awareness (MacDonald, 2008). For example, Henrich (2020) describes Johannes Gutenberg’s invention of the printing press as combining awareness of existing screw presses used for cheese and wine with block printing techniques and moveable type, the latter involving knowledge of metals developed by others (pp. 437-438). Analogical reasoning and the explicit creation of mental models are clearly involved.

Scientists use analogies in developing theories (Huygens’s use of light and sound to support his wave theory of light; Darwin’s analogy between artificial selection and natural selection; the mind as a blank slate or computer). ... In reasoning analogically, we consciously reflect on representations, searching among their properties for those pertinent to the analogy. Analogical reasoning also requires comparison processes ... [involving] establishing a common system of relations between the source domain and the target rather than simply mapping attributes of the objects. For example, an analogy between the solar system and a hydrogen atom exploits the higher-order relation between the sun’s attraction of the planet as the cause of the planet revolving around the sun rather than the superficial attributes of the sun or planets. (Chiappe & MacDonald, 2005:21, 22)

Note especially that being aware of an analogous process from a different domain (cheese or wine presses) facilitates creating a solution to a novel problem. The process involves having a conscious goal (a better way to produce written material), and then applying the cheese or wine press analogy to the problem after reflecting on how metals could be used to solve the novel problem. This would involve rejecting some solutions as unworkable or impractical. After rejecting some of the resulting mental models, Gutenberg hit on a workable mental model of the invention and then made plans (more mental models) of how to put it together. Anyone with his knowledge of metals would also have been aware of cheese and wine presses, but Gutenberg put it all together and changed the world. Gutenberg was a smart guy, and indeed, there is substantial research



linking psychometric intelligence (*g*) with creativity (Benedek et al., 2014; Dutton & Woodley of Menie, 2018).

Indeed, one can only marvel at the intelligence and creativity that went into creating the incredibly intricate Antikythera Mechanism designed by an unknown Greek (or Greeks). Dated to around 150-100 B.C. and “technically more complex than any known device for at least a millennium afterwards” (Freeth et al., 2006:587), it was able to predict eclipses and planetary motions decades in advance. Western creativity did not begin after the influence of Christianity.

Such creativity may be involved in consciously created group evolutionary strategies mentioned above. Henrich (2020) describes the Tambaran ritual among the Iahita (New Guinea) as creating an adaptive institution because, e.g., it bound people together better by lessening the importance of clans by putting brothers in different ritual groups and having village-wide gods (p. 95). Henrich argues that these are simply “copying errors” in which other groups’ practices were incorporated into effectively creating a new, highly adaptive system (p. 94) via social learning. Such an explanation is similar to his explanation of Gutenberg’s creativity, but the question of whether the explanation was developed by top-down processes of general intelligence is only decidable by the probing whether or not the Iahita were conscious of how they created such a group strategy.

There are putative historical examples of consciously created group strategies, such as those attributed to perhaps legendary figures such as Lycurgus, who created the laws governing Sparta as a tightly knit ethnostate that minimized tribal divisions, and Moses, who minimized tribal divisions by emphasizing a monotheistic religion for all Israelites. Historical examples include John Calvin’s group strategy for designing policies to govern sixteenth-century Geneva (discussed in Ch. 6 of *Individualism*) and the Constitution of the United States as designed by the Founding Fathers. These strategies were the result of conscious deliberation about how to best create a society that would be well-functioning. Utopian communities, such as George Ripley’s Brook Farm, were common among the Puritan-inspired intellectuals of the nineteenth century — i.e., communities consciously designed to maximize personal happiness by taking into account the creator’s understanding of human nature and producing societal blueprints based on this understanding (*Individualism*, Ch. 6). Such utopian thinking centered around creating the ideal society was common during the nineteenth century (including Marxism) and is a central component of contemporary utopian thinking (e.g., the continuing influence of Marxism and such slogans as “Diversity is our greatest strength”).

*Analytic thinking as characteristic of the West*

Henrich notes that people from cultures with intensive kinship are more prone to holistic thinking that takes into account contexts and relationships, whereas Westerners are more prone to analytic thinking in which background information and context are ignored, leading ultimately to universal laws of nature and formal logic (pp. 222-224). I agree with this (*Individualism*: 112-113), but this style of thinking did not originate as a result of the policies of the medieval Church. As argued above, classical Greek civilization fits squarely within the Western cultural tradition, so we should not be surprised to find prominent examples of analytic thinking among them. Consider Aristotle's logic, a masterpiece of field independence and ignoring context, in which logical relationships can be deduced from the purely formal properties of sentences (e.g., All  $x$ 's are  $y$ ; this is an  $x$ ; therefore, this is a  $y$ .); indeed, in *Prior Analytics* Aristotle used the first three letters of the Greek alphabet as placeholders instead of concrete examples. Or consider Euclidean geometry, in which theorems could be deduced from a small set of self-evident axioms and in which the axioms themselves were based on decontextualized figures, such as perfect circles, triangles, and infinite straight lines. Despite its decontextualized nature, the Euclidean system has had huge applications in the real world and dominated thinking in geometry in the West until the twentieth century.

Ancient Greece was an Indo-European-derived culture (*Individualism*, Ch. 2) and, beginning in the Greco-Roman world of antiquity, logical argument, disputation, and a free market of ideas have been far more characteristic of Western cultures than any other culture area, likely reflecting the primordial Indo-European free-market culture in which defection to another Männerbund based on self-interest was the norm. As Duchesne (2011:452) notes, the ultimate basis of Greek civic and cultural life was the aristocratic ethos of individualism and competitive conflict which pervaded Indo-European culture. "There were no Possessors of the Way in aristocratic Greece; no Chinese Sages decorously deferential to their superiors and expecting appropriate deference from their inferiors. The search for the truth was a free-for-all with each philosopher competing for intellectual prestige in a polemical tone that sought to discredit the theories of others while promoting one's own." In such a context, rational, decontextualized arguments that appeal to disinterested observers and are subject to refutation win out. They do not depend on group discipline, group cohesiveness, or group interests for their effectiveness because in Western cultures, non-morally based groups are permeable and defections based on individual beliefs are far more the norm than in other cultures (*Individualism*, Ch. 9; MacDonald, 2002[1998], Ch. 6). As Duchesne notes, although the Chinese

made many practical discoveries, they never developed the idea of a rational, orderly universe guided by universal laws comprehensible to humans. Nor did they ever develop a “deductive method of rigorous demonstration according to which a conclusion, a theorem, was proven by reasoning from a series of self-evident axioms” (Duchesne, 2011:250), as seen in Euclid’s geometry.

Despite a lesser role for reason in Christian thinking and periods of dogmatism in Christian moral communities in which, for example, heretics even from scientific orthodoxy were dealt with harshly, the spirit of disputation and logical argument so apparent among the Greeks persisted within Christianity: “Christian convictions were submitted to the disciplines of logic and metaphysical speculation to the requirements of disciplined argument” (Siedentop, 2014:113), e.g., St. Thomas Aquinas’s Aristotelian arguments for the existence of God. “The habit of disputation — of disciplined argument — was preserved by the Church in later antiquity ... . The habit of disputation became engrained in the life of the Church” (*Ibid.*). And of course, there was a huge outpouring of mathematical, scientific, and technological disputation and progress in the succeeding centuries when scientific thinking became divorced from religious orthodoxy with its moral overtones.

Such universal, generalized laws and geometrical or mathematical theorems derived from axioms are decontextualized rules — i.e., rules about perfect triangles or frictionless motion which nevertheless have many uses in the real world. This is the essence of scientific reasoning. Galileo’s concept of frictionless motion, e.g., fails to predict the precise rate at which an object will move down an inclined plane, because there will always be friction in the real world. However, his concept has been very useful in real-world predictions and in designing a wide range of artifacts, ranging from engines to roads.

### *Universal, evolved personality systems*

Henrich (2020) argues that WEIRD people are prone to dispositional thinking, “a tendency to see people’s behavior as anchored in personal traits that influence their actions across many contexts.” (p. 33) Within this perspective, personality traits revealed by Western personality psychologists are culture-bound constructions with no roots in human evolution or in complex neurobiological structures uncovered by research in personality—structures that have taken millions of years to evolve (see below). Indeed, the only psychological system mentioned in *WEIRDest* is social learning which must then be burdened with not only being the basis of learned human culture (e.g., learning social norms), but also the basis for human creativity, altruistic punishment, analytic thinking, guilt, and the myriad behaviors linked to personality and intelligence.

Henrich's view of personality, relying on Gurven et al. (2013) and Lukaszewski et al. (2017), is that personality is simply a measure of what people find important in particular societies, so that advanced societies with a more complex ecological niche space will have more personality variation. Within such a perspective, prior to the influence of the medieval Church, there were no market-related personality traits because people were not interested in this variation. There is thus no role for biological systems that evolved to solve recurrent problems in the environment of evolutionary adaptedness, and research into the neurobiological basis of personality in humans or animals would be futile. And there is no role for discussions of the heritability of individual differences in personality traits; personality traits have been shown to be moderately heritable in dozens of studies (e.g., Knopik et al., 2016).

Notice first that even if it is true that pre-medieval Europeans did not find personality traits revealed by contemporary research interesting enough to rate people on them (unlikely given that, e.g., individual choice of marriage partner was the norm), it does not follow that the traits and their underlying genetic and neurobiological structures did not exist. Secondly, the findings of Lukaszewski et al. (2017) do not necessarily relate to individualism, since the major contrast is between developed societies with high levels of literacy and niche specialization versus relatively undeveloped societies with few niches, without controlling for the degree to which societies are organized around kinship. That is, even if niche specialization and literacy are responsible for personality variation, it would only mean that people in such societies are more inclined to assign dispositional traits to themselves and others, not that such thinking is a marker of individualism as maintained by Henrich.

Thus, as Henrich notes (p. 356), China remains a society that is fundamentally kinship-based. For example, collective farms were established in the 1950s in order to root out the clan system, but then the government changed course and abolished the collective farms in the 1980s. Thus this initiative by the communist government may be thought of as analogous to the Church's program to oppose the power of kinship groups in the Middle Ages. However, after the policy was abolished, non-clan members moved out of villages controlled by a particular clan to return to their natal villages, so that China became once again more clan-oriented. Nevertheless, China is listed as having a high level of social complexity as well as being prone to seeing personality dispositions in self and others (Lukaszewski et al., 2017). The experiment in opposition to clans — albeit short-lived compared to the Church's policies — did not alter the kinship basis of the society but, in any case, the findings do not indicate a necessary link between individualism and seeing other people as having a disposition-based psychology.

The issue is important because Henrich argues that the changes in Church policy ultimately produced changes in WEIRD personalities, making us more industrious, hard-working, patient, and more prone to self-discipline and delay of gratification (p. 379ff) — all aspects of what personality psychologists refer to as conscientiousness. The neurobiological basis of the conscientiousness system involves top-down prefrontal effortful control of behavior and underlies trait variation in Conscientiousness as assessed by the Five-Factor Model (FFM) of personality (MacDonald, 2008); the FFM consists of the traits of Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness, all of which have been shown to have moderate heritability (Knopik et al., 2016). This model of personality has achieved wide acceptance among personality psychologists and has been shown to be generalizable across cultures (e.g., Rolland, 2002) and in many animal species (Extraversion, Neuroticism, and Agreeableness) (Gosling & John, 1999), but Henrich argues that it applies only to WEIRD people, or at least only to people (including non-individualists) who live in literate societies with complex niche spaces.

Gurven et al. (2013:355) claim that “the existence of the FFM is an inductively derived success of personality psychology. There are no a priori reasons for expecting a particular number of trait dimensions or within-trait or intertrait correlations.” This is correct. The FFM is not at all theory-driven but is based on sets of observed intercorrelations of ratings by self or others on adjectives (e.g., hard-working, cold-hearted) and then subjected to factor analysis, consistently yielding the five dimensions in a wide range of contemporary cultures.

However, a theory-driven approach based on evolved functional systems is possible (MacDonald, 2005, 2012). Instead of attempting to find the structure of personality by beginning with correlational data based on ratings (e.g., on a 7-point scale) of the extent to which people can be described with various adjectives, the approach asks what personality systems animals in general and humans specifically had to evolve in order to solve recurrent problems suggested by research on the FFM, and then seeks to relate these hypothetical traits to those found empirically. This perspective expects to find homologous (i.e., inherited from a common ancestor) systems in animals that serve similar adaptive functions, and it expects that these systems will be organized within the brain as discrete neurophysiological systems. It expects that each system will be responsive to particular environmental contexts and that different temperament and personality systems will be in competition with each other within individuals, leading at times to psychological ambivalence (e.g., a person torn between performing an obligation related to long-term goals [related to the

conscientiousness system] and seeking pleasure [related to extraversion]) (MacDonald, 1995b, 2005, 2008, 2012).

An evolutionary theory seeks to “carve nature at her joints” on the basis of functional units — systems that have been the focus of natural selection. In contrast to Henrich’s view, this perspective predicts that all humans will have these systems, and the major question is whether and how the adaptive systems identified by this approach fit with personality psychology as assessed with FFM instruments. Whether or not particular societies (or animals) find these traits important is irrelevant.

For example, among even the most primitive mammals, there must be systems designed to approach the environment to obtain resources, prototypically foraging and mate-attraction systems. As animals evolved toward greater complexity, there has been evolution for increasingly complex, intercorrelated approach systems, involving sensitivity to reward, risk-taking, impulsivity, dominance interactions, and aggression among others. These systems share genetic correlations and specific neuropsychological mechanisms influencing motivation, perception, and behavior related to approaching the environment. The behavioral approach system (BAS; Gray, 2000) evolved from systems designed to motivate approach toward specific sources of reward (e.g., sexual gratification, dominance, control of territory) that occurred as enduring and recurrent features of the environments in which animals and humans evolved. These systems overlap anatomically and neurophysiologically with aggression, likely because aggression is a prepotent way of obtaining resources and dealing with the frustration of not obtaining resources (Panksepp, 1998:191). Important components of the BAS are dopaminergic reward-seeking mechanisms (Gray, 2000; Panksepp, 1998; Panksepp & Moskal, 2008; Zuckerman, 1991) that motivate animals and people to interface with the environment.

Over evolutionary time, the BAS has become elaborated and differentiated according to the unique adaptive demands of each species. As a result, carnivores seek different sorts of food than do herbivores, the former requiring mechanisms involved in stalking and taking down prey, the latter requiring mechanisms for processing low-quality plant food and avoiding predators. Dominance mechanisms are an important component of behavioral approach for many social species as individuals seek the rewards of dominance (e.g., sexual access to females), but not for solitary species.

The behavioral approach system is related to Surgency/Extraversion in the FFM and Dominance in the Circumplex Model of Interpersonal Descriptors (Wiggins & Trapnell, 1996). At the heart of behavioral approach is variation in tendencies toward social dominance and sensation seeking as well as several

other highly sex-differentiated behaviors, including impulsivity, and sensitivity to reward. Such sex differences are entirely in line with the evolutionary theory of sex according to which males, as the low-investment sex, typically exhibit greater variance in reproductive success than females and are therefore expected to be more involved in risk-taking and have more to gain and lose by dominance interactions and aggression, all of which are linked to control of women in traditional societies. As noted also in *WEIRDest* (263-268), in traditional non-Western cultures, there has been a strong tendency for wealthy, powerful men to be polygynous, resulting in great variation among men in reproductive success.

Besides the BAS, the other evolved systems proposed as mapping onto the FFM are as follows (see MacDonald, 2012):

1. *Effortful control*: enables prefrontal control over lower brain mechanisms in the service of short- and long-term goals, e.g., inhibiting aggression or reward-seeking because of possible punishments in a particular context; neurobiological basis: ventromedial prefrontal control mechanisms with inhibitory connections to other brain mechanisms; related to FFM Conscientiousness (MacDonald, 2008).

2. *Nurturance/Love system*: enables pair-bonding, love and nurturing children; neurobiological basis: specific reward centers and the hormones oxytocin and vasopressin; related to FFM Agreeableness and Extraversion (MacDonald, 1992).

3. *Affect intensity*: allows graded responses from low arousal to high arousal involved in emotionally-tinged responses (e.g., fear) resulting from reacting to environmental contexts; neurobiological basis: arousal-related neurotransmitters and the reticular formation; related to FFM Neuroticism.

4. *Behavioral inhibition system (BIS)*: responds to environmental threats with flight or defensive aggression; neurobiological basis: the amygdala and defensive circuits that enable detection and responses to threats; also related to FFM Neuroticism.

In some cases, these systems are complexly related to the FFM. For example, a factor rotation orthogonal to FFM Extraversion and FFM Agreeableness yields two highly sex-differentiated factors labeled Love/Nurturance (females higher than males) and Dominance/Sensation Seeking (males higher than females) (Trapnell & Wiggins, 1990). The existence of robust sex differences in accord with evolutionary theory and research on sex differences is strong evidence that such a factor rotation is better able to “cut nature at her joints” than FFM instruments such as the NEO-PR-I (MacDonald, 2012; MacDonald, Patch & Figueredo, 2016). Interestingly, Gurven et al. (2013) find substantial covariance of Extraversion and Agreeableness items in their prosociality factor. Items aimed at assessing Dominance/Sensation Seeking and

Love/Nurturance separately may well have produced more sex-differentiated results, as found in the Circumplex Model of Interpersonal Descriptors (Wiggins & Trapnell, 1996), whereas the NEO-PR-I systematically conflates this variation, thereby minimizing sex differences. Openness is the least robust factor of the FFM, and there is some indication that it is a late-evolving elaboration of the BAS (MacDonald, 2012).

If indeed this is a reasonably accurate account, Gurven et al.'s subjects, the Tsimane, like all other humans and even primitive animals, have at least three of these personality-related systems: the BAS, the BIS, and affect intensity. The above-referenced review (MacDonald, 2012) indicates that the BAS, the BIS, affect intensity, and some level of prefrontal control are universal in mammals; since mammals suckle their young, an nurturance/love system — a system that makes close relationships of love and nurturance psychologically rewarding (MacDonald, 1992) — is likely present in all female mammals and evolved in males of species that, like humans, are involved in pair bonding and nurturing offspring.

So the question is, why do the results for the Tsimane line up so poorly on the FFM? It may well be that the Tsimane language and lifestyle do not emphasize some of the traits measured by the FFM, so that people aren't evaluated on these descriptors in everyday life and their language may lack such descriptors. What seems to be important to the Tsimane are two traits, prosociality (conceptually linked to FFM Agreeableness) and industriousness (conceptually linked to FFM Conscientiousness). The key question for an evolutionary model is external validity: the evolutionary model sketched above would predict that observers trained in the FFM and who had lived with the Tsimane and had observed individual Tsimane in a variety of situations would find that they exhibited the FFM traits; and it would predict that standard neurobiological measures known to relate to FFM-related systems would be found to be associated with these findings in a manner similar to, say, Western populations; behavior genetic studies would find the FFM traits heritable. The fact that Tsimane don't consider some of these traits important in assessing themselves and others is irrelevant.

Again, the critical issue is external validity. Gurven et al. (2013) measure external validity by using trained Tsimane research assistants to do the interviews; the interviewers, whose only contact with the subject was the interview, then scored subjects on how talkative, shy, smiling and distracted they were during the session. These are presumably intended as proxies for extraversion (talkative, shy [reversed]), agreeableness (smiling), and



conscientiousness (distracted). Such a procedure is clearly inadequate as a test of the evolutionary model sketched above.

To sum up:

1. There is no indication that individualism is linked to dispositional thinking since evaluations of people in literate, kinship-based societies with complex niche spaces are also compatible with the FFM;
2. In the Tsimane and other simple societies, individual differences in evolved systems underlying personality variation may not be important in evaluations of self or others, but there is no reason to doubt that they have the same universal, biologically based systems that are linked to personality in WEIRD people.

### *Natural selection and Conscientiousness*

This background is important for evaluating Henrich's section titled "Be Yourself: The Origins of WEIRD Personalities" (p. 379ff). Henrich claims that people from individualist areas of Europe became more characterized by time orientation, industriousness and hard work, patience, self-regulation, self-discipline, and delay of gratification — in short, middle-class values. Ability to delay gratification is linked to upward mobility and greater participation in education over a wide range of contemporary societies. He also suggests that increases in self-control are involved in the decline in crimes of passion of the "barroom brawl" type (pp. 376-77).

These market-oriented, middle-class virtues are all linked to FFM Conscientiousness. Fundamentally, conscientiousness measures individual differences in effortful control — conscious self-regulation and control of behavior; for humans, this often involves attending to language-mediated assessments of environmental threats and opportunities or creating mental models of possible outcomes (MacDonald, 2008). As noted above, this system is based on explicit appraisals of contexts mediated by ventromedial prefrontal structures able to control prepotent responses triggered by a variety of evolved systems — e.g., aggression, ethnocentrism, sexuality, reward seeking, and emotion. For example, a person may refrain from aggression because of fear of prosecution or because he is aware that his antagonist is a member of a powerful kinship group; as a result, he consciously inhibits his anger and desire for revenge by exerting inhibitory control over areas of the brain involved in aggression. Refraining from dishonesty in order to retain long-term relationships of trust within a moral community is another paradigmatic example. The inputs to these prefrontal structures include a wide range of nonrecurrent information — that is, information resulting not from evolutionary regularities (as utilized by the prototypical modular

mechanisms emphasized by evolutionary psychologists) but from explicit appraisals of costs and benefits. These explicit appraisals often involve language-based representations of context, and they are sensitive to rapidly changing and unique environmental contexts rather than contexts that were recurrent over evolutionary time.

Conscientiousness has always been central to human adaptation to the environment, but it is particularly important in the complex environments of contemporary human societies. For example, patients with damage to the ventromedial prefrontal cortex have normal sensitivity to reward and punishment, but their behavior is controlled by immediate rewards or punishments rather than long-term prospects (reviewed in MacDonald, 2008). Being able to control behavior to promote long-term prospects is central to the middle-class virtues discussed by Henrich. People low on conscientiousness are therefore at a disadvantage in contemporary societies. Compromised prefrontal control emerges as a general aspect of disinhibitory/externalizing disorders, including alcohol dependence, substance abuse/dependence, adult antisocial disorder, and conduct disorder (aggression) (e.g., Kendler et al., 2003).

Conscientiousness, like other personality traits, is moderately heritable. This indicates that there could be natural selection for conscientiousness, as well as for intelligence, both of which have been shown to be linked to economic success and upward mobility in contemporary societies. Gregory Clark (2007:113) argues that natural selection for traits related to upward mobility occurred in England prior to the Industrial Revolution: In the years 1250-1800, “economic success translated powerfully into reproductive success, with the richest having more than twice the number of children at death than the poorest” (*Ibid.*). And compatible with genetic influences is his finding that “fathers rich at the time of their death tended to have sons who were rich at the time of their deaths even when the sons received a small share of the father’s wealth because there were many surviving children” (p. 120). Essentially, England had developed a culture that “rewarded middle-class values with reproductive success, generation after generation” (Clark, 2007:6).

Despite citing Clark (2007), Henrich rejects natural selection as an explanation, writing that “as long as social and economic success remained positively linked to survival and reproduction, both genetic and cultural evolution would have favored a WEIRDer psychology. However, there are good reasons to suspect that natural selection faced tremendous headwinds compared to cultural evolution,” arguing that the main areas of urbanization that attracted WEIRD people were in fact “death traps”: “if anything, natural selection would have been *operating against* a psychology adapted to dense populations, impersonal

markets, individualism, specialized occupational niches, and anonymous interactions” (pp. 483-484; italics in original).

It is certainly true that early modern European cities required constant immigration to maintain their populations. However, such an argument assumes that the psychological basis for individualism wasn't already firmly planted in Western Europeans, both rural and urban, long before urbanization really took off. Indeed, ancient Greece and Rome were both urban societies. Moreover, the culture-only hypothesis is not compatible with several studies indicating that wealth was strongly correlated with reproductive success in England prior to the Industrial Revolution in both rural and urban areas. Clark and Cummins (2010:3) found that prior to the Industrial Revolution, wealth was associated with reproductive success in “a diverse area of southern England which includes rural areas, medium sized towns such as Ipswich and Colchester, and London itself in the form of Southwark.” Finley (1981) found that in wealthy areas of London from 1580-1650 births and deaths were approximately balanced, while the ratio of births to deaths was 0.7 in poorer parishes; the advantage of the wealthy would likely have been greater except for the practice of wet nursing common among the more well-to-do. Sharlin (1978) found that burgers in Frankfurt-am-Main from 1650-1800 had an excess of births to deaths while non-burgers had a very large excess of deaths to births. Moreover, a study of Geneva-born women found that birth rate approximately equaled the death rate (1650-1684) while for migrant women, who were much more likely to be working class, it was around 0.6 (see De Vries, 1984:184).

Pound (1962) found upper classes had substantially more children between 1500 and 1630 in English cities, including Norwich and Exeter — 2.2 children in poor families versus between 4.25 and 4.7 for wealthy merchants. Norwich is in East Anglia, the area that gave rise to the English Civil War of the 1640s and the Puritan culture of New England that dominated American culture until the 1960s (*Individualism*, Ch. 6); it was centered around urban Boston as its hub. Using a method similar to Galton's *Hereditary Genius*, Ellis (1904) found East Anglia had produced per capita the most eminent scholars, scientists and artists among the English. Two Puritan East Anglian counties had the highest rates of literacy in England during the seventeenth century — around 50 percent. Puritans were especially prominent in law and commerce, and in America they quickly established the Ivy League universities and strongly supported public libraries and public schools (Phillips, 1999:27). Closely following Norwich was Exeter in southwest England, found by Ellis to have the most eminent figures but second to Norwich in per capita terms. In short, these cities were quite well adapted to the market economy, and wealth was strongly linked to reproductive success

within them. Indeed, East Anglian Puritans “became the breeding stock for America’s Yankee population” and “multiplied at a rapid rate, doubling every generation for two centuries (Fischer, 1989:17).

Given that social class differences are typically accentuated in urban areas, this is compatible with greater rates of natural selection on the basis of wealth in urban populations than in rural populations. But, in any case, given the evidence that wealth was strongly linked to reproductive success prior to the Industrial Revolution, it certainly doesn’t mean that the unhealthy conditions of cities prevented increases in the genetic basis for intelligence and conscientiousness. Indeed, Dutton and Woodley of Menie (2018) show that the genetic basis for intelligence increased along with traits related to conscientiousness up to the Industrial Revolution, citing a variety of data for historical increases in *g*, the strongly heritable component of general intelligence; people with high *g* are good at solving a wide range of problems calling on more specialized abilities (MacDonald & Woodley of Menie, 2017). General intelligence contrasts with less heritable, more specialized abilities.

Another aspect of selection for traits related to conscientiousness and intelligence has been proposed by Frost and Harpending (2015) based on the finding that penalties against violence increased dramatically beginning in the eleventh century, with up to two percent of males in each generation being subjected to capital punishment or dying in other ways related to their crimes. This culling of crime-prone males would have reduced the numbers of males at the high end of aggression and at the low ends of conscientiousness, intelligence (Dutton & Woodley of Menie, 2018), and love/nurturance (i.e., psychopathy/sociopathy). Given that other strong states, such as classical China, had severe punishments, such a scenario cannot account for individualism, but it would certainly improve tendencies toward conscientiousness. Indeed, China, as one might expect in a collectivist, kinship-based society, typically punished entire families beginning at least by the fourth century B.C. (Cheng, 1948; Nine-Familial Exterminations, 2020), thus constituting genetic selection against an entire kinship group: when a person was convicted of a crime and sentenced to death, all members of his father’s, mother’s, and wife’s families were sentenced to death. Such collective punishment was ended only in the early twentieth century.

Henrich also argues that cultural evolution has trumped natural selection in the area of intelligence, noting data indicating a decline in the genetic basis for intelligence occurring at the same time that there has been an increase in overall intelligence, commonly referred to as the Flynn effect. However, as Dutton and Woodley of Menie (2018) note, a number of studies have not shown the Flynn effect for some *g*-loaded traits — which are strongly genetically influenced — but

have shown the effect for being able to reason abstractly rather than concretely (e.g., by being able to solve syllogisms with hypothetical premises) and to seeing the world in a scientific manner. These latter abilities are more amenable to being altered by education.

So cultural evolution makes a difference, but there is a real cost when there is a decline in the prevalence of genes related to high IQ because people with large numbers of these genes are much more likely to be the geniuses that carry civilization forward. Moreover, the Flynn effect has been decelerating in recent decades as environmental improvements related to intelligence reach their limit; in some areas, the Flynn effect has gone into reverse, presumably due to a decline in the quality of environments, accompanied also by declines in performance on the most *g*-loaded tests. When the limit of environmental influences is reached, “rates of even micro-innovation would start to decline and we would start to go backwards; we would find ourselves unable to do things that we could do in the past to an even greater extent than had been the case before” (Dutton & Woodley of Menie, 2018:179).

### 3. Conclusion

I agree with Henrich that there has been a strong role for culture in human adaptation. However, the psychological origins of individualism and the psychological systems related to individualism, as well as intelligence and personality, lie far more in the biological realm than Henrich is willing to grant. The unique individualism of the West can be traced to the hunter-gatherer cultures of northwestern Europe as well as to the Indo-European cultures of ancient Greece and Rome and the Germanic peoples that dominated Europe after the fall of the Roman Empire. During the Middle Ages, the Catholic Church adopted policies similar to some aspects of Greek and Roman culture (non-kinship-based identities, monogamy, and exogamy), thus reinforcing individualism in Western Europe. Despite important differences between different culture areas of Western Europe noted here, the traditional view that the uniqueness of the West originated in the ancient world remains true. Western culture is “of a piece.”

Although the West came to dominate the collectivist cultures of the rest of the world, Western cultures are proving highly vulnerable to collectivist groups that have been welcomed into Western societies. Ultimately these groups are welcomed because Westerners are relatively trusting of strangers and more prone to seeing others as individuals rather than as members of competing groups—phenomena that are now occurring within a cultural context in which the West is widely despised for its history of conquest and slavery and thus the

appropriate target of altruistic punishment by Westerners themselves. As Henrich notes, people whose roots lie in collectivist cultures remain untrusting of strangers and are less individualistic-independent and more conformist-obedient even long after immigrating to the West. Such people are prone to acting in their collective self-interest, and they are slated to become majorities throughout the West in coming decades. If that happens, it is likely that the institutions of Western individualism based on the long tradition of individual freedom, representative government, and reproductive egalitarianism will not survive and that Westerners who are genetically and culturally inclined toward individualism will become a diminishing, powerless minority in a world of competing identity groups. Indeed, science, perhaps the crowning achievement of the West, is increasingly deferring to group interests in the publication process (*Nature Communications*, 2020).

Western individualism is a fragile flower in a world where kinship and tribal loyalties remain strong and are likely to remain so into the foreseeable future.

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