

The Embeddedness of Social Institutions: Networks of Church and State in China and the Europe

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ABSTRACT:

This paper expands the insights of North and Williamson on the pervasiveness of informal constraints—customs, norms, religious practices— by tracing their influence on early networks of church and state formation in Imperial China and western Europe after the fall of Rome. Historical analysis illustrates that formal institutions arise from, and coevolve with, system-embedded customs, and that this embeddedness determines economic structure and potential to mobilize productive forces. The informal norms that drove economic innovation in Western Europe’s distributed system came from synergies that aligned secular law with religion and involved royal houses, towns, and rural parishes. By contrast China’s institutional structures evolved from the ancient process of network formation that optimized one central node, the emperor. While, the Mandarinate relied on ancient Confucian moralism, its legalism had minimal penetration across the empire resulting in a Chinese identity rooted in the lineage ordering of local society, often abetting official corruption, and reducing the scale of private economic activity. In both China and the West, heterogenous agents that might try to optimize their centrality in the network must constantly negotiate cultural constructs that rise from the bottom up. Contrary to Williamson, we find that embeddedness is systemwide and pervades all levels of economic activity and social organization.

“The recognition of gods common to several families alone made possible the birth of the city. `Society developed only so fast as religion enlarged its sphere. We cannot, indeed, say that

religious progress brought social progress; but, what is certain is they were both produced at the same time and in remarkable accord” St. Augustine [*City of God*] XV–XVI.

INTRODUCTION

In 2000, writing in the *Journal of Economic Literature*, *JEL*, Oliver Williamson took stock of the new institutional economics (NIE), to which he had been a central contributor. Almost a decade earlier, Douglass North had raised the question about informal constraints, his term for the “norms, customs, mores, and traditions” that permeate formal institutions.”¹ “What is it about informal constraints,” asked North, “that gives them such a pervasive influence upon the long-run character of economies?” Williamson acknowledged that the formal and informal were pervasively linked, noting in his article that “the causes of our ignorance are very complex.” Understanding the social embeddedness of institutions, both men agreed, remains the unfinished work of the NIE.² It is key to why a vigorous market economy runs on more than just commercial laws, a topic upon which much development policy hinges.

Williamson’s approach was to create a four-level matrix for NIE analysis. The first stage, Level 1, comprises those pervasive influences, i.e., “the concept of embeddedness,” and is the realm where informal institutions, i.e., “these informal constraints,” hold sway. In Levels 2 and 3, where formal institutions are the rules that determine transaction costs, the NIE paradigm has made its most substantial contributions. Here, getting the rules right is crucial. Levels 3 and 4

¹ In an opinion piece, “The Chinese Menu (for Development),” in the *Wall Street Journal*, North describes how informal norms that enabled relational contracting helped China to industrialize in the absence of a secure property rights regime (April 7, 2005).

² Ronald Coase observed that there are costs to using the price system. “What the prices are have to be discovered” (Coase 1992, 715). Exploring the arrangements that came to be known as transaction costs launched the new institutional economics. Coase never mentions informal norms as a method of coordination which, in certain cases, is preferable to relying on the pricing mechanism.

pertain, respectively, to governance and resource allocation.³ The aggregate structure of the economy then is the sum of these parts: economies scale by building layer upon layer, and as a society transitions from one layer to the next, change occurs at a faster pace.

Yet the “identification and explication of the *mechanisms* through which informal institutions [in Level 1] arise and are maintained” remain unsolved, Williamson wrote, and are the most daunting challenges faced by scholarship in the NIE canon, and in political economy more generally. Fundamental to what Brian Arthur (2015) calls “the problem of formation,” or “how an economy emerges in the first place, and grows and changes structurally over time,” are the informal constraints, e.g., the informal institutions, customs, traditions, norms, and religious practices embedded in macroscopic structures that span the entire society.

Informal constraints can cause markets to falter or fail. No matter how much a government intervenes to support the market, Williamson affirmed, the embeddedness of norms and informal institutions will have “a lasting grip on the way a society conducts itself.” This is because formal and informal institutions coevolve according to the rules that govern complex and other natural systems, rather than the engineered rules of canon law, civil law, oaths of fealty, or the anointment of kings. At Level 2, when property rights are clearly defined and enforced, the government can step aside as the “marvel of the market takes over.” But if the market is not properly aligned with social norms, it will not be self-sustaining—it will be incomplete.⁴ The effects of embeddedness determine success or failure, and explain as well whether or not institutions, organizations, and governance models can be transplanted from one environment to another to support well-functioning markets.

³ Williamson approximates the evolutionary time scale of the different levels as follows: L1: 1000–1000 years; L2: 10–100 years; L3: 1–10 years; and L4: allocation functions continuously.

⁴ A market is incomplete when economic actors are deterred by transaction costs from operating at the “Coasian frontier,” in which all possible trades are consummated by private parties acting in their own self-interests. This concept of rationality prevalent in the NIE program is too narrow; it should also account for values that underpin a willingness to trust strangers, i.e., to accept proposals from or to enter into trades with potential business partners in the absence of kin-based obligations.

Yet even in Williamson's conception, the lower levels can only minimally influence those levels immediately above them, whereas upper levels limit those below. While he acknowledged the long-term challenge of pervasive embeddedness, why didn't his model try to address it? And why does most work in economics continue to ignore Level 1 and primarily address Levels 2 and 3? Following Brian Arthur (2014), we believe that the tools of contemporary economics are better suited to describe the economy's allocative functions but are poor at describing the mechanisms of change *in the formation of structure*.

Applying a complex systems approach that focuses on the topology of a society's network structures, we will explore some of the ways in which lower and upper levels influence one another.⁵ This approach allows us to explore the formation of economic structures, the mechanisms by which they operate, and the principles of adaptation to which they give rise.⁶ We will see that embeddedness is not what is contained in the regulations found in Level 2 so much as a property of the mechanisms or regularities governing the interlinking and interdependence of complex systems. Institutions arise from system-embedded customs, and themselves embed in a society over time, changing it slowly and causing change in the other institutions with which they share interdependencies, all while undergoing change themselves. Embeddedness is a property that persists and evolves along with the system, such that social agents at all four of Williamson's levels must adapt to in order to survive.

⁵ Relevant references that guide our adaptation of this approach include Jeffrey Johnson (2013); Paul Ormerod (2012); Joshua Ramo (2009); Duncan Watts (1999, 2003, 2004); Diana Richards (2000); Robert Axtell and Joshua Epstein (1996); Robert Axelrod (1996, 1997); David Easley (2010); Brian Arthur (2015); Thomas Homer-Dixon (2006); Emanuel Adler (2019); Thomas Oatley (2013); Mark Newman and Albert-Laszlo Barabasi (2003); Herbert A. Simon (1962, 1969); Stephen L. Vargo and John Padgett (2012); Fernando Vega-Redondo (2007); Peter Turchin and Duncan Foley (1994); Maoz Zeev (2011); Matthew Jackson (2010); Eric Bienhocker (2006); Farrell and Newman (2019); Bruce Edmonds (2019); David Colander and Roland Kupers (2014); and John Foster (2005, 2011).

⁶ In Williamson, upper levels "limit" those below. We show that bottom-up, agent-based, interactions can also rearrange upper-level patterns of connectivity and thereby modify the structure of the system.

It follows from this approach that the durable “architecture” of world civilizations requires more than an aggregate piling of brick upon brick. Civilizations, empires, or states rise and fall because of their ability to connect their components—the hamlets, villages, townships, and cities—and to coordinate activities among them, no matter how remote or sparsely administered, through information-sharing networks that enabled a collective memory and sense of common purpose (Root, 2020). They require webs of communication—hierarchical, institutional bridging—that eventually connect all levels of society. And they require hubs that manage system-wide feedback, i.e., transport information across all scales, to enable the interconnectedness that would allow expanding horizons of cooperation and interdependency.

After the collapse of the Roman Empire, the Roman Church and royal houses were hubs that formed the institutional bridges; each of these interdependent systems was also entwined with, and evolved with, the nascent legal system, and together transformed Western Europe into a cohesive cultural zone. In Imperial China, the Confucian officialdom, the Mandarinate, was the state wiring that enabled connectivity to spread from the royal court out across a far-flung empire. Through successive dynasties, it was also the ceremonial and moral guardian of the polity, and its cultural role formed the basis of a shared national identity, although its reach was not as deep into the day-to-day concerns of the population. The Latin Church, the royal houses of Europe, and the China’s Mandarinate were all formal institutions and thus at Level 2 of Williamson’s model; but as doctrines, Christianity and Confucianism, and the European monarchies are Level 1—embedded phenomena—the sources of many of the underlying values whose roots are premodern. The medieval Church “embedded” into its doctrines and its practices the vestigial norms of Germanic kingship and Roman law and Confucianism similarly adapted itself to ancestral worship and other pre-existing traditions of Chinese society.

Throughout history, religion has played a major role in optimizing centrality of leading power brokers.⁷ Yet the strategies leaders employed to maximize their centrality and build social order were shaped by informal constraints—the vestigial traces of ancient tribal rites, mores, and customs. How religious institutions and other major networks all played into one another, and how new networks grew out of interactions in building state capacity—all this was quite

⁷ By optimization strategies, we mean how nodes maximize their centrality and connectivity relative to other nodes in a network.

different in China than in the West. In the former, the roots of Confucian moral philosophy and clan deference “grew” both the strengths and weaknesses of the system. In the latter, a monolithic Roman Church was born of a failure to unite a waning empire, and then strove, through adaptation and initiative, to optimize its own autonomy and centrality as it embedded into the system.

From this perspective, we will explore the cultural and institutional relationships of church and state in the historic regimes of Western Europe and China in an effort to understand how modern mindsets arose from the networks that evolved around these institutional hubs.⁸ We want to identify features of network structure that made it possible for the hubs to transform the system without jeopardizing its resilience. We want to understand as well how newly formed network topologies continue to behave so that the communities can construct the forms of governance—institutions, organizations, and rules—that will enable agents to cooperate, mitigate conflict, and realize mutual gains.

We address three influences on the performance of markets arising from embeddedness: the relationship of the formal and informal; the evolution of markets; and the “alignment,” or boundaries, of the different levels and their interactions. Here again, in this analysis, economies are assemblages of networks that are themselves multilevel systems in which different orders of hierarchy exist and interact, giving rise to change processes across levels. They do not scale in a linear manner or achieve a cumulative value by building block upon block. Instead, linkages between nodes that make up the system produce patterns of system-wide connectivity and form the network’s topology. This is what determines the system’s multilevel dynamics.

Finally, we hope to gain new insights into how a society can approach the frontier in which all possible beneficial trades are consummated naturally from the commercial transactions of consenting parties. This requires that we identify the values a population must share in order for individuals to recognize potential business partners from the society at large.

CULTURAL EVOLUTION AND THE ROLE OF RELIGION IN EUROPE

⁸ States during this period are primarily vehicles of the dynastic ambitions of princely lineages (Friedeburg and Morrill, eds. 2017).

An entry point to the questions raised by Williamson about embeddedness of informal norms is the debate over the role of religion in the West's long-term cultural evolution. Adding to the many important contributions to this debate, anthropologist Joseph Henrich (2020) attributes the linkages between being "Western, Educated, Industrialized, Rich, and Democratic" to values that have their genesis in a little appreciated tenet of early Christianity, i.e., the taboo against cousin marriage. Through "accidental genius," this ban created a unique path to liberalism by slowly dismantling long-embedded kin-based power networks in order to spread its own norms and institutions, and enrich itself. Henrich cites evidence from St. Augustine in the fourth century and onward, as the Western Church persisted in barring what it defined as incest far beyond other major religions, even up to the sixth cousins and widowed in-laws. In great synods, its bishops proclaimed the ban eighty-eight times, even into the twentieth century.

William Jack Goody, was one of the first cultural anthropologists to focus attention on the cousin marriage ban. He saw it primarily as a venal route toward selling exemptions, and made the same point about venality when explaining the Church's heirship policies (1983).⁹ Like Goody and other scholars of Christianity, Henrich attributes the policy to self-interest; the Church, he reasons, competed for influence against kin-based networks and tribal loyalties, and was relentless in its use of the taboos to weaken the traditional patriarchal authority and dissolve clan affinities, creating more opportunity for believers to devote themselves, their children, and their estates to it. An important difference between Goody and Henrich is that for the latter, the Church's motivation wasn't purely venal; its self-interest was for the sake of increasing flock and fold. The claims of these two authors speak directly to the puzzle of embeddedness and long-term cultural change.

The Church has indeed had a lasting grip on the way Western European society conducts itself, but what Henrich and Goody both miss is the complex causal chain, of much greater significance than this ban, that links the Church to the great events shaping modern Europe. Although the Church did indeed supply the cultural scaffolding of the Middle Ages it was but

⁹ The marriage ban had consequences for the nobility, though the records are silent about its significance for the rest of the population. In high-profile cases, the Church theoretically could benefit lavishly from the sale of exemptions to the ban; but to confirm this we require finding the records that speak to it.

one important subsystem among other important subsystems (e.g., civil law, the royal houses, the secular powers, and towns), displaying the behaviors of a social network that interacts and coevolves with other complex social networks. Those interactions and coevolutions are the principal characteristics of the network structure of premodern Europe from which its long-term economic fundamentals derive and which enabled European society to reach something like the institutional possibility function described by noble laureate Ronald Coase, the godfather of NIE.

Although not politically united, Europe’s regions have been culturally linked for nearly two millennia via networks built on the tradition of dynastic lordship. Those networks pervaded all levels of society, from the governance of the seigneurie and the provincial leadership typically dominated by the great aristocratic families to the royal lineages that ruled the state as a whole. This pattern, which could have been observed during any period of European history, was already clearly visible during late antiquity. As historian Peter Brown notes: “The vertical links were by no means invariably oppressive. ... Few late Roman men, if any, thought that their society could work in any other way: only the warmth of constant personal attention and loyalty to specific individual could span the vast distances of the empire” (1971, 17).

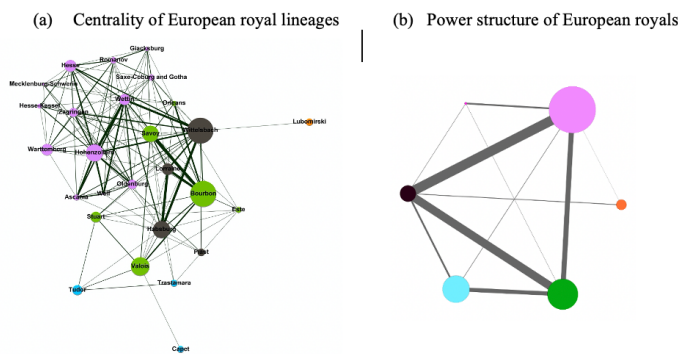


FIGURE 1 (a, b) The network centrality and power structure of European royal lineages (14th-20th centuries).

Chinese dynasties were created by conquest and war, not by joining families into elite lineages. The figure above maps the marriage network between the most popular European royal houses from the fourteenth through the twentieth centuries and shows that by establishing alliances European royals created what resembles a small-world network. An edge is established when there is a marriage between two royal houses. The thickness of edges represents the number of marriages between two royal houses (ranging from 1 to 92). The size of a node represents its degree, i.e., the number of houses with which it has a marriage relationship (0–41). The network includes 239

nodes and 622 edges, excluding self-loops (marriages among members in the same house). The nodes also include nobility, popes, bishops, and electors. Bishops and popes were expected to be celibate, but some had children for the express purpose of establishing alliances. Using Python, 100 random networks with the same number of nodes and edges are generated, and the clustering coefficient and the average shortest path are calculated for each simulated network (H. Root 2020, 153–54).

Dynastic entitlement over the systemwide public administration and communication prevailed up through the early twentieth century in most parts of Europe and was not terminated until World War I. Since no single dynasty was ever strong enough to dominate or annihilate its major rivals, each had to learn to live with the others through negotiation, treaty, trade, war, *and* marriage. Each tried to protect its position by building alliances with a wide range of partners, from parliaments, urban communes, and law merchants to peasant villages and, of course, the Church. At the same time, to ensure its prominent role in the network, the Church also kept its eye on possible alliances to guarantee its own preservation. As a hub, it was able to bridge the various other subsystems and their smaller components, but it was also subject to the continual pull of the social forces around it, co-adapting within the changing environment (H. Root 2020) and exerting sufficient influence over exalted monarchs or the most vulnerable villagers to ensure its own continuity.

These shifting pulls and alliances among the hubs reveal that the Church's role in leading Europe down a path that no other society has traveled is not the one Henrich claims. It was not a ban on cousin marriages or any particular law or proclamation that mattered. The Church gained proximity to the people via the diffusion of canon law, which expanded to include the parish registry of births, marriages, and deaths. Canon law supplanted the older Germanic customs dealing with family, land usage, wealth, and inheritance.¹⁰ And by strengthening access to justice, including the protocol of trial by one's peers, the Church contributed to medieval institutional development. Much subsequent civil law of nation states is indeed modeled upon

¹⁰ Canon law encouraged inheritance by a written will, using its oversight of inheritance to discourage communal ownership of land.

canon law, and its pervasiveness into daily life made a formidable contribution to Europe's cultural coevolution.¹¹

THE CHURCH AS AN INSTITUTION AND SOCIETY OF LATE ANTIQUITY

Christianity began its evolution as a formal institution in the year 313, when it was legally recognized by the Emperor Constantine (306–337), and later became the state religion of the Roman Empire in 380 under Emperor Theodosius.¹² Seeking a unifying force for his sharply divided empire, Constantine transferred the buildings, assets, and functions of the older state religions to the Christian Church.¹³ These gifts and later ones combined to make it the largest landowner in the West by the sixth century, according to the historian Eamon Duffy (1997, 64). That immense wealth is one of the reasons the dynamics between church and state in Western Europe are unique in world history.

Constantine did not succeed in uniting the eastern and western provinces of the Roman Empire, but he did lay the foundations for a strong church in the west. It was the First Council of Nicaea, which he convened in 325, that proclaimed the Bishop of Rome to be the patriarch in the Western Empire, making him now supreme among churchmen in the west. This assured the Church greater unity and less political strife than its counterpart in the east, from which it now differentiated structurally and ideologically. But while the early Church possessed the intellectual capacity to inspire, Constantine also added to its social capital through increasing its foundational administrative capacity and enabling it to lead via the establishment of bishoprics in

¹¹ The ecclesiastical courts during the Middle Ages had jurisdiction that went beyond spiritual or religious matters. Their wider powers in interpreting canon law were founded upon the *Corpus Juris Civilis* of Justinian, which is considered the source of the civil law legal tradition eventually adopted by nation states.

¹² In February 313, the Edict of Milan stated that Christians should be allowed to follow their faith without persecution.

¹³ Constantine's motive was also to bolster the currency, which he did by confiscating all of the gold possessed by the traditional sects.

important cities in the empire, and the local election of bishops¹⁴ In cooperation with other social sectors, it obtained administrative and financial capabilities that would eventually, in the seventh and eighth centuries, make possible its efforts to undertake massive conversion in Northern Europe. Thus what it lost in early zeal, it gained in administrative capacity as its extensive physical presence slowly became “embedded” in the declining empire’s urban infrastructure, which inevitably led it to adopt and adapt to some of the empire’s institutional characteristics.

From the fourth century onward, the Roman Empire was in the process of being dismantled, and by 476 it had vanished. This decline embroiled the Church in the geopolitical affairs of the empire’s remnants, as illustrated by the story of Pope Leo (440–461), who was said to have paid tribute to Attila the Hun in exchange for his army’s departure from Rome. As the empire’s boundaries disintegrated, the Church faced a twofold challenge. The first was a threat to the very survival of Christendom, even as it was spreading through Europe, first via the Irish, English, Franks, Goths, and Lombards. Among these groups, continuous warfare pitted one chieftain against another. Inter-tribal strife meant the society was polarized from within just as the second threat loomed: the great invasions and migrations from the north, east, and south, of Vandals, Avars, Magyars, Vikings, Saracens, Muslims, and Mongols.¹⁵

To prevent localized conflicts from multiplying, and to protect the faithful from local power vacuums that tempted invaders, exogamy would have seemed like a good idea. We can understand its appeal to the Church’s leadership. However, as insurance for the survival of Christendom, the banning of cousin marriages could hardly have mattered as much as obtaining a partnership with Europe’s secular leadership. The Church could not act alone and had need of strong kings to maintain the peace among the warring clans and form alliances to resist external threats. This helps explain why, in 800, Pope Leo III crowned the Frankish King Charlemagne

¹⁴ Key church positions, such as bishops, were to be filled by local election in which “the choice of bishop was the public concern for the entire Christian community of Rome.”

¹⁵ The Church also continued to face fierce internal problems such as the need to preserve its rule among the Germanic kings, many of whom followed Arianism, which had been branded a heretical brand of Christianity after the First Nicaean Council in 325.

(Charles I) Emperor of the Romans.¹⁶ His anointment and coronation as a servant of God rendered Charlemagne preeminent over all other kings and chiefs. With Europe's most powerful ruler now also the protector of the Church, that institution secured great leverage over education, monastic life, and a large role in the management of civic relationships at the parish level. This "marriage" of Church and state was to become the cultural scaffolding of the Middle Ages. The ideal of a Christian society was the amalgamating force, ultimately linking the knights, nobles, town dwellers and peasants.

Operating through the period 400–700 behind the fortifications of the now dilapidated Roman Empire's ancient cities, the Church carried out monastic and seminary activities buffered from the disorder around it. It only started to venture out of its urban perch in the seventh century, when more confident about its survival the Church gave precedence to the conversion of rural pagans (*pagus*, in fact, being the Latin for country district).¹⁷ Parishes, geographic units served by priests, were created later, between the eighth and twelfth centuries. Their creation enabled the Church's laws, courts, and moralizing to penetrate to the grassroots, where it was to play a primary role in shaping the norms of socialization (Southern 1970, 113). But first Christendom needed to defend itself in order to survive.

THE CHURCH AS AN INSTITUTION IN THE SOCIAL STRUCTURE OF EARLY-MEDIEVAL EUROPE

As the great medievalist R. W. Southern reckons in his classic study, *Western Society and the Church in the Middle Ages*, "Popes dreamed of a militia of St. Peter, of secular rulers obedient to command, of knights sworn to faithful service, of mercenaries paid to act as agents of the church. Popes claimed the sole right of initiating and directing wars against unbelievers. They raised armies, conducted campaigns, and made treaties of peace in defense of their territorial interests. They put the whole weight of their spiritual and temporal authority behind

¹⁶ Charlemagne's biographer Einhard (c. 775–840) claimed that he was unaware before the coronation of the pope's intention to crown him emperor, but the consensus is that pope and king collaborated in planning the coronation.

¹⁷ Climate might have contributed factor to the Church's relative inactivity during the 6th century.

these efforts. But they failed to gain acquiescence which must be the basis of any state. No sufficient body of powerful men was ever persuaded that they had a Christian duty to support the pope in these tasks” (1970, 19).

Both lay and papal efforts to raise armies, conduct campaigns, and make treaties of peace in defense of their territorial interests were never up to their ambitions, for both lacked trained tax officials. Worse, the tax base was insufficient, and urban centers for finance and interregional trade were underdeveloped. With only peasant agriculture as a resource base, neither the Church nor the kings had the resources to provide for retinues of trained horsemen. What emerged to manage defenses was a new form of social organization: feudalism. Yet neither the Church nor the kings “created” feudalism out of some accidental genius; it arose “from the bottom up,” from the economic preconditions embedded in early medieval society, and both the monarchy and, ultimately, the Church had to make accommodations to it for their own survival.

Feudalism sprang from the political arrangement designed to sustain the knights’ estate in exchange for military service. Through its own alliance with the state, the Church was also able to harness the feudal knights to the defense of Christianity, a task that required it to reckon with Germanic culture, as we shall see in the next section. By the eleventh century, the Church developed ceremonies that especially sanctified knighthood. A warrior girded with the belt of knighthood entered the church and placed his sword upon the altar as an offering. The promise to God of services of the sword bound him to perpetual service to the Church. The knights, with the Church’s blessing, evolved into a class of nobles separated by hereditary blood ties and endogamous marriage from the rest of the population. In every country, great lords held the highest positions in the Church and typically filled the Church councils. The bishops and archbishops were often the scions of the great families of the realm. These nobles remained entrenched in intensive kin-based institutions, the traces of which marked European social history until the early twentieth century. Yet they too had much to gain from the Church’s campaign to transition the population from tribal obligations toward sharing a Christian identity.

This predominance of dynastic interests shaped the marriage connections of great families; lineage ties retained their hold on the bishops, the court nobility, and of course the royals. Actual practices enlarged the wealth gaps between the aristocracy and populace, and tied the Church’s fortunes to those elites who, bound by oath and anointment, were both its protectors and servants.

As with the Church's relationship a few hundred years earlier with the chieftains of the Germanic tribes, it would be unrealistic to describe the Church as an active agent of social revolution.¹⁸ Because it was so strongly identified with the stability of Christendom, its endorsement of the right to rule based on lineage and royal descent was never in doubt, giving the nobility of the Middle Ages no reason to protest the Church's jurisdictional control over marriage. Reynolds and Reynolds (2016) describes the Church's actions as being based on a "complicated interplay of shared convictions, self-advancement, and opportunism." The two parties embraced the ideal of exogamy for society at large, but the model they preferred for themselves favored endogamy and concubinage.¹⁹ Endogamy strengthened the extended relations of nobles, allowing wealth, property, and power to stay within family networks. It seems that the Church's promotion of exogamy and the dissolution of kinship bonds was intended for the common folk, and its implementation had to wait for Christendom's borders to be secure.

¹⁸ Early medieval society did not have to wait for the Church's marriage ban to develop bonds beyond kinship. Among the Germanic tribes, loyalty to a chief was personal not tribal; chiefs attracted followers from many tribes, and when the claims of the lord conflicted with those of the kindred, duty to the lord would come first. Rather than opposing the Germanic principle of loyalty, the Western Church willingly asserted that the binding force of duty was owed to a man's lord and added sanctity to that oath (Whitelock 1952). But the alliance could only work if it was successful in harnessing the feudal knights to the defense of Christianity, a task that required it to reckon with Germanic culture.

¹⁹ Reynolds (2016) tells us that during the tenth century neither the secular or ecclesiastical authorities "made much effort to control marriage and divorce among the nobility." More vigorous efforts to bring the nobility into conformity with the Church's conception of marriage began in the eleventh century (38). The law that prohibited marriages involving blood kin to the seventh degree meant that almost all great marriages would have required a dispensation. The purchase of exemptions provided a legal loophole that enabled royals and aristocrats to evade the cousin marriage ban. It was relaxed to the fourth degree in 1215. The extent to which this forbearance was a continuation or a break with existing practices is a topic that requires more research.

THE CONTRIBUTION OF CHURCH DOCTRINE TO LONG-TERM CULTURAL EVOLUTION

By the eleventh century, many of the Germanic tribes that in the 700s had seemed menacing were now integral to Western Christendom. With peace on the borders, the Church as the universal embodiment of the Kingdom of God was starting to lose power to the kings. It turned inward, reformed its internal organization, and built an elaborate system of ecclesiastical justice in which appeals could be made all the way to the pope. As an organization held together by formal rules, it became deeply involved in its own administrative and legal routines that were instituted in part to prevent lay interference—but the struggle to ensure papal nomination of ecclesiastical officials never abated.²⁰

Under its broad mantle of canon law, the Church introduced liturgical law; sacramental law; matrimonial law; the law of persons and of temporal goods (property); penal law; procedural law and trial protocol, including the Bond and Procurator; and rules for canonization and for the election of popes. By 1150, the pope and the Holy See had administrative capacity that exceeded that of the Holy Roman Empire. Southern recounts, “The papacy had become identified with the most complicated, and for its time the best legal and administrative system in Western history. But though still superior to all its competitors, it operated on the same level and was subject to the same laws of change as they were” (1970, 168–9).

The proclamation and persistence of the cousin marriage ban was not the *sine qua non* by which the Church, absorbed in its own ambitions, furthered its narrow self-interest and self-aggrandizement as suggested by Heinrich and Goody. Its conception in Church thinking dates to the fourth century, when Rome first came into contact with migrating Germanic tribes, including Goths, Visigoths, Huns, Ostrogoths, Lombards, and Advars. These populations retained kinship-intensive ways of organizing themselves, and erected barriers against intermarriage with the

²⁰ The struggle between Church and state crystalized in the investiture controversy between emperor and pope over the right to make Church appointments, with the Church initially prevailing.

Romans and with other tribes.²¹ Exogamy could help mitigate the deep polarization of late Roman Empire.

This was recognized in one of the great intellectual achievements of early Christianity, *City of God* by St. Augustine (354–430 AD), (1950). Augustine linked sex and marriage with church and state, and with war and peace in an entreaty to the Church for a state that could act as an instrument of justice.²² In the fractured political reality of the fourth and fifth centuries, a state built on kinship ties was not stable. The Romans now had to find ways to get along with their conquerors and with Christians alike. A just state, Augustine reasoned, is a community bound by *caritas*, or *agapē* in Greek—love that is selfless and directed toward humankind. Exogamy extends the scope of *caritas*. Augustine wrote: “Because siblings cannot marry ... the separation of relationships extended universal love (*caritas*) to a greater number and enhanced the social life of human beings, among whom concord should be useful and honorable. “He advocated impediments on marriage to keep familial relationships separate from one another “: “because of both the expansion of charity and the beauty of the church, it was instituted that marriage should not take place where there is already natural love, as among blood relations and people sharing a common parent, but only between non-kin” (Reynolds 2016, 340, 342).²³

In a world of inter-clan hostility pitting Roman against Visigoth, exogamy was Augustine’s avenue to “enhance peace by preventing the interfamilial strife and extending the scope of familial charity. That rationale was apparently consistent with the practical sentiments of the nobility” (53). We have discussed that rationale earlier. But only in the twelfth century were St. Augustine’s words taken up again and widely discussed. The priorities of Church leaders were shifting toward bringing the populace into compliance with its sacraments, marriage being one. The marriage ban might have eased polarization; but first, in intervening centuries of

²¹ See (Blockley 1982) on Roman-barbarian marriages.

²² Augustine wrote the *City of God* to rebut the view that the sack of Rome by the Arian Visigoths was punishment for abandoning the Roman Gods for the Christian God. In it, he shows how Christianity can be the basis for a more just and stable order. The encouragement of exogamy was a critical component of his vision for peace. In Book XV, Chapter 16, he explains that marriage “should serve to bind together the greatest number” and that exogamy would “bind together by family affection a larger number”.

the Early Middle Ages, when pagan practices and beliefs were still rife, the populations of Europe had to be converted and then edified in Christian practices.

As with the incest ban, it was one thing to proclaim a rule, and quite another to litigate and enforce it. In the eleventh century the Church was far from stamping out pagan rites. The solemnization of vows before an ecclesiastical supervision was still rare, notes Southern; people typically married in domestic settings without a priest. Church historians generally agree that not until the first quarter of the twelfth century was Augustine's thinking on marriage reclaimed and given explicit expression in practice and later in doctrine. In the twelfth century, marriage was largely subject to Church jurisdiction, but it was not until the council of Trent in 1563 that doctrine established marriage as a sacrament requiring ecclesiastical blessing.

Skepticism about the Church's ability to penetrate to its mostly illiterate and impoverished rural constituents should not prevent us from renewing our appreciation of its formative role in shaping the Western world into an emergent social synthesis that fused elements of Germanic and Roman legacies, influencing both formal institutions, codes of law, practices, and norms.²⁴ To appreciate that role, it is not enough that we know doctrinal pronouncements, published edicts, and proclamations because the Church's success lies within the greater context of the system-level network architecture.²⁵ We must also know how, when, where, by whom, and even if its edicts were put into practice

Southern (1970) vividly describes this interdependence of Church and society, and the role played by the Church in the larger, system-wide architecture that defined Europe. The Church, he tells us, had an edge over all other worldly bodies in the production of the rules of law. Nevertheless, even though its laws were immensely elaborated, they were enforceable only within the clerical body. "[O]utside this body they were only effective when they coincided with

²⁴ How much of early canon law was based on Old Testament/Jewish law is an important topic that is insufficiently understood.

²⁵ The ban on cousin marriages identified by Henrich, Shultz, Ubl, and Goody among others is an omitted variable in most accounts of Europe's trajectory toward modernization. On the basis of their research, we can now count it as one contributor among many others. It would be interesting to see if cousin marriages increased in frequency during the economic contraction of the sixteenth century, when extended families remerged in many rural areas.

the general run of secular interests” (41). However much a cleric might be bound to his orders, by common training, ideals, and interests, “he thought like other men of his own social class. He therefore tended to acquiesce in those things which his social equals found tolerable. . . . Thus ecclesiastical rules and theories kept pace with the changes in secular society and offered very little hindrance to its continuing development” (39–40).²⁶ The capacity for the Church to carry out its mission depended on its negotiations with the larger society.

The Church ban and marriage program were not “accidental genius,” but deliberate constructs. They were never *embedded* in society because they were not transplantable. Although Church Fathers professed the ban as early as the fourth century, we have no records of its general success. In fact, the relevant works of the earliest Church Fathers, including Augustine, were not “rediscovered” until the twelfth century, and sources to prove the influence of the “early Church” are scarce, according to Reynolds and Southerland, whose research is very close to the sources. Moreover, since the upper ranks of the Church hierarchy, the bishops and abbots, most likely descended from the noble classes themselves, enforcing the strictures would hardly have been in their class interests, though it might have served individual contests for power.²⁷ We can reasonably hypothesize that one reason for the early Church to ban cousin marriages was to encourage inter-clan marriages for wider regional geopolitical stability in a time of invading barbarians and migrating tribes.

But would the Church have risked upsetting local norms, especially among tribes that did not encourage intermarriage? The main basis for skepticism is that the Church would have had to transplant and then enforce its policy, yet the scant records that do survive do not show this, and

²⁶ On the question of the church’s ability to exercise exclusive control over the elements of marriage, Reynolds shares Southern’s caution and writes, “Regardless of what penalties the church might use to enforce a judgment that a marriage was invalid, even including excommunication, the church had exclusive jurisdiction only to the extent that its judgment had civil consequences. Absent that recognition, ecclesiastical judgment was merely private and disciplinary” (36). Only by the twelfth century did the Church in Northern Europe exercise anything like *de facto* exclusive jurisdiction, but this was also a time when it acquiesced to the dynastic impulses of the elites.

²⁷ Priests and country friars generally came from humble and poor backgrounds.

in fact, show the opposite. This should not come as a surprise, considering the slow, often multigenerational time scale at which change occurs in informal, embedded institutions. and the fact that the eradication of local norms would entail social revolution, something which the Church eschewed. In later eras, spreading its own values became a more feasible objective. The Church did, however, reap the benefits of other forces under its influence, as we shall explore in the next sections.

THE ACTUAL (AND UNINTENTIONAL) CONTRIBUTION TOWARD MORE FLUID SOCIAL TIES

If there is a connection of medieval Christianity with Western liberalism, nothing would surprise a medieval devotee of the church more. There was no liberalism in the Church during that period of 500–1500, so how could its actions pave the way toward a liberal society? Yet the claim that the changing cultural traditions surrounding cousin marriage made a significant impact to the economy and other institutions, while an oversimplification, is not without some merit.

It is simplistic because it assumes that the relationships between the Church and other formal institutions in the Middle Ages were static, and that change, even born of “accidental genius,” was one-directional—in other words, that the formation of new social institutions and the dissolution of kinship bonds was the inevitable march of progress. This fails to recognize that network behavior arises from the complex behaviors of the linked and interdependent systems it comprises, and moreover, that change is both multilevel and coevolutionary, and not always progressive.

Indeed, if the cousin marriage ban was culturally important, it would have been so only in connection with, and even resulting from, other cultural changes far beyond family and lineage that were creating economic opportunity in the towns, and in the revival of international commerce. As Southern concludes, from the mid-eleventh century (during the High Middle Ages, 1100–1250 AD), the Church’s “jurisdiction over its agents, over testaments and property, and over moral and doctrinal offenses grew, driven by the expansion of European society. Its administrative reach was growing at a time when every form of administration was expanding” (1970, 213). Southern is referring to the expansion of civic administration in all of its spheres of social organization. Urbanization spread economic opportunity and the prospects of a better

future, propelling the deeper population to seek advantages beyond what lineage bonds could provide.

New voluntary organizations formed, such as guilds, charter towns, universities, markets, and religious congregations, in which impersonal contractual obligations took primacy over kinship ones (Akbari, Bahrami-Rad, and Kimbrough 2019).²⁸ All acquired legal personalities, some from canon law, some from civil law of the commune, some from the king. In fact, the layering of social institutions possessing a legal personality went all the way down to peasant communities, and as Bloch reports, “for centuries the mainstream of community life ran parallel with that of public law; these were *de facto* associations long before they acquired a legal personality” (1966, 167).²⁹ Together, these legally defined entities were creating new social space, associations, and practices that drew individuals away from intensive kinship networks.

Among the most notable *de facto* associations, although not subject to Church jurisdiction, were the tribunals based on *Lex mercatoria*, or the “Merchant Law” which had a generative role in forming the institutional framework for trade and commerce. These tribunals were set up by merchants themselves or by fairs to adjudicate commercial disputes, reduce risk and uncertainty, and provide self-governed “calculable adjudication and administration” to the commercial affairs of the realm. By the twelfth century, a substantive body of law that met the fundamental requirements of the commercial community was elaborated in these tribunals, covering virtually every aspect of commercial transactions, including the fundamental principles in the law of partnership, negotiable instruments, and trademarks. (It was not until the late twentieth century that China embarked on the creation of similar laws.) The practice spread across much of Europe and eventually, by seventeenth century, joined the mainstream of national

²⁸ The list of religious orders created in the eleventh century include but are not limited to the Augustinians, Grandmontines, Hospital Brothers of St. Anthony, and Vallombrosians. In the twelfth century: Beguines and Beghards, Brethren of the Free Spirit, Carmelites, Congregation of Savyngy, Cruthched Friars, Gilbertine Order, Humiliati, Knights Templar, the Mirror of Simple Souls, the Order of Aviz, Premonstratensians, Teutonic Order, Trinitarian Order, and the Valliscaulian Order, among many others.

²⁹ During the Middle Ages the consolidation of the village as a group and its recognition by the outside world were constant preoccupations of peasant life.

law codes, such as the common law in England, where the jurisprudence of the *Lex mercatoria*—a body of merchants’ customs—was enforced by the king’s law.³⁰ With grants of civil liberty, the benefactors gained a further reason to identify with royal rather than aristocratic dominion over the polity. And here we can see that neither kings nor the Church before them gave thought to the idea that by formalizing civic bonds of various associations, they were facilitating the transition to a society that would seek liberation from traditional sources of dynastic authority.

The antecedents of these new social and merchant groupings were various rites and rituals, such as baptism, homage, knighthood, and fealty. Marriage, inheritance, and poor relief were increasingly based on legally defined rights, not moral practices overseen by village elders. Each of these routines in its own way facilitated the dissolution of kinship-based social order, making the population more receptive to a religious ethos based on individual choice and personal responsibility for one’s own salvation, such as that offered by Protestantism.³¹

There was no straight line drawn from any one policy to this outcome. Throughout medieval and early-modern European history, we can observe this process of “growing” the network. Kings brought the patchwork of multiple jurisdictions under their aegis with pledges to protect administrative, fiscal, legal, and linguistic liberties of their subjects. The pacts to protect property rights and grant commercial privileges were often exchanged for credit to finance war efforts (Root 1994). Other centrality-enhancing strategies include extending the patronage ties of royal families to merchant guilds, charter towns, or universities, and eventually to voluntary associations in science, industry, and law. These ties strengthened the royals as the superstructure, and accelerated innovation and science.

³⁰ Civic society was being born as new social bonds replaced familiar ones all the way down to the village. The final stages of this process are described by Marvin Becker (1994).

³¹ The Great Plague (1346–48) that killed off as much as 40 percent of the European population was a great synthesizer and dismantler of traditional social networks. Depleted urban populations where the contagion was concentrated were replaced by inbound migration from the countryside. Villages and rural settlements on marginal lands often disappeared as the populations either moved to more fertile agricultural land or moved on to the half-deserted cities. The migrations loosened traditional kin and business networks in a dramatic fashion.

Trust that extends beyond family lines is widely recognized to be how Western civilization developed. During the medieval period, urbanization and massive migration, caused by economic opportunity in a decentralized environment, compelled individuals to invest in the fluidity of their social networks and to become more adept at trusting friends and acquaintances. The new social institutions that enabled trust to circulate beyond kinship, increased the fluidity of social ties, and is what gave the West's state-level institutions their distinctive properties.

The Church became part of a transformative process of cultural change that was multilevel, system wide, and far larger than the Church itself. It was a process punctuated by many abrupt transitions in which both secular and religious trends undermined the social, political, and intellectual framework of which the medieval Church had been the architect.³² This undermining of formal structures and circumventing of official intentionality reveals the force of embeddedness at work and the unrelenting sway of informal constraints.

STATE CAPACITY IN CHINA'S HUB-AND-SPOKE SYSTEM

Many societies developed complex institutions without banning cousin marriages; the Roman and Ottoman Empires are examples, as is imperial China. In the following sections, we will explore the causal factors that enabled China to attain social complexity in the absence of a private-market economy based on trust. The most frequent explanation for the success of China's imperial administration attributes a major role to the examination system of selecting administrators, from the court advisers down to district magistrate. But we must not overlook the local administration that prevailed in villages and towns, and which was never entirely free from private ordering along lineage lines. It counteracted the state and subsumed many of its functions, including taxation and even defence, in certain situations. Even so, this abundance of private ordering and the tension that resulted cannot be considered the cause of imperial decline; in fact, the strength of lineage ties accounts for the long-term continuity of Chinese culture over millennia. We will offer a theory that explains the coevolution of these two conflicting characteristics of China's development.

³² Education in the newly forming urban communes was predominately in the hands of lay rather than ecclesiastical authority.

CULTURAL EVOLUTION AND THE ROLE OF RELIGION IN CHINA

The early political history of China, before the golden age of the Tang dynasty (618–907), bore similarities to Europe of the Middle Ages. There were extensive periods of decentralization, encompassing the periods of the Three Kingdoms, (220–280); the Western and Eastern Jin dynasties (266–420); and the Northern and Southern dynasties (420–589). Warfare was frequent among the nobility (Graff 2003), as were marriage alliances among aristocratic families (Ebrey 1978). It took generations of conquest to achieve an empire unified under a single emperor. Rival elites would have to be destroyed, as would the prerogatives, dominions, or competing jurisdictional sources of authority that had the potential to constrain the emperor's unlimited jurisdiction or to engage in acts of resistance.³³

³³ The hub-structure of the Chinese state is a product of a process that would be difficult to replicate involving geography and the shifting power balance between the imperial court and local aristocracy. The Qin dynasty (dates) was the first attempt to build a centralized bureaucratic state with the Jun-Xian Zhi (the commandery-county system) although it failed within two decades, overcome by the strength of local aristocratic networks. The subsequent Han dynasty (dates) started with a compromise, initially allowing the existence of semi-autonomous kingdoms ruled by extended branches of the imperial family. This led to the Rebellion of the Seven States, which put the future of the dynasty at risk, but eventually ended with the defeat of the princes. Riding the wave of success, the Han dynasty implemented a series of reforms to recentralize power, including a policy *Tui-En-Ling* (推恩令) implemented by Emperor Wu that went directly against primogeniture. The policy stated that when a prince died, his title and yin privilege would be inherited by his eldest son, but the kingdom and land had to be divided equally among all sons and the smaller kingdoms would be subject to the management of the commandery, in other words, the central state. In sharp contrast with Europe, the local kingdoms gradually disappeared and China hence took on the path toward centralization with a hub-structure. The Sui Dynasty (581–617) was the first to institute a series of written examinations for admission to civil service. The Song (960–1279) strengthened the civil service system, but centralization was not fully accomplished until the Ming Dynasty.

Throughout these struggles to unify the polity, the networks of religion and state took a very different form from those in Europe. In Confucianism, acknowledged to be China's state religion, religious and kingly authority were one. Civil and criminal law emanated from the state rather than from the sacred texts of canon law interpreted by an order of priests. Unitary rule was the central concern—not the salvation of souls or preparation for eternal life. There was no independent church that could develop as a major hub with jurisdiction over ceremonial rites and village rituals. Nor was there an organized entity in all of Chinese history like the papacy that touched the individual level, assuring salvation to millions of persons, and whose legal and administrative capacities stood apart from those of the state and premised upon the notion that a divine law underlay all human legislation upon which a just state must be built.

Instead of the distributed hub network that made up the European network, the structure of imperial order evolved into the optimal managerial characteristics of a star-shaped, or hub-and-spoke, network and afforded the imperial administration the greatest control of information possessed by any premodern polity. The emperor, from his central position in the network, could manage information flowing to the Mandarinate, but for structural reasons, other than by passing information to the center, they had limited means to communicate directly with each other.

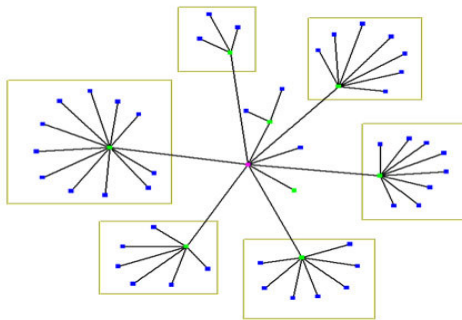


FIGURE 2 At the center sat the emperor controlling whether or not to share information originating from other hubs.

Imperial China is often referred to as the classic bureaucratic empire; even religion was subordinated to a single source of authority. Rituals sanctified the office of the emperor and promulgated key elements of state ideology. Worship was an official duty of the emperor and his officials, and was guided by government regulations. Beginning with the Han dynasty (206–220), a Ministry of Ceremonies one of the nine imperial ministries, was responsible for

ceremonial observances, including custody of the sacred Mount Tai, recognized as a holy site for three thousand years. Ming and Qing emperors worshipped Heaven and Earth at the Temple of Heaven not far from the Forbidden City. Along with integrating the emperor with the natural and transcendent worlds, the Ministry of Ceremonies had supervision over education, which eventually included the civil service examinations. The Mandarins of the imperial court alone made all important appointments to officialdom and set educational standards for the imperial university, including the appointment of academic chairs that interpreted the Confucian canons. Thus the network structure of state authority in China differed at both global and local levels from the system that arose in the West.

THE MANDARINATE AND THE STRUCTURAL WEAKNESS OF THE IMPERIAL SYSTEM

Throughout most of the last millennium, Imperial China's governing class was chosen by a civil examination system open to all young men, irrespective of ethnic background.³⁴ The examination system, which involved instruction and communication in one "official" language, was the institutional scaffolding of the imperial system. As a means of building social capital, it enabled the court to foster social mobility, promote learning and accomplishment over hereditary privilege, and at the same time inculcate the uniformity of ideas and build national consensus.³⁵

³⁴ During the Sui and Tang dynasties, only graduates of official schools could stand for the civil service examination. From the eighth century onward, access was expanded to the majority of male commoners. The introduction of hieroglyphic written script, along with the diffusion of paper and block printing, turned the examination recruitment system into what economic historian Debin Ma describes as representing "a potent imperial tool of cultural integration for shaping a shared cultural identity" (2012, 87) among the diverse cultural groups in China. The examination system is a means of establishing civic equity to build national unity in (Ma 2012; 2013; Qing and Kung 2020; Bai and Jia 2016).

³⁵ The "office holders" who had passed the highest exams became part of a miniscule, non-hereditary, literary elite. With property rights protection as agents of the emperor, they had life-long tax exemption, relative legal immunity, and a quasi-religious legitimacy, lifting them above

As a ladder to success, the notable social mobility this accorded contrasts with that in Europe, where the governing elites were woven together by lineage ties, and the dynastic principle was the basis of elite influence over the state (Davis 1986, 62).³⁶ As an instrument to weaken clan loyalties, the Western Church's ban on cousin marriages was less effective than China's examination system.³⁷ Yet the system had its own weakness. There was certainly nothing that can be described as competition among voluntary associations in traditional China. Clan leaders enjoyed lifetime local authority, without challenges of note. They often played the role of local gentry and settled most civil matters according to local custom, without forwarding them to the purview of a magistrate.³⁸ Without institutionalized channels or formal procedures for public services, civil society, in the form of clan elders, essentially *was* the lineage.

the two (three?) most precarious independent groups and sponsors of intra-elite conflict: the merchant class, landed gentry, and lineage leaders that were hereditary.

³⁶ As a challenge to the widely accepted explanation for the examination system's contribution to imperial longevity, economist Yasheng Huang and political scientist Clair Yang see something more: a sophisticated organizational mechanism designed to reduce intra-elite conflict, which they describe as the main threat to national unity (Huang and Yang, 2018). Their study of Ming dynasty recruitment reveals that top-level candidates were screened to curb the influence of rival elites seeking a strategic foothold in the bureaucracy. Huang and Wang (2018) emphasize: "All else being equal, [the emperor] wanted to curb the representation of the wealth holders rather than completely relying on meritocratic selections." Those recruited to the top needed the highest grades, but the political effect of family wealth was to reduce a candidate's likelihood of being a finalist at the highest level. Those whose status was dependent on holding office rather than their family were the most suitable candidates for promotion. Students from the great families were more likely to be mistrusted. In the study the practice of concubinage served as a proxy for candidate family's wealth.

³⁸ Western governance features competition among voluntary associations that increases the capacity of impersonal organization. This was not the case in traditional China, where lineage leaders (heads of clans) enjoyed lifetime local authority. Locals who had not inherited social prestige were obliged to accept the clan hierarchy in communities. An unexplored topic in

Esherick and Rankin conclude that throughout its imperial history of almost two millennia, “China’s thinly spread and weakly rooted state apparatus had a limited ability to penetrate local society, and much of the governance fell to local clans operating outside the formal bureaucracy” (1990, 3). Such Confucian beliefs reinforced lineage endogamy as the primary source of order in a society grounded in the belief that one’s ancestors held the benefits of the lineage group to be supreme.³⁹ In short, the centralized bureaucratic state system, relying on ancient Confucian moralism, provided inadequate formal problem-solving capacity at local levels, and had negative effects on governance functions ranging from the collection of taxes to establishment of formal institutions.

For example, Chinese revenue authorities during the Ming and Qing dynasties collected a noticeably low level of taxation per capita compared to contemporaneous regimes in Western European governments (Ma, 2013, Ma and Rubin, 2019). This limit on resources further constrained the Mandarinate’s ability to meet the day-to-day demands of local economic cooperation.

Eberhard (1971) describes how the deficit of ground-up institution building bolstered clan affiliation as an important and pervasive source of social order from the earliest dynasties. The administrators who passed through the examination system were not sent back to their local areas: in new and unfamiliar posts, where they might not be able to speak the local language, they often pursued their goals through informal channels, and naturally depended on the more influential clans. Virtually universal was the demand for “commissions” from those who received government contracts. This required compliance with local norms, such as hiring

Chinese history is what types of performance-based competition for leadership occurred within the local community where embedded lineage systems were not prevalent, such as in newly settled areas.

³⁹ In *Analects* (Lunyu) 13.18: The Duke of She says to Confucius: “Among us here there are those who may be styled upright in their conduct. If their fathers have stolen a sheep, they will bear witness to the fact.” Confucius replies: “Among us, in our part of the country, those who are upright are different from this. The father conceals the misconduct of the son, and the son conceals the misconduct of the father. Uprightness is to be found in this” (Mingchun 2015, 17).

relatives and treating bribes as gifts, and this practice contributed to Chinese dynastic fragility by making the civil service system vulnerable to corruption. The county or district magistrate, the last link in the imperial system, was responsible for education, roads, public functions, temples, and public morals; however, they numbered just 1,436 at the end of the eighteenth century, with each county magistrate responsible for governing almost 300,000 people (Esherick and Rankin 1990, 3).⁴⁰ Like tax collection, entertainment of visiting dignitaries, dike building, well digging, road patrols, market supervision, and private disputes were handled locally, with limited oversight from the county magistrates, and none from the imperial magistrates back at court. Demands that arose for major projects, such as schools, roads or irrigation, most of the time lacked guidance or even funding.

Reischauer and Fairbank's classic study of Chinese history (1958) similarly confirms that even during the twilight and aftermath of the Qing dynasty during the first half of the twentieth century, the mediation of civil disputes in rural society continued to rely on the norms of clan ancestors. Local organizations that pooled the resources of many non-related parties depended largely on state rather than local initiatives. Kin-based networks benefited from an ease of monitoring group members. Reliance on clan-based networks spiked during times of crisis, when the people's recovery from setbacks, like injuries or crop failures, remained the responsibility of the villagers themselves. Such reliance inadvertently reinforced the deep causes of corruption.

There was also no equivalent in China for the assurance and guidance at the personal level that the European Church provided. This difference in the religious penetration of formal religious values and protocol between Europe and China is exemplified in the rules governing marriage. In China, marriage followed local customs, not universal laws or explicit religious codes, and was tightly controlled by the family elders. Nothing could be further from the Christian ideal of the sacrament of the vows than the requirement only of the couple's mutual consent to wed. The essentials and validity of Western marriage were wholly subject to the Church's jurisdiction, whereas marriage in China was a bonding of families. Contracts were particularistic; families could enter into unions according to their particular circumstances,

⁴⁰ Population growth had outpaced the reach of the bureaucracy in the Qing dynasty, during which the number of officials remained fairly constant with Ming dynasty numbers.

exchanging gifts according to their particular needs.⁴¹ Individuals were married according to the needs of family, and many times the partners did not see each other until the night of the wedding. Normally, partners in peasant marriages came from within a ten-kilometer radius. The number of wives was not restricted, and county magistrates ruled over dissolution of marriage vows, but not for marriage itself.

KINSHIP AND UNFORSEEN DYNASTIC FRAGILITY

The clan leaders and their localist strategies of lineage formation via marriage alliances engendered a fundamental and corrosive tension between centralization and local adaptation, and between formal institutions and informal norms. Much literature on modern Chinese history, from the mid-nineteenth century rebellions against the Qing dynasty through the Republican period (1911–1949), links the decline of the Mandarinate and the weakening of the imperial state, creating a vacuum that allowed power to drift toward the landed gentry (Esherick and Rankin 1990, 6–7). Military capacity was also affected by the atrophy of the bureaucratic system. From the time of the defeat of the Taiping Heavenly Kingdom in July 1864, the Qing Dynasty (1644–1912) ceased to depend on armies of the central government (its Eight Banner Troops and the Green Standard Army) and became reliant upon the militias and armies of regional elites to defend the throne (Kuhn 1970). Independently funded forces, such as the Xiang Army, were essential in suppressing various rebellions throughout the nineteenth century (Luo 1984; Wang 2014; Zeng 2011). This transition in military organization toward private control also signified the shifting of power away from the central state toward local lineage leaders. Local armies were recruited, supervised, provisioned, and commanded via a family registration system, with soldiers owing their loyalty to their commanders; in fact, regiments typically disbanded when their commanders were killed in battle.⁴² The rise of private militias is a telling example of how the amassing of countervailing power by kin-based networks contributed to dynastic fragility

⁴¹ Even Buddhist weddings have traditionally been secular affairs that do not require endorsement by Buddhist clergy.

⁴² At this time armies in Western Europe were entirely state based and professionally managed, while China's military organization had regressed into private-order institutions.

The decay of bureaucratic institutions, which never gained a foothold due to the reliance on kin relationships for governance at the local level, left the throne without the capability to modernize the country.⁴³ Pitting regions against each other via divide-and-conquer policies only further eroded imperial legitimacy. Much as the Hapsburg Empire in Europe was dependent upon regional elites to be its last guardians, the Qing rulers could not compete with the more effectively organized nation states of Europe or Japan that were sustained by nationalism.⁴⁴

Although the longevity of Chinese rulers exceeded that of their European counterparts⁴⁵ due to the efficiency of the network which allowed for rapid technological diffusion and growth, social mobility, and a scholarly ethos, the incompleteness of China's market economy is connected to the ancient process of network formation. China's governing structures optimized dynastic control by limiting the freedom to create and participate in voluntary organizations, such as guilds, or to engage in the formal governance and codification of contractual relations. In a hub-and-spoke system of imperial China, the formation of new hubs was not welcomed since it would divert traffic from the central node. The naturally arising civic communities at the local level were denied formal status since they would have established new links that would only dilute the emperor's control. This did not prevent the emperor from creating a governance system that spanned the entire empire, but it was one without deep penetration. Administratively constructed from the top down, its legalism had limited reach.

In the villages, Chinese identity remained rooted in lineage and linked to ancestor worship.⁴⁶ The dependence on informal norms impeded private organizations from developing

⁴³ The emperor's capacity to pay the imperial armies declined as provincial officials gained fiscal power at the expense of the Ministry of Finance. The problem of state capacity and imperial decline is addressed in Ma and Rubin (2019).

⁴⁴ Unfortunately for the emperor's reputation, the soldiers and commanders of private armies were incentivized to fight by the lure of pillage and plunder. The declining legitimacy of both the Hapsburg and Qing empires is depicted in Root (2013).

⁴⁵ The longevity of Chinese rulers exceeded that of their European counterparts. This enabled periods of unmatched stability and prosperity over a large territory.

⁴⁶ The prohibition of private associations of the Qing dynasty was not lifted until the first decade of the twentieth century.

that could attain economies of scope and scale. Not allowed to build their own institutions and guilds, tradesmen lacked the benefit of independent merchant law to adjudicate disputes or eliminate the information costs of rule enforcement. Dependence on either the coercive power of the state or the moral censure of elders had a debilitating effect on the growth of economic institutions that still permeates Chinese business and cultural life; partnerships, negotiable instruments, and trademarks were not codified into law. China did not acquire trademark legislation until 1980; company law was first published in 1994, and property law in 1999. This restrained independent, private, complex business organizations from achieving cross-regional economies of scale. As a structural feature of Chinese society, lineage continues to be pervasive in shaping perceptions, judgements, and modes of organizing in communities.

A gap in social capacity exists since the trust-building norms to support voluntary associations and contractual relations were never embedded and are not prevalent, that the state tries to fill. This accounts for particularly Chinese characteristics of a state-led market economy. Even today civil society organizations attract low levels of trust; they are not regulated consistently, do not have an independent voice in public life, and under strict surveillance, civil society organizations are restrained from becoming locally owned and may not speak out on public issues. This prohibition limited overall societal adaptiveness with consequences that could be both dramatic and unforeseen.

THE UNINTENDED CONSEQUENCES OF NETWORK OPTIMIZATION IN EUROPE AND CHINA

Do general principles exist that are shared despite the diverse origins of the two historic regimes. Our answer drawn from this brief study of state-church relations is yes: We see that in both Western Europe and China, heterogenous agents exert influence by optimizing their centrality in the network. As much as they might try to dominate channels of communication, they must constantly negotiate forces that rise from the bottom up. We have also identified how the embeddedness of social institutions both reflects and affects the kinds of norms that will be pervasive in society, and how these norms can affect the formation of institutions that support contractual relations.

Williamson’s proposed levels are an instructive way to address the dilemma posed by embeddedness, but their dynamics are determined by how they are interconnected and by the kinds of networks, e.g., distributed or centralized, that span the entire network. The causation between informal and formal institutions does not run in one direction and pervades all levels of social organization. Change from the bottom up isn’t only from embedded norms; as we have seen, trial by one’s peers or the merchant tribunals, although grounded in custom, became formal institutions in their own right. The multi-directionality of causality has implications for how we are to understand the canonical definition of institutions as rules of the game that shape the way societies evolve. Of importance, we have distinguished “rules” that are engineered from the systemic mechanisms of change. The secret of institutional success does not reside solely in structure, but in the interactions of formal and informal rules as they coevolve with one another, and with other factors that shape the economy.

The key to the puzzle of embeddedness resides in the different strategies for network optimization that are dictated by variations in network structure. In Europe’s distributed system, nodes that attracted the most connections became the largest, most centrally positioned hubs in the system. The efforts of the agents to acquire advantage by attracting new nodes also expanded, or “grew,” the network. The addition of new nodes with new connections changed the relationships of the hubs; and the continuous rewiring added dynamism and bolstered the resilience of the overall structure. Europe’s underlying network structure had far-reaching implications for the development of institutions that brought groups with diverse interests, and separated by a disparate geography, to recognize and act according to common sets of cultural values, despite the absence of a controlling center. The informal norms that drove economic innovation in Western Europe came from synergies that tied law with religion, aligning informal constraints derived from normative values with the laws of the state (Schulz 2020).⁴⁷

⁴⁷ Limited impersonal trust beyond local communities reflects the prevalence of dense networks of relational ties upon which social trust is built locally. In the World Giving Index of the Charities Aid Foundation, China ranks the lowest of all 128 countries on the willingness to help a stranger, donate money, or volunteer time. Whereas the top ten countries have scores of 50 percent or above, China’s score is 16 percent. In fact, China is the only country that appears in the bottom ten for all three measures.

We have seen that the variation in strategies have unintended consequences in the form of behaviors or beliefs that can embed as norms or cultural practices, and become diffused as the cultural evolution of a population. We have also seen that systems that are less vulnerable to one type of failure may inadvertently may be more vulnerable to another. In China, Confucian moralism shored up the Imperial system but could also work against it. In Europe, neither the Roman Church nor the kings, nor even the noble families could foresee the trade-offs in their alliances that would ultimately weaken their own centrality. As Christianity was spreading throughout Western Europe, it enabled new forms of association in communes, eventually transforming worship itself into a voluntary association. Legally constructed communities spanned society; as Bloch has shown, even peasant communities are part of the legalism that spanned the entire society, and which eventually enabled the entire social structure of the Old Regime to be challenged.

Europe's cultural unification, led by the Church and the interconnected royal families, inadvertently caused the diminishment of both, while leaving behind a framework for informal constraints that supported secular democracy grounded in a strong civil society. Despite the unifying role assigned to the Confucian officialdom, dependence on the lineage ordering of local society persisted, often abetting official corruption, and this in turn reduces the scale of private cooperation needed to expand private economic activity and makes development of firm growth dependent on the state's tutelage and finance. China's network structure of authoritarian rule from the central hub once again maintains a precarious balance as it tries to deter kinship domination of local organization, but with a vulnerability network science can identify—and which could bring another era of societal collapse.

A successful civilization has forged the institutions and norms that carry it for generations, not only beyond the life spans of current leadership, but beyond the life of the state itself. No matter how those in power wish it to be, the state and the culture are not the same. Yet we cannot say that Chinese lineage norms are strictly maladaptive or harmful to individuals and their communities. They have played an indispensable role carrying the population through times when the state has receded, leaving local communities or entire regions to fare for themselves as would occur during the often-ruinous dynastic transitions. The continuity of informal norms has afforded cultural durability that has enabled recovery from calamitous events, such as war, dynastic collapse and natural disaster.

Bridging the distance between Chinese and Western visions of world order is one of the most discussed topics in contemporary international relations. To understand state fragility that has been a source of anxiety since imperial times, we must look beyond Marxist/Leninist categories of the twentieth century toward the deeper, system-level characteristics that have dictated the administrative state's behavior over twenty centuries.⁴⁸ For instance, if we are to ever develop global institutions that both societies can trust, we must appreciate how variations in local (domestic) network structure are often the unintended consequences, perhaps a millennium in the making, and are far more fundamental cleavages than a Leninist-Marxist/Capitalist dichotomy.

CONCLUSION

We hope that with this analysis we have made progress in representing the multilevel dynamics in the evolution of social institutions, bringing us closer to answering how a system's global properties and its micro-level behaviors are related. We find that Williamson's 4 levels underestimate that embeddedness is pervasive in each. The assumption that by establishing formal rules institutions can be separated from the environment, overestimates how much individuality a particular institution has. We propose an alternative definition of embeddedness in which institutions and informal norms are symbiotic composites. Institutions in this

⁴⁸ In early Chinese society, cross-cousin marriages were sought after as a way for different clans to consolidate reciprocal ties. Such marriages were banned during the Tang dynasty and were prohibited again in the Ming code, and then again in the Qing Code, but the code is contradictory. Many commentators on Chinese kinship believe dynastic China was tolerant of such marriages despite formal interdictions (Dao 2019). Another prohibition occurred in 1980, by the CCP that associated the strength of clans with the Old Regime and with the patronage of the Kuomintang, yet the cousin marriage ban was reversed a short while later. The repetition of the ban across several dynasties suggests its deep roots in the rural Chinese populace. Another point frequently made in the literature is that although the ban against marrying the same surname was strictly upheld in dynastic China, marriage with the child of a paternal aunt, or maternal uncle or aunt, was acceptable (Zhaoxiong 2001, 347). Moreover, in any given village the populations are likely to be related (Wu, Yang, and Wang 1990, 330).

conception are a combinatorial space in which rules and norms are nested inside another, and exist in complex symbioses; the reproductive success of each depends on how the two are linked. Many types of societies can have similar institutions that contribute to systemic or emergent diversity. This is because institutions are not fixed objects but a continuum of patterns representing relationships that are always in flux. We hope that this broader concept of embeddedness will guide institutional research towards a new understanding of a system's internal dynamics, extending the conceptual grasp of New Institutional Economics. Eventually, we can aspire towards an operational metric for the intrinsic dynamics of the system being studied. If we believe that that long-term economic change cannot be understood without referencing other social change processes, and if our goal is to understand how social and economic conditions intermingle with religious and cultural developments, then we must concede that a complex systems approach can help to complete the unfinished agenda of the NIE.

REFERENCES

- Akbari, Mahsa, Duman Bahrami-Rad, and Erik O. Kimbrough. 2019. "Kinship, Fractionalization and Corruption." SSRN-id2847222.
- Arthur, W. Brian. 2014. *Complexity and the Economy*. London: Oxford University Press.
- Augustine, St. 1950. *City of God*. Edited by Vernon J. Bourke. New York: Doubleday Religion (Crown Publishing Group).
- Bai, Ying, and Ruixue Jia. 2016. "Elite Recruitment and Political Stability: The Impact of the Abolition of China's Civil Service Exam." *Econometrica* 84 (2): 677–733.
- Becker, Marvin B. 1994. *The Emergence of Civil Society in the Eighteenth Century: A Privileged Moment in the History of England, Scotland, and France*. Bloomington: Indiana University Press.
- Bloch, Marc. 1966. *French Rural History: An Essay on Its Basic Characteristics*. Edited by trans. by Janet Sondheimer. Berkeley: University of California Press.
- Blockley, R. C. 1982. "Roman-Barbarian Marriages in the Late Empire." *Florilegium* 4: 63–79.

- Brown, Peter. 1971. *The World of Late Antiquity: From Marcus Aurelius to Muhammad*. London: Thames and Hudson LTD.
- Coase, Ronald. 1992. "The Institutional Structure of Production." *American Economic Review* 82 (4): 713–19.
- Dao, Zhi. 2019. *History of Marriage and Family in China*. DeepLogic.
- Davis, Richard . 1986. "Political Success and the Growth of Descent Groups: The Shih of Ming-Chou during the Sung." In *Kinship Organization in Late Imperial China, 1000-1940*, 63–94. Berkeley: University of California Press.
- Duffy, Eamon. 1997. *Saints and Sinners: A History of the Popes*. Yale University Press.
- Eberhard, Wolfram. 1971. *A History of China*. Univ. of California Press.
- Ebrey, Patricia Buckley. 1978. *The Aristocratic Families in Early Imperial China: A Case Study of the Po-Ling Ts' Ui Family*. Cambridge: Cambridge University Press.
- Esherick, Joseph, and Mary Backus Rankin. 1990. *Chinese Local Elites and Patterns of Dominance*. Berkeley: University of California Press.
- Friedeburg, Robert von, John Morrill, eds. 2017. *Monarchy Transformed Princes and Their Elites in Early Modern Western Europe*. Cambridge: Cambridge University Press.
- Goody, Jack. 1983. *The Development of the Family and Marriage in Europe*. Cambridge.
- Graff, David. 2003. *Medieval Chinese Warfare 300-900*. New York: Routledge.
- Henrich, Joseph. 2020. *The WEIRDest People in the World: How the West Became Psychologically Peculiar and Particularly Prosperous*. New York: Farrar, Straus and Giroux.
- Huang, Yasheng, and Clair Yang. 2018. "The Organizationally-Enabled Longevity of Chinese Absolutism." *Academy of Management Proceedings* 2018 (1): 18197. <https://doi.org/10.5465/ambpp.2018.18197abstract>.
- Johnson, Jeffrey. 2013. *Hypernetworks in the Science of Complex Systems*. London: Imperial College Press.
- Kuhn, Philip A. 1970. *Rebellion and Its Enemies in Late Imperial China : Militarization and Social Structure, 1796-1864*. Cambridge: Harvard University Press.

- Luo, Ergang. 1984. *A Treatise on the Xiang Army*. Beijing: Zhonghua Book Company.
- Ma, Debin. 2012. "Political Institutions and Long-Run Economic Trajectory: Some Lessons from Two Millennia of Chinese Civilization." In *Institutions and Comparative Economic Development*, edited by Masahiko Aoki, Gerard Roland, and Timur Kuran, 78–98. NY: Palgrave Macmillan.
- . 2013. "State Capacity and Great Divergence, the Case of Qing China (1644-1911)." *Eurasian Geography and Economics* 54 (5–6): 484–99.
- Ma, Debin, and Jared Rubin. 2019. "The Paradox of Power: Principal-Agent Problems and Fiscal Capacity in Absolutist Regimes." *Journal of Comparative Economics* 47: 277–94.
- Mingchun, Liao. 2015. "A New Interpretation of Analects 13.18." *Contemporary Chinese Thought* 46 (3).
- Qing, Jiang, and James Kai-sing Kung. 2020. "Social Mobility in Late Imperial China: Reconsidering the 'Ladder of Success' Hypothesis." *Modern China* May.
- Reischauer, E. O., and J. K. Fairbank. 1958. *East Asia: The Great Tradition*. Boston: Houghton Mifflin.
- Reynolds, Philip, and Philip Reynolds. 2016. "Marriage as a Sacrament." In *How Marriage Became One of the Sacraments*, 1–98. Cambridge University Press.
- Root, Hilton. 1994. *The Fountain of Privilege: Political Foundations of Markets in Old Regime France and England*. Berkeley: University of California Press.
- . 2020. *Network Origins of the Global Economy: East vs. West in a Complex System's Perspective*. Cambridge: Cambridge University Press.
- Schulz, Jonathan F. 2020. "Kin Networks and Institutional Development." Rochester.
- Southern, R.W. 1970. *Western Society and the Church in the Middle Ages*. New York: Penguin Books.
- Ubl, Karl. 2008. *Inzestverbot Und Gesetzgebung. Die Konstruktion Eines Verbrechens (300-1100)*. Berlin: Walter de Gruyter.
- Wang, Dan. 2014. *The History of the Xiang Army*. Changsha: Yuelu Publishing House.
- Wu, C., D. Yang, and D. Wang. 1990. *Dandai Zhongguo Hunyin Jiatian Wenti (Issues of and*

Family in Contemporary China). Beijing.

Zeng, Guofan. 2011. *The Collection of Marquis Zeng, Volume 1-11*. Beijing: China Bookstore Publishing House.

Zhaoxiong, Qin. 2001. "Rethinking Cousin Marriage in Rural China (1)." *Ethnology* 40 (4): 347–60.