5.8 The Demise of the Community Responsibility System[29]

To illustrate the analysis of undermining institution, consider again the example of lending during the late medieval period. As discussed in chapter 13, impersonal exchange during the late medieval period was facilitated by the Community Responsibility System (CRS) under which each member of a community was held responsible for the inter-community contractual obligation of any other member of his community. The associated organizations - the communities and their courts - rules of behavior, and cultural beliefs regarding actions that would be taken in various circumstances were this institution's constituting elements. They constituted a self-enforcing institution that enabled a particular regularity of behavior - inter-community exchange - to prevail despite the lack of a legal system with jurisdiction over the transacting individuals.

Although the CRS enhanced efficiency by supporting inter-community exchange, the historical records of the late thirteenth century reflect attempts to abolish the system in Italy, France, and England. Indeed, at that time it was replaced, at least in England, by contract enforcement provided by the state and based on the concept of individual legal responsibility. What led to the decline of the CRS? It is difficult to consider this decline as reflecting an exogenous change in the environment, in other words, an exogenous institutional change. The common explanation to similar organizational and institutional changes that occurred in the late medieval period is that they reflect either population growth (North and Thomas, 1973) or an attempt by the state to fill its own coffers (Benson, 1989). Yet, there is not much evidence to support either of these hypotheses with respect to the CRS. There is no measure of the economies of scale associated with either system. Furthermore, it occurred in densely populated Italy, in sparsely populated England, and the historical records do not reflect a return to the CRS following the sharp and prolonged contraction of population that occurred in first half of the fourteenth century. Similarly, the mere fact that transition away from the CRS was repeatedly attempted also in politically fragmented Italy indicates that the rising centralized state was not necessarily the driving force behind this transition.

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[29] This section builds on Greif 2000a.

Hence, it is appropriate to consider whether the decline of the CRS reflects intra- and inter-community economic, social, and political processes that reduced the system's efficiency and undermined its intra-community political viability. In other words, it is appropriate to consider whether the CRS had fostered processes that altered quasi-parameters in a way that led to its own demise. Addressing this issue requires examining the cost and limitations of the CRS and its inter-relations with economic, social, and political processes inside and outside communities. The results of a preliminary examination show that the centrality of intra- and inter-community economic and social processes led to the decline of the CRS. These processes increased the system's inefficiency and decreased its intra-community political viability. Ironically, the process of economic growth, community expansion, and social integration that were facilitated by the CRS also led to its decline.

Theoretically, the first line of causation between the economic efficiency and social processes of the CRS is due to its dependency on particular knowledge - the knowledge of one's community affiliation. But the extent to which one's community affiliation is known depends on the social context within which exchange occurs. If this social context is such that it is relatively easy to falsify and difficult to verify one's affiliation, the CRS will be less efficient. In the early days of the Commercial Revolution, cities may have been sufficiently small and merchants' communities sufficiently few that falsification of one's community affiliation was difficult and verification of alleged affiliation was easy. Yet, the late medieval period was a time in which communities grew in size and number. For example, between 1200 and 1300 the population of Genoa increased from about 30,000 to 100,000, while that of Venice increased from about 70,000 to about 110,000. In England there were a little more than 200 boroughs at the turn of the thirteenth century, but there were about 500 at its end.

By the second half of the thirteenth century the ease of falsification and the difficulty of verification seem to have hindered the operation of the CRS in England. As Moore (1985) has noted, "this procedure [of the CRS] apparently worked well enough in many cases, but it could be cumbersome and time consuming both for the creditor and the court: it usually seems to have involved long disputes over whether or not the original debtor and/or the men actually being sued for the debt were truly members of their town community or guild, with everyone scurrying to disclaim responsibility for the obligation" (p. 119). Similarly, Plucknett (1949) noted"there seems to have been much trafficking between foreign merchants and natives whose mercantile status was doubtful, and whose assets and persons were by no means entirely within the territorial jurisdiction of a local court" (pp. 137-8).[30]

Part of the cost of the CRS was that it entailed periods of costly retaliation during which two communities ceased exchanging for a period and each was confiscating the goods of the merchants from the other community present in its domain. Such retaliations are unavoidable transaction costs required to support informal contract enforcement in a world characterized by limited *ex- post* verifiability of actions. This limited ex-post verifiability implied that the courts of the two communities could have reached opposite conclusions regarding whether a member of one community did or did not fulfill his contractual obligations toward a member of the other. Theory indicates that in such situations, modeled as an imperfect monitoring repeated game, the equilibrium is characterized by period of “retaliation” in which exchange among the communities ceased for a while followed by a resumption of exchange. Such a pattern is indeed reflected in the historical records.

Periods of costly retaliation lead to another link between social and economic processes implied by the CRS and its efficiency. As communities and their trade expand, so does the

[30] The ability of individuals to falsify their identity and the strategic use of this ability is well reflected in a case brought before the court of the St. Ives fair "on Wednesday next after the feast of St. John before the Latin Gate in the eight year of Abbot William," which happened to be the year 1275. (The case: pro. SC 2/178/94: 8 May 1275. Parts of the document appeared in the Select Pleas in Manorial and Other Seigniorial Courts, Reigns of Henry III and Edward I. pp. 145-6, 155.) On that day William and Amice of Fleetbridge brought a complaint against Thomas Coventry of Leicester. But since he was not present at the fair, several of Thomas' other “peers and parceners," namely other merchant members of the community of Leicester, were summoned to the court. William and Amice claimed that Thomas owed Amice money for a sack of wool he bought three years ago from her (late) father, who lived in Leicester, and for which Thomas had been supposed to pay in the following year but had not. To prove their case, William and Amice produced a tally from the court of Leicester.

Leicester's merchants, who were present at the court and held responsible for the debt, denied, however, "any breach of the peace of the lord Abbot and the bailiffs or the fair and the damage of the said William and Amice" and were "ready to verify in such manner as the court shall award that the said Thomas Coventry was never peer or parcener of theirs or at scot and lot with them or a member of the commonality of Leicester." The court refused to accept their claim and judged in favor of William and Amice. Yet, shortly after these proceedings, Thomas of Coventry appeared at the fair and did not deny being from the commonality of Leicester. He did claim, however, that William and Amice had brought a false accusation against him, causing him "no small damage," most likely by the response of the merchants of Leicester whose goods were impounded by the fair court. William and Amice could not defend themselves but claimed not to be under the jurisdiction of the court since they were from London.

probability of dispute and hence retaliation. This is the case because the possibility of retaliation increases the uncertainty associated with trade to all merchants. When such uncertainty exists, the CRS implies that there is a positive probability that the goods of a (risk averse) merchant will be confiscated or impounded, he himself will be taken hostage, and his trade will be interrupted, even if he fulfilled all his contractual obligations. The courts' ability to impound goods only from some merchants - those present in their jurisdiction - but not from others, further increases the cost implied by this uncertainty. Whenever retaliation looms on the horizon, merchants are likely to attempt to leave a city that is to impose sanctions in order to save their goods. Hence, theoretically, the relationship between trade expansion and the cost implied by possible disputes is not linear. Rather, the nature of the uncertainty implied that cost would rise faster than trade volume.

Indeed, Florence's historical records indicate that once a retaliation was expected, merchants of the communities involved would refrain from trading in each others' cities, and merchants who permanently lived in the other communities would leave their residences with their merchandise.[31] Communities attempted to reduce the inefficiency associated with these costs by agreeing to restrict the penalty that could be imposed on a particular individual or allocate the costs more evenly. In 1251, Genoa contracted with Florence to warn its merchants at least two months prior to a retaliation so that Florentine merchants could leave Genoa in an orderly manner.[32] After trade expanded sufficiently to enable the CRS to function without impounding or confiscation, taxes on members of one community were used by another to better allocate the costs of retaliation.[33] Statutes issued by Countess Margaret in 1252 regarding foreign merchants visiting the fairs of Flanders ruled that only a debtor or his guarantors could be imprisoned for debt. Only goods could be confiscated from other members of the debtor's

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[31] For this behavior and its costs in Italy, see Arias 1901: 156-8.

[32] Arias 1901: 52.

[33] For example, on 22 February, 1296, Florentine merchants petitioned their city to agree that Bologna would impose a toll (*pedaggio*) on Florentine goods entering Bologna in order to settle a retaliation. Arias 1901: 165.

community.[34] Yet, the uncertainty implied by the CRS could not be completely avoided and as the size of communities increased, the cost of retaliation and uncertainty increased by more.

An increase in the size of, and economic diversity within communities reduces the economic efficiency of the CRS for yet another reason. The CRS intensifies the adverse selection problem associated with credit financing and the extent of this problem increases with the size and diversity of communities. It provides insufficient incentives to lenders to examine the creditworthiness of borrowers and the extent to which incentives were insufficient increased with a community's size. Thus, a consequence of the CRS is that it increased the probability that a borrower would not be able to pay his debt. Since retaliation often occurred following a borrower's bankruptcy, the CRS also increases the probability that a retaliation will occur.

Under credit financing, the lender assumes all downside risks while the borrower retains all the gains above a certain amount. Hence, credit financing encourages borrowing for high-risk ventures. Appropriate incentives to lenders to evaluate *ex ante* the creditworthiness of the borrowers mitigate this problem, but the CRS undermined such incentives. Under the CRS the future trade of all members of the borrower's community was the de facto collateral for the loan, and hence a lender had a relatively weak incentive to verify the borrower's ability to repay it.[35] In other words, credit financing under the CRS attracted borrowers with "bad" projects which were likely to fail, and thus were more likely than other projects to lead to retaliation.

While the above discussion indicates a theoretical possibility, for it to influence the lenders' behavior during the late medieval period they had to be aware of it. Interestingly, lenders during this period clearly understood this adverse selection problem. For example, on February 8, 1281, several cities in Tuscany agreed not to retaliate against each other. In announcing this agreement to their merchants, the authorities stated that the merchants should start paying more attention to the personal creditworthiness of merchants from the other towns with whom they would be dealing. This extra precaution was required, it was argued, since from

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[34] Verlinden 1979: 135.

[35] Almost one hundred years prior to the invention of Information Economics, Arias 1901: 166, noticed this adverse effect of the Community Responsibility System.

now on "*a chui dato, a colui rechesto*" (that is, "to whom it is given, from him it will be asked") because retaliation would not be permitted. (Arias 1901: 166-7.)

Theoretically communities could have attempted to mitigate this adverse selection problem by either increasing the cost of defaulting to a borrower who undertook a risky venture or increasing the cost of default to a lender.[36] Indeed, late medieval communities took such actions but with limited success. The increasing ease by which one could move from one city to another in the thirteenth century implies that, following bankruptcy, one could have escaped to another city. The extent to which this option was exercised and an attempt to curtail it is reflected in a treaty signed on April 7, 1279, among Florence, Genoa, and most of the other towns of Tuscany, Lombardia, Romana, and March Trevigiana. It established that merchants fleeing with money belonging to other people could be imprisoned in the territories of the towns that signed the treaty and there they would be kept until brought to justice. (Arias 1901: 100.) In England the authorities were usually unable to locate an individual who escaped from his place of residence.[37] Furthermore, one did not even have to escape in order to avoid paying a debt. During this period English law precluded selling one's house or real estate to repay a loan, or even punishing a borrower who defaulted with imprisonment. (Jones 1979.)

Another way to mitigate the adverse selection problem is to provide a lender with better incentives to screen prospective borrowers. Had the court of the lenders' community been able to perfectly verify the claim that a particular borrower indeed went bankrupt and not demand compensation in that case, the lender could have been provided with the appropriate incentives. Yet, medieval courts had limited ability to do this. Indeed, retaliation often occurred due to bankruptcy and disputes over the distribution of the remaining funds among various borrowers. Hence, in Italy and England alike, the authorities gradually resorted to increasing the cost of

[36] Note, however, that if these costs were raised too high, they would undermine the operation of the CRS and the incentive to trade.

[37] Plucknett 1949: 142. As late as the seventeenth and eighteenth centuries, "a felon could consider himself distinctly unlucky if he was captured by the authorities. Policing was left largely in the hands of the local community. The maxim was not efficiency, but financial economy, making the system of public order pay for itself. A king with no proper permanent army, who could not pay the members of his own household with regularity, was not likely to visualize or finance a proper police system" Bellamy 1973: 201.

default to the lender by demanding that prior to requesting justice from the legal authorities of his own community, a lender had to travel to the other community and make his case there. Only if justice were not provided, could he apply to his own community court requesting retaliation.

For example, the city of Cambridge received a charter and the right to establish a merchant guild as early as the middle of the twelfth century. Yet, a charter given to the city by King Henry III in 1256 states that "our beloved burgesses of Cambridge ... may forever throughout the whole of our land and dominion have this franchise, namely that they themselves or their goods, wheresoever found in our dominion, shall not be arrested for any debt of which they shall not be the sureties of principal debtors, unless perchance the debtors shall be of their commonality and power and shall have to make satisfaction for their debts in whole or in part and the said burgesses shall have made default in justice to the creditors of the same debts and this can be reasonable proven."[38]

The cost implied by the adverse selection problem depended, like the cost associated with falsification, on social factors. First, it depended on the size of a community - since the larger a community is the more likely it is that a lender will be able to recover, at relatively low cost, a debt in case of default. Second, it depended on inter-community ease of mobility. The more advanced the social and economic integration of a society is and the more secure the life and property for aliens abroad, the more difficult it is for a community to discipline its own members.

Finally, to the extent that community growth implies increasing intra-community social and economic heterogeneity, it is likely to reduce the intra-community political viability of the CRS. Community growth and heterogeneity imply that some segment of the community bear the cost, but not the benefit, of the CRS. This segment of the community will then be motivated to act within the commune to abolish the CRS. For example, rich, well-established merchants gain less from the CRS than others since they already have the connections, reputations, and wealth required to conduct trade, based on personal rather than impersonal exchange, and with little

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[38] Maitland and Bateson 1901: 14-5.

reliance on credit. Yet, the CRS implies that they will have to bear the cost of the system, and perhaps an even higher cost, than those less-well-to-do merchants whose trade depends on the CRS. As a matter of fact, the discussion of how the CRS aggravated the adverse selection problem implies that the growth of communities encouraged the relatively less experienced traders to utilize the system for their advantage but at the cost of the more established merchants, who had to pay their debt or bear the cost of retaliations. Similarly, the non-mercantile part of a community is likely to bear the cost implied by the absence of alien merchants in the community during retaliations without directly gaining much, or anything, from the CRS.

Hence, while the CRS fostered inter-community economic interactions and facilitated the growth of trade, as well as growth in the size, number, and heterogeneity of merchants' communities, theory suggests that these processes diminished the system's effectiveness, increased its economic costs, and undermined its political viability. Unfortunately, establishing quantitatively the extent to which this was the case seems impossible, but there is an indication that these costs were rising in the second half of the thirteenth century in England according to the Close Rolls. Debts could be registered in these chancery rolls, thereby placing the transaction under the jurisdiction of the Common Law. This implies that property and goods could have been placed as a bond for repaying debts.[39] Registration, however, was costly and prior to 1271 few debts, if any, were enrolled each year. Their numbers rose substantially by 1271, however, just before (as discussed below) the CRS was abolished in England.[40]

Yet the historical records do reflect, consistent with the above theoretical considerations, that wealthy traders and large communities attempted, in England and Italy alike, to be exempted from or to abolish the CRS, and different segments of cities had distinct incentives with respect to the CRS. Moore (1985) examined cases brought before the court of St. Ives fair in England and noticed that in the second half of the thirteenth century there "was an increasing numbers of individuals ... able to respond to ... suits [related to the CRS] by producing royal licenses of

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[39] See discussion in Moore 1985: 120 n. 105.

[40] Close Rolls of the Reign of Henry III, 1227-1272. 14 Vols. London: His Majesty's Stationery Office, years 1256-1272. There is one entry for 1257; four for 1269; and 43 for 1271. For the high cost to a merchant for using the common law court, see Plucknett 1949: 137.

immunity from prosecution for any debts except those for which they were principal debtors or pledges" (p.119). In England large communities sought an exemption from the CRS from the king. With about 25,000 residents, twelfth-century London was the largest city in England and a large city by western European standards of that time.[41] In 1133, Henry I declared that the citizens of London "shall appoint as sheriff from themselves whomever they may choose, and shall appoint from among themselves justice whomsoever they choose" and "no other shall be justice over the men of London." Indeed, as mentioned above, William and Amice claimed that they could not be judged at the St. Ives court. Yet, as just cited, Londoners had the right to apply the principle of community responsibility to residents of other cities.[42]

Later, the king provided other large communities with various exemptions from the CRS. In Flanders, Ypres was the largest city and about twice the size of London. Indeed, King Henry III, sometime between 1225 and 1232, assured the merchants of Ypres that none of them "will be detained in England... nor will they be partitions for another's debts." Only the debtor, or those who made a pledge for him, would be liable for the debt. Yet, the King seemed to be aware of the need to induce the community of Ypres to ensure any merchant that he would receive justice if a complaint was brought against him. It was agreed that "if any aforesaid burger or merchant of Ypres were to offend the King or other men or merchants from England, or if a dispute were to arise between another man of his and a man from England, it will stand by law in the courts of the king by the king, or by his judges, or by his bailiffs in that place where the offense was committed for the purpose of amending the mistake and making proper payments."[43]

The historical records from Italy reflect the reduction in the CRS intra-community political viability. Distinct incentives among various segments of Florence with respect to the CRS are reflected in an appeal made on 22 February 1296 by some Florentine merchants to the authorities of the city regarding a retaliation with Bologna. These were merchants whose livelihoods depended on being able to pass through Bologna. They proposed setting up a toll

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[41] Bairoch et. al. 1988: 33.

[42] English Historical Documents, vol. II, no. 270, pp. 1012-3.

[43] Calendar of the Patent Rolls Preserved in the Public Records Office, 1232-1339, p. 460.

(pedaggio) to be levied almost exclusively on their goods just to settle the retaliations in which they were probably not directly involved. It seems that the rest of Florence did not care about settling the matter.[44] Similar distinct incentives are reflected in Florence's fifteenth-century regulations. In 1415 it was forbidden to retaliate against foreign rectors, officials, or against traders coming to Florence to sell edibles.[45] The *mercatores* of Florence were the city's affluent merchants whose business during the thirteenth century was carried out over most of Europe, as far north as Sweden. While they may have had the ability to exchange based on their own reputations, they had a great deal to lose from retaliations. Indeed, once they secured political control over the city, they entered into a sequence of treaties aimed at moving Florence away from the CRS.[46]

On April 9, 1279, the cities of Florence, Venice, Genoa, as well as most of the cities of Tuscany, Lombardy, Romagna, and Marca Trivigiana, agreed "that from this day forth nobody of the said city-states is able to be or should be, on behalf of another, detained or taken captive or disturbed, in person or goods, but it should be demanded of him alone to whom it should be given, or of him who by justice should be held." To enable impersonal inter-community exchange, however, it was also agreed that each town would imprison any merchant in its territory who was fleeing with others people's money and that his creditors would receive justice.[47] That most of Italy's large city-states also sought an end to the CRS in the second half of the thirteenth century suggests that by then the most important Italian communities sought to abolish the system.

The examination of the costs associated with the CRS, and the relationship between these costs, and social, economic, and political processes within and between communities, suggests that these processes were important factors in the decline of the CRS. In England, the state may have contributed to an increase in the ineffectiveness of the CRS by granting individuals and

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[44] Arias 1901: 165.

[45] Santini 1886: 168-72

[46] Arias 1901: 170-6.

[47] The Latin version of this treaty is contained in Arias 1901: 400-404.

communities legal immunity from impounding or confiscating their goods. In doing so, however, the state seems to have been responding to demands reflecting processes within and between communities. The observation that the Italian city-states also attempted to move away from the CRS toward the end of the thirteenth century strongly supports the view that the state was not the originator of this transition.

Why did the CRS decline? It declined when it was no longer self-enforcing, when it was advantageous to communities and individuals to act in a manner contrary to the rules and cultural beliefs associated with it. And this happened because the behavioral implications of the CRS undermined its self-enforcing nature. The CRS failed to perpetuate in the long run because it was not **self-reinforcing**: its behavioral implications - those other than fostering inter-community exchange - undermined its self-enforceability and led to the endogenous demise of the CRS.

For example, knowledge of traders' communal affiliations was necessary for the self-enforceability of the CRS. Without knowing (at least with a sufficiently high certainty) a borrower's community affiliation a lender would not have been willing to lend. The CRS, however, fostered community growth and inter-community interactions over time, thereby eroding this knowledge. Over time a community's members were less likely to know each other and individuals could more easily acquire the knowledge required to misrepresent their communal affiliation. Similarly, for the CRS to be self-enforcing, its benefit had to be sufficiently large and evenly distributed among a community's members so that each of them would lend his intra-community political support to the system. This lent credibility to the threat of intra-community punishment of a member who cheated a non-member. But the gradual increase in the size of communities decreased the gains from inter-community exchange by fostering costly periods of retaliation and increased intra-community occupational and wealth heterogeneity.

15.9 Concluding Remarks

This chapter elaborated on why and how self-enforcing institutions influence their rate of change. Institutions influence their rates of change through the reinforcing or undermining processes they entail. They can gradually alter quasi-parameters in a way that enables them to be self-enforcing in a larger or smaller set of situations. Hence, institutions influence their rates of change, both directly and indirectly; they do so indirectly by making them more or less sensitive to exogenous shocks. And institutions influence their rates of change directly; unless a self-enforcing institution is (weakly) reinforced, it will change in the long run. The associated behavior will either no longer be self-enforcing or new institutional elements will be required to support it.

In other words, the perspective developed above considers how an institution influences its rate of change by altering quasi-parameters. Such an alteration makes the institution more or less sensitive to environmental changes and it can render an institution no longer self-enforcing in a given environment. Analytically, one can combine the study of self-enforcement and reinforcement by first examining an institution's self-enforceability, considering quasi-parameters as fixed and exogenous, and then examining the implied reinforcing processes and conclude by examining the long-term implications of these processes on that institution's endogenous rate of change.

Self-enforcing institutions tend to reinforce themselves, leading to what has been sometimes referred to as institutional inertia (or hysteresis). Regularities of behavior, once they prevail, have the propensity to become self-enforcing in a wider set of situations than before. But self-enforcing institutions can also undermine themselves by changing quasi-parameters in a way that causes them to be self-enforcing in a smaller set of situations than before. Indeed, one can conjecture that there is usually an "institutional life-cycle." Initially institutions tend to reinforce themselves but as time passes they are more likely to undermine themselves. Whatever the case, a general analysis of conditions leading to reinforcement and undermining and the processes through which they express themselves is yet to be undertaken. This paper suggests the merit of such an investigation.

The above analysis also suggests the importance and ways of achieving further integration of two lines of institutional analysis, those centering around processes on the one hand and those centering on studying equilibria on the other. These two facets of institutions - the processes of which they are integral part and their self-enforcing properties - must have and can be studied together. Furthermore, institutions have multiple implications and whether, how, when, why, and to what effect they will reinforce or undermine themselves requires a context-specific analysis that combines detailed knowledge of the institution under consideration as well as the broader society of which it is an integral part.

&Chapter 16 The Influence of Past Institutions on the Direction of Institutional Change

&Chapter 16 The Influence of Past Institutions on the Direction of Institutional Change

How and why do past institutions influence the direction of institutional change? Considering an institution as a man-made, monolithic entity limits our ability to address this question. (Chapter 14.) If institutions are defined as rules, for example, once a rule ceases to direct behavior, it neither influences the selection of new rules nor changes the set of feasible ones. This chapter presents a perspective on the way past institutions influence the direction of institutional change by building on the definition of institutions developed above. This definition considers an institution as a system of institutional elements exogenous to each individual whose behavior they influence. Although institutional elements are man-made, they mold individuals and constitute the world which they share, understanding and within which they interact. Hence, there is a **fundamental asymmetry** between institutional elements inherited from the past - even institutional elements that were part of an institution which is no longer self-enforcing - and alternative ones. The influence of institutional elements inherited from the past on the direction of institutional change **transcends** that of other institutions. Making this argument thus imputes additional meaning to the idea of institutional path-dependence: past cultural beliefs, norms, and organizations constitute a link between past and future institutions.

The chapter begins with an example illustrating how an institution that ceased to be self-enforcing nevertheless influenced subsequent institutional development. (Section 16.1; Due to length consideration this example is not explored here in detailed. For a more extensive discussion, see Greif 1995, 1998c.) This example considers how and why past institutional elements influenced the direction of institutional change that led to the institutionalization of the *podesteria* in Genoa. The institutional elements inherited from the consular system were elements in utility functions, systems of beliefs, and self-enforcing organizations which embodied the knowledge that the Genoese shared. Hence, these institutional elements that were crystalized in the past were part of the socially created reality, even after the consular system ceased to be self-enforcing.

Considering how these institutional elements influenced the direction of institutional change highlights the three inter-related ways in which this can occur. First, past institutional elements constitute part of the environment within which new institutions are intentionally established or spontaneously emerge. Second, past institutional elements provide the coordination required for institutional selection. Third, they bias the processes that lead to new institutions in favor of selecting institutions that include institutional elements inherited from the past. (Section 16.2.)

These **environmental**, **selection**, and **inclusion** effects shape intentional and unintentional processes that lead to new institutions. Roughly speaking, using the jargon of game theory, new institutions emerge through interactions within a game, whose relevant rules (from each individual's perspective), coordination within these rules, and the costs and benefits of various actions, are influenced by institutional elements inherited from the past. New institutions build on and emerge through interactions with previous institutional elements. These environmental, selection, and inclusion effects reflect the fundamental **asymmetry** between institutional elements inherited from the past and other, technologically feasible ones. Cognitive, psychological, social, political, and economic factors underlie this transcendency of institutional elements inherited from the past. (Sections 16.3.)

Does this asymmetry matter? Does it make a difference if some institutional elements rather than others exert the environmental, coordination, and inclusion effects? Game theory suggests an affirmative answer to this question, indicating that the details matter. In strategic situations, the set of possible self-enforcing outcomes - of equilibria - depends on the details of the relevant rules of the game, and selection of an outcome within this set depends on a society's historical heritage. (Chapter 11.) A particular outcome can be self-enforcing if some rules of the game and not others are relevant. As a matter of fact, even small changes in the rules can lead to a large change in the set of possible equilibria. Hence, past institutions can influence the direction of institutional change by constituting part of the environment within which new institutions emerge. Furthermore, given the rules of the game, multiple equilibria are likely to prevail as self-enforcing outcomes. How is coordination achieved and which institutional elements exist, therefore, can determine the institution that will actually prevail.

Past institutional elements influence the direction of institutional change even when the institution of which they were a part of is no longer self-enforcing. When this is the case, one can say that these institutional elements are part of a society's cultural heritage. Hence, either indirectly - through its cultural manifestations - or directly - through its institutional manifestations - institutional elements inherited from the past constitute part of the historical heritage that influences the direction of institutional change. (Section 16.4.) New institutions are a function of past institutions.

Yet, new institutions are not determined only by historical heritage. Institutional elements inherited from the past and cultural heritage do not have an unlimited hold on a society. Individuals, motivated by such considerations as self-interest, efficiency, distribution, or fairness can and do take the actions required to overcome the influence of past institutional elements. But such actions entail transaction costs: they are time-consuming, costly, uncertain, and may require mitigating problems by collective action. Furthermore, the extent of these costs reflects the nature of existing institutions. The transaction costs of institutional transition thus determine the extent to which the historical heritage embodied in past institutional elements, or perhaps other considerations, such as efficiency, fairness, or distribution will influence the direction of institutional change. When past institutional elements are not integrated into a new institution - when they are not self-enforcing and (weakly) self-reinforcing - they will gradually decay and vanish. New institutions will emerge from within the legacy of past institutions but are not determined by it.[48] (Section 16.5).

16.1 Mapping into a New Institution: The Genoese *Podesteria*

To explore the influence of institutions on the direction of institutional change, consider the institutional transition mentioned in chapter 15: the Genoese transition from one self-enforcing institution - the consular system - to another - the *podesteria.* Both institutions governed the same transaction: the mobilization of resources in return for economic benefits and political order. The consular system was a self-enforcing institution based on inter-clan mutual deterrence. The objective of a clan was to gain political and economic dominance over Genoa and to control the consular system, through which it could mobilize the resources of other, non-

[48] This argument is distinct from the one stating that complementarities among institutions cause past institutions to influence the direction of institutional change. See chapter 19.

clan Genoese for mutual benefit. In pursuing this objective, clan members were not constrained by norms of non-violent behavior.

Political order, and some inter-clan cooperation, was achieved by mutual deterrence. Each of Genoa's two main clans invested resources in establishing a patronage network, gaining military ability and armaments, settling in fortified neighborhoods, and cultivating norms of revenge among their members. This investment was a response to the cultural beliefs that prevailed among the clans: Each clan expected the other to challenge it militarily in a bid to gain political and economic dominance over the city whenever a profitable opportunity arose. At the same time, each clan was deterred from military challenges because each clan's investment in military strength made attacking another clan unprofitable. Self-enforcing mutual deterrence thus prevailed.

Central to the consular system were two organizations - clans and the consulate - and a particular set of norms and cultural beliefs. Clans were self-enforcing social structures reflecting social, economic, and political interactions along lineage lines. Their self-enforceability was further enhanced by non-members who held each clan member liable for actions taken by others in his clan. The internal cohesion and collective decision processes of the clan implied that they acted as one in political matters. The second relevant organization, the consulate, served as a form through which Genoa's main clans coordinated the mobilization of resources of non-clan members, and whose authority they used to gain economically from their political positions. In addition, central to this institution was the set of cultural beliefs and norms associated with mutual deterrence among Genoa's two main clans. Although each expected the other to use its military might if the appropriate opportunity arose, each was deterred from doing so by the military strength of the other.

Internal developments and external events undermined the self-enforceability of this institution in the second half of the twelfth century. When political order resumed in Genoa in 1194, the same transaction was governed by a different self-enforcing institution - the *podesteria*. At the center of this institution was a self-enforcing organization, the *podestà*.[49] The *podestà* was a military and administrative leader who provided the balance of power between Genoa's two main clans and their factions. Inter-clan cooperation and political order were fostered by the self-enforcing cultural belief that any clan that initiated a military action against another would have to confront the military might of the *podestà* as well.

What was the relationship between the two institutions? What influence, if any, did the old institution that prevailed in Genoa prior to 1194 have on the direction of the subsequent institutional change? How did the initial institution direct the selection from the set of possible self-enforcing institutions?

The first influence of the consular system on the *podesteria* was discussed in chapter 15: The institution that prevailed prior to 1194 influenced the direction of institutional change through its impact on various stock variables. The earlier institution, for example, motivated clans to acquire military knowledge, capabilities, and armaments, as well as to consolidate and fortify their neighborhoods. Their military ability - offensive and defensive alike - did not vanish once the old institution ceased to be self-enforcing. Indeed, uneven military inter-clan abilities were among the reasons for the collapse of that institution. These lasting implications of the past institution thus constrained the set of possible subsequent self-enforcing institutions by being de-facto part of the relevant rules of the game.

Similarly, the earlier institution, the consular system, generated particular knowledge. In 1154 the enhanced external threat to the Genoese as a whole led to inter-clan cooperation that resulted in economic growth. This growth, in turn, undermined the self-enforceability of the mutual deterrence equilibrium. Once the external threat subsided in 1164, therefore, the institution was no longer self-enforcing and a civil war transpired. From these events, the losing clan apparently gained a growing awareness of the institution's fragility in a changing environment. In 1194, despite an enhanced external threat, the clan that had lost the earlier civil war refused to cooperate with the other clan prior to the establishment of the *podesteria*. Thus,

[49] Because the issue here is the influence of a past institution on governing a particular transaction in a subsequent institution, I do not elaborate on how the new institution came into existence. Greif 1998 elaborates on the related learning process.

the knowledge that the earlier institution implied provided some of the initial conditions in the selection process through which the new institution emerged.

Such tangible and intangible implications of the previous institution constitute part of the initial conditions in the process of institutional change. This transition thus further lends support to the view that existing institutions shape subsequent ones through their influence on various stock variables. But this transition also illustrates how past institutions, even institutional elements that were a part of an institution that is no longer self-enforcing, can and do direct institutional change.

16.2 The Environmental, Coordination, and Inclusion Effects

The transition to the *poedesteria* also highlights that past institutions influence the direction of institutional change through what can be referred to as the **environmental**, **coordination**, and **inclusion** effects. Institutional elements crystalized in the past shape the direction of institutional dynamics in three inter-related ways. First, past institutional elements constitute part of the environment within which processes leading to new institutions transpire. Second, they provide coordination within this environment. Third, past institutional elements bias the processes leading to new institutions, making the selection of institutions that include them more likely than the selection of other institutions.

The Environmental Effect

In the process leading to the transition to the *podestà*, various institutions provided the environment within which decision-makers interacted. The Genoese communicated with the language they inherited from the past, utilized the existence of other cities to hire an external *podestà*, and compensated their *podestàs* with widely accepted means of exchange. We similarly treated as exogenous various institutions when considering institutional dynamics among the Maghribis, the Genoese, the Venetians, or the Germans. Language, money, various property rights, municipal organizations, and various political institutions were taken as exogenous.

In the jargon of game theory, we considered these institutions as part of the relevant rules of the game that structured the processes that led to new institutions. A common trait of these institutions was that they were exogenous to **all** the decision-makers relevant to the process leading to a new institution.[50] The nature and use of language and money by nobles of other cities and the mere existence of these cities were, for all practical matters, exogenous to the Genoese. These past institutions exerted an '**environmental effect**' on the process through which the Genoese established a new institution. They constituted part of the exogenous, although man-made, rules of the game within whose confines interactions leading to new institutions transpired.

Recognition of the importance of the environmental effect is explicit or implicit in most approaches to institutional analysis. Even in transaction cost economics which emphasizes that institutions are endogenous property rights security, various political and legal rules, and their enforcement are usually taken as given. In studying institutions as politically determined rules, scholars routinely take such institutional features as the rule of law as given. The game theoretic framework enables to also consider cases, such as that of Genoa, in which environmental effect manifests itself in shaping the strategic environment within which decision making interact.

The Coordination Effect

Through the environmental effect, existing institutions provide a structure within which new institutions emerge. Within this structure, however, multiple institutions can usually be self-enforcing. (Chapter 11.) The transition to the *podesteria* illustrates how past institutional elements provided the coordination that led to the selection of a particular institution without actually becoming part of it. In Genoa, the consulate provided the coordination required to establish the *podesteria* but once it was in place, the consulate ceased to exist. This is the **coordination effect**: past institutional elements direct processes leading to the selection of one institution out of the many that are possible without becoming a part of the new institution. Institutional elements that contribute to the coordination effect do so without becoming an integral part of it.

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[50] Recall that in chapter 3 an institution was defined as exogenous to each of the individuals interacting in the transaction under consideration while potentially being endogenous to all of them. Institutions that are part of the environment are exogenous to all the individuals engaged in the interaction under consideration. Such institutions can also exert the coordination and inclusion effects discussed below.

Indeed, societies usually have institutionalized ways of dealing with the need to coordinate on new institutions. Approaching the government, consulting the priest, the oracle, the elders of the tribe, or the village consul, are various manifestations of such ways. Even when these individuals or organizations do not have the ability to force individuals to follow their recommended behavior by using coercive power, they can nevertheless provide coordination.

The coordination effect of past institutional elements has long been central to institutional analysis in political science and sociology. Political science emphasizes the importance of coordinating organizations such legislatures, while sociology has emphasizes legitimacy and legitimate rules as influencing beliefs about others' behavior.

The Inclusion Effect

The transition to the *podesteria* reflects an additional effect that past institutions have on those that follow them; it has not received much attention in the literature. Past institutional elements bias the processes through which institutions are intentionally established or unintentionally emerge, to yield new institutions that include these same elements. This is the **inclusion effect**: *ceteris paribus*, a new institution is more likely to include institutional elements that were crystalized in the past than those that were not. This is the case independently whether the new institution is intentionally established or unintentionally emerge.

In Genoa, the inclusion effect manifested itself in the inclusion of past organizations, norms, and cultural beliefs into the *podesteria*. This new institution incorporated the existing clan structure, norms, and the cultural beliefs that were part of the previous consular system. In the former and the latter institutions, clans were central organizations and it was still the case that each clan expected another to take advantage of any opportunity to instigate a military challenge to gain political dominance over the city. Although the experience of Venice indicates that other beliefs could have prevailed as self-enforcing outcomes, they in fact did not. (Chapter 15.)

It is common to find that past institutional elements are incorporated in new institutions. Indeed, such inclusions are reflected in all the historical examples mentioned above. The details of the institution that secured the property rights of alien merchants (chapter 6) reflect the effects of organizations that were crystalized in the past. With respect to the English merchants, this institution included the Merchant Guilds established through the charters given to the English Borough; with respect to the Italian merchants, this institution included the court system of the Italian city-states; as for the German merchants, this institution included organizations for inter-city cooperation that built on previous organizations with such aims. Similarly, central to the community responsibility system (chapter 13), were the various organizations, such as merchant guilds and local legal systems, that had arguably crystalized prior to the spread of the community responsibility system.[51]

16.3 The Fundamental Asymmetry between the Past and Feasible Institutional Elements

The environmental, coordination, and inclusion effects of institutional elements inherited from the past reflect a **fundamental asymmetry** between them and others that are technologically feasible. This asymmetry implies that the influence of past institutional elements on new institutions **transcends** that of alternative elements.

The influence of institutional elements inherited from the past transcends other influences because institutions mold individuals and their socially constructed world. Past institutional elements are exogenous to each individual and constitute properties of individuals and the man-made world, which they know, share, and understand. Institutional elements inherited from the past reflect poorly understood and often unintentional processes of socialization, internalization, learning, and experimentation, as well as the acquisition and diffusion of capacities and knowledge by individuals and organizations. The cognitive, psychological, and social propensities that underlie such processes imply that institutional elements inherited from the past and alternative ones are not perfect substitutes. There is an asymmetry between institutional elements inherited from the past and alternative ones.

In the case of the Genoese transition to the *podesteria*, the civil war that erupted in 1164 reflects the collapse of the consular system. Central to this system were self-enforcing clans and

[51] Similarly, the sociologists Reinhard (1956) documented in a cross-country study of ideologies that those which governed the relationships between pre-industrialization peasants and lords in a particular society also governed post-industrialization relationships between capitalists and workers.

particular internalized norms and cultural beliefs that were exogenous to each of the interacting individuals. As properties of individuals which were exogenous to each of them and as properties of the man-made world that directed the behavior of each, these institutional elements did not vanish once the consular system ceased to be self-enforcing.

Indeed, this historical heritage was part of the initial condition in the process of institutional change that the Genoese did not attempt to alter. The *podesteria* incorporated this heritage and arguably succeeded in maintaining political order and mobilizing resources because of this incorporation. The general difficulties involved in changing historical heritages of this kind are well reflected in the fact that even contemporary science has only limited knowledge regarding how to generate and manipulate clan identity, norms, and beliefs. Furthermore, the little we know indicates that such manipulations are time-consuming, costly, uncertain, and entail overcoming problems of collective action and cooperation.

What are the sources of institutional transcendency? Students of institutions, particularly outside the field of economics, have a long tradition of explicitly or implicitly examining institutions based on the premise that the influence of past institutional elements transcends the influence of other, technologically feasible elements. This approach is practically appealing and conceptually sound, particularly regarding the environmental effect. Institutions that are exogenous to all the decision-makers involved in the processes leading to a new institution can be assumed exogenous to this process.

Game theory highlights the need for explaining the transcendency of past institutional elements in cases where they cannot be taken as exogenous to all the interacting individuals. (Chapter 14.) Suppose that the (exogenously determined) rules of the game have unexpectedly changed or a new understanding of possible actions has emerged. Game-theoretic analysis highlighted that rational decision-making, in and of itself, cannot inform us about what the relationship will be between the equilibria in the pre- and post-change games. It thereby drew attention to the need to further understand the factors leading to the transcendency of past institutional elements.

Our understanding, however, is still poor, and accordingly the following discussion falls short of presenting a theory of institutional transcendency. Its modest aim is to highlight how the conceptualization of institutions, composed of institutional elements exogenous to each of the interacting individuals (chapter 3), in combination with insights from various disciplines, provides ingredients for further analysis of institutional transcendency. The discussion concentrates, in particular, on factors contributing to institutional transcendency that manifest themselves in the coordination and inclusion effects.

One factor contributing to institutional transcendency is cognitive dissonance: the mental conflict that occurs when beliefs or assumptions are contradicted by new information. To avoid such conflicts, to preserve stability or order in one's conception of the world and of oneself, a person uses various defensive maneuvers, such as confirmatory bias and avoidance of conflicting evidence. The transcendency of past institutional elements also reflects such a defensive measure. Institutions inherited from the past provide much of the order to which individuals aspire by reflecting, generating, and maintaining internalized norms, beliefs, and a compatible pattern of behavior. Hence, one would tend to respond to the demands of a new situation while clinging to the beliefs and norms central to institutional elements inherited from the past.

To illustrate this response influence on institutional transcendency, consider the experience of the Jewish people after the destruction of their first temple and their exile in the fifth century B.C. How can one reconcile belief in an almighty God who had promised to defend his followers with such military defeat? The solution, as is well reflected in the biblical prophecies, was that the defeat had been a punishment for the failure to follow God's ordinances. Reality has been explained based on beliefs consistent with the internalized beliefs inherited from the past.

Similarly, norms and beliefs that were internalized in the past are properties of individuals, part of their identity. Changing one's identity, one's conception of oneself, is psychologically costly, implying that one would want to prevent such change. Hence, internalized norms and beliefs would be part of the initial conditions in processes leading to new institutions. The presence of particular internalized norms and beliefs inherited from the past thus creates asymmetry between the institutions incorporating them and those that do not. This source of institutional transcendency would manifest itself in the environmental, coordination, and inclusion effects.[52]

The limited cognitive ability of individuals and the complexity, lack of knowledge, and asymmetric information associated with choosing behavior in new situations, also contribute to the transcendency of past institutions. Past institutions embody a society's knowledge: they reflect shared understanding regarding the nature and the details of various observable and unobservable aspects of the situation, such as the physical environment, discount factors, attitudes toward risk, and the objectives of various decision-makers. Facing a new situation, individuals need to muster their cognitive resources. Taking past institutions as given reduces, for each individual, the complexity of the environment within which he takes actions. It arguably defines and restricts the extent of the problem that one confronts, making it manageable.

Habituation also contributes to institutional transcendency.[53] Cognitive scientists have noted that once an individual has sufficiently identified a good pattern of behavior, it will be followed unconsciously - it will become a habit. This enables an individual to devote his scare cognitive resources to other tasks. Habitation implies that the behavior associated with past institutions will be the default in changing situations. Furthermore, because of habituation and limited cognitive ability, past behavior is likely to spread by analogy. (Sugden 1989.) When encountering a new situation, people first use an element from their existing behavioral repertoire. This is not to argue, however, that individuals will indiscriminantly use past behavior in new situations. It does mean, however, that past behavioral patterns have prominence relative to alternative ones. The behavior associated with past institutional elements is likely, therefore, to be transcendent. Limited cognitive ability and knowledge thus contribute to transcendency, and are reflected in the environmental and inclusion effects.

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[52] While intuitive, this argument does not explain which past internalized beliefs and norms will be effective in a particular new situation. One may internalize the norms of not stealing from a neighbor, but should this norm also apply in the case of stealing from a traveling merchant?

[53] For an interesting recent analysis of habit formation using evolutionary game theory, see Hodgson 1998.

While the above cognitive factors operate at the level of the individual, cognitive factors contributing to the transcendency of past institutions also operate at the level of the interactions among individuals. In strategic situations, one's optimal behavior depends on the expected behavior of others. Behavioral cultural beliefs are expectations that one holds about others' behavior and that can be extrapolated from one situation to another. Seeking to anticipate others' behavior in a new situation, past cultural beliefs provide a natural focal point.

In Genoa, the cultural beliefs that prevailed under the *podesteria* included those that prevailed under the consular system. In this particular case, the transcendency of past cultural beliefs reflected the fact that the collapse of the previous institution had confirmed these beliefs. The civil wars that marked the collapse of the consular system supported the beliefs that clans would use military force to achieve political objectives. No wonder, then, that these beliefs had transcendency over others. More generally, however, behavioral cultural beliefs associated with past institutions are likely to be the default in new situations. Because the analytical framework whose contributions examined here, that is, game theory is a useful tool for studying this transcendency, I will return to discuss this issue at length in the next chapter.

Symbols and terms associated with past institutions, such as titles, contractual terms, and gestures, constitute an external representation of encapsulated knowledge (Turner 19??) shared by members of the society. (Chapter 7.) The terms 'signing a contract' and 'it is a sin' encapsulate knowledge and express beliefs that had been specified, articulated, and diffused among members of the society. Limited cognitive and communicative ability imply a limitation on generating, communicating, and diffusing new terms. Just imagine Robinson Crusoe try to convey to the cannibals the idea that feasting on Friday is a sin. Similarly, F.D. Roosevelt knew very well that associating the Social Security system in the US with the terms "entitlement" and "insurance," rather than "welfare," would increase public support for it. (E.g., Romer 19??.) Hence, it is easier to use the terms and symbols inherited from the past in communications about new institutions. This factor contributes, in particular, to transcendency that manifests itself mainly in the inclusion and coordination effects. It was no coincidence that the Genoese, when they established a new political unit in the eleventh century, used the Roman term "consuls" to denote their elected leaders. Other Italian cities did the same.

Organizations reflect rules, beliefs, and knowledge. Hence, the above arguments apply to their transcendency as well. Even if an organization had been a part of an institution which is no longer self-enforcing, the organization would remain part of the historical heritage until the shared rules, cultural beliefs, and knowledge associated with it ceased to be shared by members of the society. Hence, there is an asymmetry between an organization inherited from the past and possible alternative ones that is likely to express itself in the inclusion effect.

Note that this assertion is consistent with the game-theoretic framework advanced above. Recall that institutions are defined vis-a-vis a particular transaction, and that organizations make particular beliefs possible in this transaction while reflecting behavior, beliefs, and rules in other transactions. (Chapter 7.) Hence, even if the beliefs associated with the original institution are no longer self-enforcing, the organization can still be self-enforcing. Roughly speaking, an organization encompasses self-enforcing behavior and beliefs in a sub-game, while the institution to which it belongs encompasses behavior and beliefs in the whole game. More generally, the knowledge regarding the functioning of past organizations and the assets they acquired over time, such as knowledge, information, capabilities, routines, legitimacy, and social capital, imply an asymmetry between them and alternative ones. This asymmetry is likely to manifest itself in the inclusion effect.

That the influence of an organization inherited from the past on behavior depends on the beliefs and knowledge that members of a society share implies institutional transcendency that manifest themselves in organizational inclusion. To illustrate this sources of transcendency, consider two identical societies that differ only in their contract enforcement institutions. In the first, economic exchange has always been supported by legal contract enforcement. This society has the appropriate legal organizations (a court and a police force) and the prevailing cultural beliefs are that people will not renege on their contractual obligations fearing legal sanctions. In the second society, however, exchange is supported by an informal collective punishment, a social network for the transmission of information, and a shared understanding of what action constitutes a breach of contract. Now suppose that in these two societies a new transaction becomes possible and in both societies it is technologically feasible to govern it, either by the legal or the communal contract enforcement institution.

It is intuitive that legal enforcement and communal enforcement will be used to govern the new transaction in the first and the second societies respectively. This will be the case for a variety of reasons. For example, in the first society members of the society share the knowledge that the legal system can provide contract enforcement, they share the beliefs that the legal system will enforce contracts, and that the punishment is sufficient to deter contractual breaches. Introducing an alternative contract enforcement institution based on communal punishment, however, would require creating the appropriate information network and make it common knowledge that everyone knows the identity of the others so that they can be punished in case of need. Furthermore, it would further require generating a shared understanding of what actions constitute a breach of contract and the beliefs that individuals will indeed participate in the communal punishment and this punishment is sufficient to deter cheating. Yet, the process of building such relationships, knowledge, and reputation is costly, time-consuming, and uncertain.[54] Similarly, in the second society establishing an impartial legal system requires much more than knowledge about this possibility, hiring judges, policemen, and specifying a code of conduct. It also requires that the system gain a reputation for effective and impartial operation. In other words, people must believe that the legal system will operate in this way.

Another source of organizations transcendency is that past organizations acquire various capacities that foster their effectiveness relative to alternative ones. Existing political organizations, for example, have the ability, legitimacy, persuasion, and information dissemination abilities required to specify rules and cause individuals to believe that everyone will follow them. Legal or other organizations that are central to enforcement institutions have acquired the ability to force members of the society to follow a particular pattern of behavior and this ability often exhibits economies of scale and scope.[55] Similarly, economic organizations have acquired the ability to coordinate and motivate their members to take particular actions.

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[54] See the review in McMillan and Woodruff 1999.

[55] Furthermore, members of various organizations often aspire to influence the direction of institutional dynamics. For example, legislators build constituencies and leaders guarantee their places in history or gain economic and other benefits by enacting lasting and influential rules. See also North 1990.

The transcendency of past organizations is also due to the fact that they generate and contain particular manifestations of what Colman (1990) has referred to as "social capital."[56] As noted in part III, human social propensities imply that individuals tend, for example, to have more trust in those with whom they are personally familiar and act altruistically toward them. Group solidarity and particular leaders can emerge among individuals who have interacted over time. Thus, the particular pattern of interactions within organizations, for example, leads to particular patterns of personal trust, networking, coordination and leadership based on personal familiarity. This constitutes an asset that individuals can build on when responding to new situations. Other patterns of trust, networking, and leadership can be established or emerge but this is likely to entail cost, time, and uncertain results. Hence, there is an inherent asymmetry between organizations inherited from the past that had already acquired social capital and those in which such capital has not yet been formed.

More generally, economic, political, legal, and social organizations gain through their operation assets that improve their functioning and create transcendency between them and alternative ones. Examples abound. In political science it has been noted that because of the expertise of existing regulatory agencies or their ability to advance a particular agenda, they are often called upon once new transactions have to be regulated. In economics and economic history it has been noted that the expertise and information held by various organizations contribute to their transcendency. Credit bureaus, which originally emerged to govern particular transactions, began to be used to facilitate other transactions, such as those that involved credit card use and real estate transactions. (E.g., Klein 1996.) The French notaries were originally established in the French kingdom as a part of the legal system. Overtime, however, they acquired information through their operation financial which enabled them to become financial intermediaries. (Hoffman et. al. 2000.) More broadly, through operation, experience and learning by doing, organizations gain expertise, information, knowledge, routines, and codes of communication. Hence, the influence of such organizations, *ceteris paribus*, transcends that of the feasible alternatives on the intentional or unintentional processes leading to new institutions.

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[56] On the concept of social capital, see, for example, Coleman 1990; Putnam 1992; Dasgupta 2000. Cf. Sobel 2002.

Another feature of past institutional elements that implies transcendency are institutional external effects. In production externalities, the implications of actions by one producer (such as pollution by an upstream factory) enters into the production function of another producer (the fisherman downstream) directly (without the consent of the downstream producer). Similarly, in institutional externalities, an institutional element generated in one context becomes relevant to a decision about behavior among individuals involved in another transaction, without their intentional action or consent. On the level of the individual, for example, one's fear of God can be relevant in governing behavior in a new transaction. On the social level, exchange among relatives may not escape the scrutiny of their families, while new transactions in a modern economy are likely, by default, to fall under some law or legal jurisdiction.

In summary: institutional elements inherited from the past have an asymmetric influence on processes leading to new institutions. They determine the nature of these processes and how they transpire to exert environmental, coordination, and inclusion effects. Institutional elements inherited from the past make particular outcomes more likely than others, despite the fact that other institutional elements are technologically feasible.[57]

16.4 Institutions and Culture: Static and Dynamic Perspectives

The claim that past institutions influence the direction of institutional change is closely related to the assertion that the cultural features of a society influence institutional development. Cultural aspects of a society "shape economic institutions and affairs" (DiMaggio 1994: 27). Yet, defining culture and its relationship with institutions is problematic. Rather than attempting to define culture, note that the features usually associated with different definitions of culture are beliefs, internalized norms, social norms, and social roles and structures.[58] As we have seen, these features are also institutional elements: cultural features and institutional elements overlap within institutions.[59] Game theory, as we have seen, enables us to study this overlap. It enables

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[57] "More likely" in the sense that there is a larger set of situations in which this outcome will occur.

[58] As early as 1952 Kroeber and Kluckholm identified more than 164 definitions. For illuminating discussions see Elias 1970; DiMaggio 1994, 1996.

[59] However, there are features of culture that are not institutional elements.

use to even deductively restrict cultural beliefs regarding behavior off-the-equilibrium-path, that is, in situations which do not actually transpire.

Hence, the above conceptualization of institutions captures their embodiment of culture. The integration of cultural features within institutions is one of the mechanisms that leads to the regeneration of these cultural features. When, for example, people behave in a particular way, the norm of this behavior is being regenerated; when people hold particular beliefs regarding the behavior of others - even behavior off the equilibrium path which does not actually transpire - observing behavior consistent with these beliefs confirms them. (Section 4.6, and chapters 7, 10.)

But the above discussion about institutional dynamics highlights a distinction between culture and institutions. As we have seen, past institutional elements influence the direction of institutional change by influencing processes that lead to new institutions. They provide the initial conditions in the dynamics of the adjustment process through which new institutions emerge. This is the case even with respect to institutional elements that are no longer part of an institution. Institutional elements inherited from the past are not part of an existing institution in the sense that they do not generate a regularity of behavior. They prevail although they do not influence behavior in a particular transaction. They can prevail, at least for awhile, without being a part of an existing institution because, as we have seen above, institutional elements are attributes of individuals and societies, and not a particular game or transaction. Such past institutional elements are part of the cultural heritage that members of a society bring with them to a new situation and that influence processes that lead to new institutions.

The importance of this distinction is that it clarifies the dynamic relationships between institutions, institutional elements, and culture. Culture is embodied within institutions but it can prevail, at least for a while, without being part of existing institution, influencing the direction of institutional change. To illustrate the distinctiveness of this argument, consider the two prevailing views of culture in the study of economic institutions. The first view, close to the one that also prevails in sociology, considers culture as exogenous. This view predominated in old institutionalism but it also dominates the current conceptualization of institutions as rules. Informal rules, such as taboos and customs, are considered to be culturally determined and they constitute the rules of the game that influence behavior (e.g., North, 1990, 1991).[60] Culture is the *deux ex machina* in explaining rules of behavior that are not politically determined. The second view that prevails in the study of economic institutions is that culture is epiphenomenon to economic forces. Culture in not an independent factor in influencing outcomes, including institutions but reflect such forces as power relationships or distribution and efficiency considerations. (E.g., Ellickson, 1991; Knight 1992.)

The position taken here is that cultural features are shaped by and embodied within existing institutions, hence the overlap between institutional elements and cultural features. A mechanism that leads to the regeneration of cultural features is that they are embodied within institutions thereby leading to the behavior that regenerate them. At the same time, cultural features can prevail, at least for a time, without being a part of an institution. Hence, culture can influence the dynamics of institutional change by being a part of the historical context within which this change occurs.

This is not to argue, however, that a society's past institutional elements or the cultural manifestations of past institutions determine the direction of institutional change, as will be discussed in the following sub-section.

16.5 The Limited Influence of Past Institutional Elements

Institutional elements inherited from the past - either those embodied in existing institutions or in cultural heritage - influence the direction of institutional change. This is the case because of the fundamental asymmetry between institutional elements inherited from the past and other, technologically feasible institutional elements. Past institutional elements reflect and embody knowledge, shared beliefs, habits of thought, and internalized norms and beliefs; thus they constitute *status quo ante*.

Introducing and making other technically possible institutional elements effective requires action - action aimed at creating new knowledge, changing beliefs about what others can and will do, and eradicating internalized beliefs and norms. Furthermore, the results of such

[60] More recently, however, North 1994, 1995, and Denzau and North 1994, have called for a more complex view of culture, considering it a cognitive framework that underlies institutions.

actions are likely to be uncertain, to take time to transpire, and are likely to have an unknown and uncertain welfare and distributive implications. Furthermore, often such actions imply the provision of a public good such setting standards, providing unified interpretation of past events, establishing a court of law. This need creates a wedge between the socially optimal amount and privately provided amount of such goods. In short, the transaction cost of institutional transition create asymmetry between past and potential institutional elements, between the actual and the possible.

Indeed, this wedge at times makes it practically impossible to establish, at least in the short run, to institutions that are not based on past institutional elements. Could the Genoese have invented democracy and its checks and balances? Could they have eradicated the norms justifying the use of arms in their political quarrels? Could they have eliminated individuals' subjective beliefs about their affiliation with a particular clan, or their beliefs about the military actions that other clans would take? Would individuals, members of an atheist society facing the opportunity to gain from a new commercial transaction, establish an institution based on the fear of God? Maybe, but it is far less likely than it would be in a God-fearing society. Hence, institutional elements inherited from the past influence processes of institutional change. They impose constraints and provide opportunities in intentional and unintentional processes that lead to new institutions.

At the same time, motivation for and the ability to change various institutional elements are functions of existing institutions. Attempts to change the beliefs associated with a religious dogma can cost a person his life. Witness the fate of Galileo Galilei. But one has much less to lose from forming a lobby aimed at changing political rules in a democratic society. The costs and benefits for individuals from taking actions, motived by such considerations as efficiency, greed, or fairness, and aimed at counteracting the effect of existing institutions depends on the details of existing institutions. To an extent, the transcendency of past institutions reflect their influence on the transaction costs of changing them. In a sense, existing institutions determine the endogenous transaction costs associated with the establishment or emergence of possible new institutions.

As is clear from the above, the direction of institutional change is influenced but not determined by past institutional elements. The transaction costs associated with institutional transition and the associated benefits and costs of taking various actions, influence the extent to which historical heritage rather than other factors - such as efficiency, distribution, or fairness - determines the direction of institutional change. At the same time, past institutional elements that became cultural features of a society - that is, those that were not integrated into new institutions and hence became self-enforcing - are not regenerated. They will therefore decay over time and will cease to be part of the society's institutional heritage.[61]

16.6Concluding Comments

Past institutions influence the direction of institutional change. They provide the constraints and the opportunities through which individuals take the actions that lead to new institutions. Past institutions, in the jargon of game theory, influence the relevant rules of the relevant game (from the perspective of each individual), provide coordination within these rules, and imply that new institutions, which include the existing institutional elements more likely to prevail. Past institutional elements and their cultural heritage thus influence, but do not determine, new institutions.

The existence of one institution rather than another at a particular time can thus lead a particular new institution, rather than an alternative one, to prevail. Hence, the sequence through which institutions emerge or are established matters. Sequence matters because, as we have seen, the set of institutions that can prevail and perpetuate depends on the details of the situation and the existing institutions. Sequence makes a difference because multiple institutions can prevail in a given situation, and hence the coordination provided by existing institutions influences institutional selection. Sequence matters because of the asymmetry between the existing and possible institutional elements. Institutions incorporating existing institutional elements are more likely to emerge or be established than alternative ones.

[61] Unless their regeneration reflects actions taken either due to the inertia inherit in socialization processes or their use for political or other reasons.

Past institutions thus have an independent influence on the direction of institutional change implying that institutional dynamics is a historical process. When a new transaction becomes relevant in two societies, identical in all respects but their institutions or cultural heritage, a distinct new institution governing this transaction is likely to eventually prevail. A society's institutions can thus evolve along a particular institutional trajectory. The particularities of its initial institutions influence the nature and details of subsequent ones, leading to the emergence of a particular combination of institutions. The transcendency of past institutional elements causes institutional dynamics to be a path-dependent process in which past institutions influence the direction of institutional change.

It would have been useful to have a theory for the factors determining the extent of institutional transcendency. What exactly determines the extent of the fundamental asymmetry between institutional elements inherited from the past and alternative ones? Unfortunately, we don't have such a theory. The experience of many historical societies, including that of Genoa, as well as many contemporary developing countries, contradicts even the intuitively appealing claim that high efficiency gains from overcoming the influence of past institutions would lead to their elimination.

In any case, the above analysis has particular implications regarding how to study institutional dynamics and inter-temporal relationships among institutions.

&Chapter 17 Cultural Beliefs and Institutional Evolutions: The Genoese and the Maghribi Traders

&Chapter 17 Cultural Beliefs and Institutional Evolutions: Genoa and the Maghribi Traders

The transcendency of past institutional elements and their cultural manifestations implies that institutions are a function of past institutions and the associated cultural heritage. Hence, the sequence of institutional emergence is important. In other words, the past influences the future in through the influence of the environmental, coordination, and inclusion effects on intentional and unintentional processes leading to new institutions.

By and large, empirical analyses based on formal theory aimed at capturing the influence of past institutions on the direction of institutional change either focused on the environmental and coordination effects or considered the inclusion of past organization. When game theory had been used for such an analysis, the influence of past institutions has been captured in the rules of the game. The rules of the game used to study the Merchant Guild, for example, incorporated the existence of rulers and cities.

This chapter, therefore, is aimed at demonstrating the importance of extending such analyses to examine the influence of cultural beliefs. Even beliefs regarding behavior off the equilibrium path that were crystalized in the past play an important role in influencing institutional trajectories. If this is the case, it seems appropriate to consider cultural beliefs as distinct from strategies. Strategies are properties of game and inter-game relationships among strategies, as discussed in chapter 14, are neither predicted nor assumed by classical game theory, which does not postulate any relationship between (equilibrium) strategies before or after a change in the relevant rules. Following an unexpected or expected change in these rules (such as the introduction of the *podestà*), any equilibrium strategy combination in the post-change game is equally likely to prevail. The strategy that might prevail is independent of the pre-change equilibrium strategies.

Cultural beliefs, however, are properties of individuals exogenous to each of them and thus can influence decision in new situations. Indeed, the fact that the same strategies governed inter-clan relations in two distinct games in Genoa - before and after the organizational change of 1194 - suggests that behavior that was expected in the pre-change game persisted in the post-change game. It seems that games within a society are linked through the cultural beliefs carried over from one game to another. In other words, strategies that were crystallized in one game within a society become cultural beliefs, or a part of the "world view" of that society's members. These then shape the strategies they expect others to play in later games. Thus cultural beliefs influence institutional change by providing the initial expectations regarding behavior that would be assumed following a change in the relevant the rules of the game. (Section 16.3.)

This assertion has important implication for institutional analysis. In game theory, the rules of the game are taken as given, and expectations about behavior are determined endogenously. Hence, much of game theoretic institutional analysis concentrated on beliefs. The argument advanced here, however, is that once particular cultural beliefs are crystalized with respect to a particular institution, they become a property of the associated individuals. Thus even if the institution is no longer self-enforcing - the rules of the game changed - the associated cultural beliefs would still prevail. They constitute part of the initial conditions in the process of institutional change around which particular organizations will be established or emerge to generate a game whose rules as congruent, in one way or another, to these beliefs.

The chapter presents a comparative historical analysis of institutions that demonstrates the importance of cultural beliefs on the direction of institutional change and the ability to use game theory to study such process.[62] It demonstrates the impact of past cultural beliefs - specifically, cultural beliefs regarding behavior off the equilibrium path - in influencing institutional selection, becoming an integral part of institutions and effecting the evolution and persistence of diverse institutions. It thus lends support to the view that institutions reflects a society's culture which integrate into new institutions thereby being regenerated and further influence institutional development.

Similar to chapter 5, the analysis in this chapter considers institutions that govern agency relationships. Unlike chapter 5, however, it presents a comparative analysis and examines institutional evolution over time. More generally, the analysis considers how cultural distinctions, amplified by social and political factors have led two pre-modern societies – one from the Muslim world (the Maghribi traders) and the other from the Latin world (the Genoese

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[62] This section draws on Greif 1994a, 1997b.

traders) – to evolve along distinct institutional trajectories with distinct economic and social implications. Differences in the institutions of the two trading societies and their evolution can be consistently accounted for as reflecting diverse cultural beliefs and their influence on the direction of institutional change.

The analysis is also of interest for its own sake. This comparative analysis of institutions during the late medieval period reveals distinctions similar to those found by social psychologists to differentiate modern societies. They have found that most of the developing countries are "collectivist," whereas the developed West is "individualist." In collectivist societies the social structure is "segregated" in the sense that each individual interacts socially and economically mainly with members of a specific religious, ethnic, or familial group in which contract enforcement is achieved through "informal" economic and social institutions, and non-cooperation characterizes the relations between members of different groups. Members of collectivist societies feel involved in the lives of other members of their group. In individualist societies the social structure is "integrated" in the sense that economic transactions are conducted among people from different groups and individuals shift frequently from one group to another. Contract enforcement is achieved mainly through specialized organizations such as the court, and self-reliance is highly valued.[63]

Surprisingly, the institutions of the traders from the Muslim world examined in this study resembles modern collectivist societies, whereas that of the traders from the Latin world resembles individualist societies. Hence the findings suggest the theoretical and historical importance of cultural heritage in determining institutions, in leading to institutional path dependence, and in forestalling inter-society successful adoption of institutions.

17.1 Agency Relations and Cultural Beliefs

The Italian city-states of the late Medieval period were the forerunners of the emerging post Roman European economy. Among these cities, as we have already discussed, Genoa stands out for its commercial importance and excellent historical records from as early as the late

[63] Clearly, any society has individualistic and collectivist elements and categorization is a matter of their relative importance. For discussion see Bellah et al. 1985; Reynolds and Norman 1988; and Triandis 1990.

11th century, when the city was incorporated. These records enables examining the emergence of its institutions. The examination is facilitated by the fact, reflected in the maxim *genuensis ergo mercator* (Genoese, therefore merchant), that long-distance overseas trade was central to Genoa's economy. Similarly, as discussed in chapter 5, trade was central to a group of 11th-century traders from the Muslim world known as the Maghribi traders. These Jewish merchants were involved in large-scale, long-distance trade all over the Muslim Mediterranean.

The Maghribis and the Genoese faced a similar environment, employed comparable naval technology, and traded in similar goods. The efficiency of their trade depended, to a large extent, on their ability to mitigate an organization problem related to a specific transaction, the provision of the services required for handling a merchant's goods abroad. A merchant could either provide these services himself by traveling between trade centers or hire <u>overseas</u> agents in trade centers abroad to handle his merchandise. Employing agents was efficient, since it saved the time and risk of travelling, allowed diversifying sales across trade centers, and so forth.[64] Yet without supporting institutions, agency relations couldn't be established since an agent could embezzle the merchant's goods. Anticipating this behavior, a merchant would not hire an agent to begin with.

For agents to be employed, they had to be able to commit themselves ex ante to be honest ex post, after receiving the merchant's goods. Institutions among the Maghribis and the Genoese enabled to mitigate this commitment problem, and in both groups trade was based on agency relations among non-family members. For example, the first Genoese historical source reflecting agency relations, the Cartulary of Giovanni Scriba (1155-1164), indicates that only 5.3 percent of the total trade investment didn't entail agency relations, and only 6.45 percent of the sum sent abroad through agents was entrusted to family members.

To examine how each group mitigated the merchant-agent commitment problem, consider, similar to the analysis of chapter 5, the following perfect and complete information One-Side Prisoner's Dilemma game (OSPD), which captures the essence of the problem. (Extensions are discussed below.) There are M merchants and A agents in the economy, and (in

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[64] For the superiority of trading systems that employ agents see, for example, de Roover 1965.

accordance with the historical evidence) it is assumed that $M < A$. Players live an infinite number of periods, agents have a time discount factor β, and an unemployed agent receives a per-period reservation utility of $\phi_u \geq 0$. In each period, an agent can be hired by only one merchant and a merchant can employ only one agent. Matching is random, but a merchant can restrict the matching to a sub-set of the unemployed agents that contains the agents who, according to the information available to the merchant, have previously taken particular sequences of actions.[65] A merchant who does not hire an agent receives a payoff of $\kappa > 0$. A merchant who hires an agent decides what wage ($W \geq 0$) to offer the agent. An employed agent can decide whether to be honest or to cheat. If he is honest, the merchant's payoff is γ - W, and the agent's payoff is W. Hence the gross gain from cooperation is γ, and it is assumed that cooperation is efficient, $\gamma > \kappa + \phi_u$. The merchant's wage offer is assumed credible, since in reality the agent held the goods and could determine the ex-post allocation of gains. For that reason, if the agent cheats, the merchant's payoff is 0 and the agent's payoff is $\alpha > \phi_u$. Finally, a merchant prefers receiving κ over being cheated or paying $W = \alpha$, that is, $\kappa > \gamma - \alpha$.

After the allocation of the payoffs, each merchant can decide whether to terminate his relations with his agent or not. There is a probability σ, however, that a merchant is forced to terminate agency relations and this assumption captures merchants' limited ability to commit to future employment due to the need to shift commercial operations over places and goods and the high uncertainty of commerce and life during that period. For similar reason, the merchants are assumed to be unable to condition wage on past conduct (indeed, merchants in neither group did so). Hence, attention is restricted to equilibrium in which wage are constant over time.[66] Finally, in neither group wage was a function of political or legal considerations and was not determined by the court or politically supported guild. Accordingly, and as is customary in similar efficiency wage models (e.g., Shapiro and Stiglitz 1984), the analysis assumes that no sub-group is organized in a manner that affects wage determination.

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[65] The following assumes that the probability of re-matching with the same agent equals zero for all practical consideration.

[66] For an efficiency wage model in which this result is derived endogenously, see MacLeod and Malcomson 1989. Their approach can be utilized here as well but is omitted to preserve simplicity.

Suppose for the moment that the history of the game is common knowledge. What is the minimum (symmetric) wage for which, if it is offered by all merchants, an agent's best response is to be honest under the threat of firing if he cheats and the promise of being rehired if he is honest (unless forced separation occurs)? To find this wage one has to fully specify the merchants' strategies. Yet to analyze the impact of different strategies in the same framework, the analysis initially concentrates on probabilities that are a function of the strategies. Denote as an *honest agent* an unemployed agent who was honest in the last period he was employed, and by h_h the probability that he will be hired in that period. Denote as a *cheater* an agent who cheated in the last period he was employed, and by h_c the probability that he will be hired. Proposition one specifies the minimum wage that supports cooperation.

Proposition 1. (Proof in the appendix.)
Assume that $\beta \in (0, 1)$, and $h_c < 1$. The ***optimal wage***, the lowest wage for which an agent's best response is to play honest, is $W^* = w(\beta, h_h, h_c, \sigma, \phi_u, \alpha) > \phi_u$, and w is monotonically decreasing in β and h_h and monotonically increasing in h_c, σ, ϕ_u, and α.

A merchant induces honesty by the carrot of a wage higher than the agent's reservation utility and the stick of terminating their relations. For a wage high enough, the difference between the present value of the lifetime expected utility of an unemployed and employed agent is higher than what an agent can gain by one-period play of cheating, and hence the agent's best response is to be honest. The minimum wage that ensures honesty decreases in the factors that increase the lifetime expected utility of an honest agent relative to that of a cheater (that is, β, h_h) and increases in the factors that increase the relative lifetime expected utility of a cheater (that is, h_c, σ, ϕ_u, α).

How can differences between collectivist and individualist societies manifest themselves in agency relations? Intuitively, in collectivist societies everyone is expected to respond to whatever has transpired between any specific merchant and agent, whereas the opposite holds for individualist societies.[67] Two strategy combinations formalize this difference – the <u>individualist</u> and the <u>collectivist</u> strategies and their essence is as follows. In each strategy a merchant hires,

[67] Timur Kuran has proposed to call such beliefs "communalist."

for a wage W^*, an unemployed agent whom he re-hires as long as cheating or forced separation doesn't occur. Under the individualist strategy, however, a merchant randomly hires an unemployed agent, whereas under the collectivist strategy a merchant never employs a cheater and randomly hires only from among the unemployed agents who have never cheated. An agent's strategy is to play honest if and only if he is offered at least W^*. Note that W^* is lower under the collectivist strategy. Each of these strategies is a sub-game perfect equilibrium as established in proposition 2.

Proposition 2. (Proof in the appendix.)

Assume that under both the individualist and the collectivist strategy combinations $\gamma - \kappa \geq W^*$; then each strategy combination is a sub-game perfect equilibrium (SGPE) of the OSPD game.

The individualist strategy is SGPE because merchants are not expected to take into account the agent's past behavior when making hiring decisions. Hence each merchant perceives the probability that an unemployed agent who cheated in the past will be hired to equal that of an unemployed honest agent. According to proposition 1, this implies that each merchant is indifferent whether to hire a cheater or an honest agent. (As discussed below, when the decision to acquire information is endogenous, under individual equilibrium the merchant wouldn't have the related information.)

Under collectivist equilibrium, because each merchant expects others not to employ a cheater, the perceived probability that a cheater will be hired is lower than that of an honest agent. According to proposition 1 this implies that a higher wage is required to keep him honest, and hence the merchant strictly prefers to hire an honest agent. The merchant's expectations are self-enforcing, although cheating doesn't convey any information about future behavior, the agent's strategy doesn't call for cheating any merchant who violates the collective punishment, and merchants do not "punish" any merchant who hires a cheater.

The analysis above assumed that the history of the game is common knowledge. Acquiring and transmitting information during the late Medieval period was costly, and hence the model should incorporate a merchant's decisions to acquire costly information. Since, merchants gathered information by being a part of an informal information-sharing network, suppose that each merchant can either "Invest" or "Not Invest" in "getting attached" to a network before the game begins, and his action is common knowledge. Investing requires paying Λ each period, in return for which the merchant learns the private histories of all the merchants who also Invested. Otherwise, he knows only his own history. Intuitively, under the individualist equilibrium, history has no value, since an agent's wage doesn't depend on it. Hence no merchant will invest in information. In contrast, under the collectivist equilibrium history has value, since the optimal wage is a function of an agent's history. Merchants will Invest since an agent who cheated in the past will cheat if hired and paid the equilibrium wage. Although on the equilibrium path cheating never occurs, merchants are motivated to Invest, since this action is common knowledge and hence one who does not invest is cheated if he pays W^*. This intuition is verified in proposition 3.

Proposition 3. (Proof by inspection).
W^*_{-i} is the minimum wage that merchant i has to pay his agent if only he does not Invest. W^*_c is the equilibrium wage under the collectivist strategy in the full information game. Invest and the collectivist strategy is an equilibrium iff $W^*_{-i} - W^*_c \geq \Lambda$. Not to Invest and the individualist strategy is an equilibrium while Invest and the individualist strategy is not an equilibrium.

Reality may also be characterized by incomplete information, that is, some agents may have an unobservable "bad" attribute and thus be more likely to cheat. The analysis above holds when the proportion of the bad type is "high" or "low." Under a collectivist equilibrium, incomplete information reinforces investment in information. Under an individualist equilibrium, the value of information may still be zero (if the proportion of bad type is high) or may not be high enough to induce investment in information (if the proportion of bad type is low). Hence this paper uses the complete information model, which highlights the role of expectations with respect to actions and abstracts away from expectations with respect to types. (See discussion in Greif 1989, 1993.)

This sub-section relates two institutions and different cultural beliefs – that is, different expectations with respect to actions that will be taken off-the-path-of-play. In an individualist equilibrium players are expected to be indifferent, and in a collectivist equilibrium players are expected to respond to whatever transpires between others. Since these cultural beliefs corresponds to an equilibrium, they are self-enforcing, and each entails a different wage, enforcement institution (second- vs. third-party enforcement), and investment in information.

On the equilibrium path, the individualist and collectivist cultural beliefs entail the same actions with respect to agents: merchants randomly hire unemployed agents and agents never cheat. By assuming perfect monitoring, the above and that of the next sub-section's analysis enables concentrating on cultural beliefs concerning actions that never actually transpire, thereby emphasizing the institutional and other implications of diverse expectations regarding actions rather than the actions themselves. Hence the following analysis identifies cultural beliefs with probability distributions over the off-the-path-of-play portion of a strategy combination generating an observed path of play. Historically, imperfect monitoring is a likely cause of the observed punishment phases, and thus, historically, it is not feasible to distinguish between cultural beliefs relating to on- and off-the-path-of-play, and no attempt to do so is made.[68]

17.2 The Maghribis and Genoese: Origin and Manifestations of Diverse Cultural Beliefs

Are there historical reasons to believe that the Maghribis and the Genoese held diverse cultural beliefs? The historical records do not provide any reason to believe that a particular theory of equilibrium selection is relevant in this case. They indicate, however, that cultural "focal points" as well as social and political events in the early development of these societies were likely to be instrumental in shaping diverse cultural beliefs and the related equilibria in these groups. When the Maghribis began trading in the Mediterranean early in the 11th century and when the Genoese began trading toward the end of that century, they had already internalized different cultures and were in the midst of different social and political processes. Their cultural heritage and the nature of these processes suggest that among the Maghribis a collectivist equilibrium was a natural focal point, whereas among the Genoese an individualist equilibrium was the natural focal point. The Maghribis were *mustarbin*, that is, non-Muslims who adopted the values of the Muslim society. Among these values is the view that they were members of the same *umma*. This term, although translated as "nation," is derived from the

[68] For discussion of the imperfect monitoring models, see Pearce 1992.) Under imperfect monitoring, agents will be punished on the equilibrium path. This does not qualitatively alter the results presented here.

word *umm* meaning "mother," reflecting the basic value of mutual responsibility among the members of that society (see e.g., Cahen 1990). Further, *umma*'s members share the fundamental duty not only to practice good, but also to ensure that others do not practice sin. (B. Lewis 1991). In addition, the Maghribis were part of the Jewish community, within which it is a prominent idea that "All Israel is responsible for every member." Furthermore, as is common among immigrant groups, the Maghribis, who migrated from Iraq to Tunisia, retained social ties that enabled them to transmit the information required to support a collectivist equilibrium. The associated collectivist cultural beliefs (henceforth CCB) in turn encouraged retaining an affiliation with this information network.

In contrast, Christianity during that period placed the individual rather than his social group at the center of its theology. It advanced the creation of "a new society based not on the family but on the individual, whose salvation, like his original loss of innocence, was personal and private" (Hughes 1974: 61). Indeed, the contract through which the Genoese established their city shortly before 1099 was a contract between individuals, not between families or other social groups. Furthermore, after the establishment of the *podesteria* the number of Genoese active in trade rose dramatically toward the end of the twelfth century. Instead of a few dozen traders who had previously been active in each trade center abroad, hundreds of Genoese began trading. At the same time, Genoa experienced a high level of immigration. For instance, Genoa's population increased from 30,000 to 100,000 between 1200 and 1300. In the absence of appropriate social networks for information transmission, the individualist equilibrium was likely to be selected. Once it was selected, individualist cultural beliefs (henceforth, ICB) discouraged investment in information. In the absence of a coordinating mechanism, a switch to a collectivist equilibrium was not likely to occur.

In the context of Genoa?? Head of clan, etc.???

CCB were a focal point among the Maghribis, and ICB were a focal point among the Genoese. Does the historical evidence indicate the existence of the related institutions? That is, was there high investment in information and collective punishment among the Maghribis and low investment in information and individualist punishment among the Genoese?

The historical evidence indicates that the Maghribis invested in sharing information and the Genoese did not. Each Maghribi corresponded with many other Maghribi traders by sending informative letters to them with the latest available commercial information and "gossip," including whatever transpired in agency relations among other Maghribis. Important business dealings were conducted in public, and the names of the witnesses were widely publicized (Goitein 1967, 1973; Greif 1989). Information transmission was probably facilitated by the relatively small size of the Maghribi traders' group (although as discussed below, this size was endogenously determined). In 175 documents, for example, 330 different names are mentioned.[69] Although, most likely, not every Maghribi trader was familiar with all the others, belonging to the Maghribis was easily verifiable through common acquaintances, an extensive network of communication, a common religion, and a common language (Judaeo-Arabic).

As we have already seen in chapter 5, collective punishment is well reflected in the *Geniza* although it was rarely used.[70] For example, in the first decade of the 11th century, Samhun ben Da'ud, a prominent trader from Tunisia, sent a long letter to his business associate, Joseph ben 'Awkal of Fustat. The letter says that Joseph made his future dealings with Samhun conditional upon his record: "If your handling of my business is correct, then I shall send you goods." It happened, however, that Samhun did not handle Joseph's business to his satisfaction – Joseph believed that Samhun had intentionally not remitted his revenues on time. Joseph's response was to ignore Samhun's request to pay two of Samhun's creditors in Fustat. By the time Samhun found out about it "their letters filled with condemnation had reached everyone." The contents of these letters caused Samhun to complain that "my reputation (or honor) is being ruined."[71]

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[69] These letters are all those available regarding the trade with Sicily and Israel during the mid-eleventh century, and the trade of Naharay ben Nissim. See Michael 1965; Gil 1983; and Ben-Sasson 1991.

[70] In the above 175 contracts that reflect at least 653 business ventures, only 3 cases of alleged cheating are mentioned.

[71] DK 13, a. ll. 26 ff., 41, Stillman 1970: 267 ff.); and Goitein 1973: 26 ff.. For other examples and discussion, see Greif 1989, 1993.

In contrast, the Genoese seem to have held an opposite attitude regarding information sharing. Lopez (1943: 168) noted the efforts of the Genoese to conceal information and conjectured that the "individualistic, taciturn, and reserved Genoese" were not "talkative" about their businesses and were even "jealous of their business secrets." For example, when the Vivaldi brothers attempted in 1291 to sail from Genoa to the Far East through the Atlantic, their commercial agreements were drawn for trade in "Majorca, even for the Byzantine Empire" (p. 169). Genoa's historical records are not explicit about the nature of punishment. Yet they suggest the lack of collective punishment and informal communication. For example, despite the fact that it was known that a Genoese merchant, Daniel Fontanella, gained at least 50 percent on the capital entrusted to him as an agent, he declared a loss of 20 percent.[72]

Cultural factors that coordinated expectations and social and political factors that slightly altered the relevant games in the formative period seem to have directed the Maghribis and the Genoese toward different cultural beliefs. As these various cultural beliefs were a part of the institutional framework of each group, they determined the costs and benefits of various actions and hence efficiency. For example, since CCB reduce the optimal wage they can sustain cooperation in situations where it cannot be sustained by ICB (Greif 1993). Even if each member of the society recognizes the inefficiency caused by ICB, a unilateral move by an individual or a (relatively) small group would not induce a change. Expectations about expectations are difficult to alter, and thus cultural beliefs can make Pareto-inferior institutions and outcomes self-enforcing. (Responding to this constraint, however, individuals may strive to change the rules of the game, as discussed in 8.2.6.)

???can not be explained by the existence of a court.

17.3 Within the Boundaries of the Game: Cultural Beliefs, Social Patterns of Agency Relations, and Wealth Distribution

[72] Lopez 1943: 180. See also, for example, de Roover 1965: 88-9.

What are the implications of different cultural beliefs on social patterns of economic relations and the dynamics of wealth distribution? Can different cultural beliefs manifested themselves in distinct social structures? Examining this issue requires extending the theoretical analysis to allow each merchant to serve as an agent for another merchant.[73] Accordingly, the CCB should be re-defined to include the expectations that merchants will not retaliate against someone who cheats a merchant who has cheated any other merchant. That is, whoever is hired by a merchant who cheated in the past is not expected to be subjected to collective punishment if he cheats that merchant. Indeed, the historical evidence indicate that Maghribis shared such expectations. For example, a Maghribi merchant who was accused in 1041-1042 of cheating complains that when it became known, "people became agitated and hostile and whoever owed [me money] conspired to keep it from [me]."[74]

In this extended game, two social patterns of agency relations and associated dynamic patterns of wealth distribution can emerge. The first is a vertical social structure in which merchants (find it optimal and therefore) employ only agents and hence an individual functions as either a merchant or an agent. The second is a horizontal social structure in which merchants employ only other merchants, and thus an individual functions as an agent <u>and</u> a merchant, providing and receiving agency services. What are the relations between cultural beliefs and these social patterns of agency relations?[75]

Intuitively, under CCB a merchant's capital functions as a bond that reduces the optimal wage required to keep him honest. If a merchant cheats while functioning as an agent, he is no longer able to hire agents under the threat of collective punishment. Hence, cheating by a merchant while he functions as an agent reduces the future rate of return on his capital. This implies that a merchant who had cheated while functioning as an agent had to bear a cost that an agent (who can not function as a merchant) would not have to bear. Hence a lower wage is required to keep a merchant honest and each merchant is motivated to hire another merchant as

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[73] To shorten the presentation, this extension is not made explicit here.

[74] Bodl. MS Heb a 2 f. 17, Sect. D, Goitein 1973: 104. See also Greif 1989; 1993. Regarding the Italian merchants not holding such beliefs, see, for example, de Roover 1965: 88-89.

[75] The basic logic of the argument developed below resembles that of Bernheim and Whinston 1990.

his agent leading to a horizontal social structure. This is not the case, however, under ICB. Past cheating doesn't reduce the rate of return on a merchant's capital. But having capital to invest *de facto* increases a merchant's reservation utility relative to that of an agent thereby increasing the wage required to keep him honest. Merchants are discouraged from hiring other merchants as their agents leading to a vertical social structure.

More formally, consider the optimal wage required to ensure the honesty of a merchant who functions as an agent (under the assumption that each merchant is risk neutral and has the discount factor β). The present value of the lifetime expected utility of the merchant if he is always honest is the sum of the present value of his expected utility from being an agent, V_h^a, plus the present value of his expected utility from being a merchant, $(\gamma - W^*)/(1 - \beta)$. That is, $V_h^a + (\gamma - W^*)/(1 - \beta)$. If this merchant cheats while providing agency services, the present value of his expected utility from being an agent is the sum of his current gain from cheating, α, plus the lifetime expected utility of a cheater V_c^a. In addition, he receives from being a merchant in the current period $\gamma - W^*$, plus the present value of the future periods' expected utility from being a merchant who had cheated, V_c^m. Hence the present value of his lifetime expected utility is $\alpha + \gamma - W^* + V_c^m + V_c^a$. For a merchant to be honest when providing agency services, he should not be able to gain from one period of cheating, that is, it must be that $V_h^a + (\gamma - W^*)/(1 - \beta) \geq \alpha + \gamma - W^* + V_c^m + V_c^a$. For a person who can act only as an agent, who is not a merchant, the equivalent honesty condition is $V_h^a \geq \alpha + V_c^a$.

These honesty conditions enable examination of the relations between diverse cultural beliefs and hiring decisions. Under CCB, a merchant who cheated in the past can no longer rely on collective punishment to deter his agent from cheating him, and therefore has to pay a higher wage to keep him honest. This implies that under a collectivist strategy a merchant's lifetime expected utility obtained from being a merchant decreases if he cheats when functioning as an agent. That is, $(\gamma - W^*)/(1 - \beta) > \gamma - W^* + V_c^m$. Since, *ceteris paribus*, an agent's honesty condition is $V_h^a \geq \alpha + V_c^a$, a merchant strictly prefers to employ another merchant as his agent. In contrast, under ICB, a merchant who cheats while providing agency services does not have to pay more to his agents in the future. That is, $(\gamma - W^*)/(1 - \beta) = \gamma - W^* + V_c^m$, and hence, *ceteris paribus*, a merchant is not motivated to employ another merchant. Yet it is likely that a merchant's reservation utility is higher than that of an agent. If the higher reservation utility is merely a reflection of the merchant's investment in trade, it further encourages the employment of merchants under CCB but discourages their employment under ICB. If merchants' higher reservation utility is unrelated to investment in trade, it increases the optimal wage required to keep them honest independent of any cultural beliefs.

It can be concluded that merchants' capital serves as a bond that encourages their employment under CCB. Merchants' higher reservation utilities, however, discourage their employment under ICB (and possibly CCB). Hence under ICB, a society reaches a vertical social structure for a larger set of initial conditions than under CCB while under CCB a society reaches a horizontal social structure for a larger set of initial conditions than under ICB.

Differences in social structure are indeed observed among the Maghribis and the Genoese. The Maghribi traders were, by and large, merchants who invested in trade through horizontal agency relations. Each trader served as an agent for several merchants while receiving agency services from them or other traders. Sedentary traders served as agents for those who traveled, and vice versa. Wealthy merchants served as agents for poorer ones, and vice versa. Among the Maghribis there was not a "merchants' class" and an "agents' class." The extent to which the Maghribis' social structure was horizontal can be quantified by examining the related distributions of "agency measure." Agency measure is defined as the number of times a trader operated as an agent divided by the number of times a trader operated as either a merchant or an agent. It equals one if the trader was only an agent, zero if he was only a merchant, and some intermediate value in between if he was both a merchant and an agent. In 175 letters written by Maghribi traders and in which 652 agency relations are reflected, 119 traders appear more than once, and almost 70 percent of them have an agency measure between zero and one. Furthermore, the more a trader appears in the documents, the more likely he is to have such agency measure.[76]

The horizontal social structure of the Maghribis is also reflected in the forms of business associations through which agency relations were established among the Maghribis, mainly

[76] This data set is defined in footnote no. ???. The nature of the sources precludes calculating a value-based agency measure for the Maghribis.