&Part VI: Institutional Dynamics as a Historical Process

&Chapter 15 The Influence of an Institutions on its Rate of Change: Reinforcement and Endogenous Institutional Change

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

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

&Chapter 18 Institutional Complexes and Context-Specific Analysis of Institutional Dynamics

&&Part VI: Institutional Dynamics as a Historical Process

Is institutional dynamics a historical process? That is, do past institutions influence the rate and the direction of institutional change? As we have seen (chapter 14), existing frameworks for studying economic institutions do not provide a satisfactory answer to this question. This part builds on the above concept of institutions and the game-theoretic framework to address this question.

Specifically, chapter 15 builds on the definition of institutions as being composed of institutional elements that generate a pattern of behavior in a particular transaction, exposing how a self-enforcing institution can influence its rate of change. Crucial to this exposition is the distinction between an institution's behavioral implications in the transaction under consideration and its implications on what can be referred to as quasi-parameters. Quasi-parameters have two properties in common: they can gradually be altered by the behavior and processes an institution implies, but their marginal change will not cause the behavior in the transaction under consideration to change unless a critical accumulated change had occurred.

These two properties imply that quasi-parameters can be treated as parametric - exogenous and fixed - for the study of the institution at a given point in time, but we have to consider them as endogenous and variable when studying institutions in the long run. In particular, changes in quasi-parameters can reinforce or undermine existing institutions. In other words, changes in quasi-parameters increase or decrease the range of situations in which an institution is self-enforcing. Hence, quasi-parameters influence the rate of institutional change: they determine the extent to which an institution will or will not cease to be self-enforcing for a given exogenous shock, they influence the intentional introduction and unintentional emergence of new institutional elements, and a change in them can cause an institution to cease to be self-enforcing even in the absence of exogenous shock. Chapter 15 presents the two notions of quasi-parameters and reinforceability, explains why they are common, and explores their implications for institutional dynamics.

Chapter 16 examines how past institutions influence the direction of institutional change. The common view of institutions in economics is that they are monolithic. An institution is, for example, either rules, organizations, or beliefs. In such cases, once a particular institution ceases influencing behavior it cannot, by definition, influence the direction of institutional change.

Historians and students of institutions in other disciplines, however, have long emphasized that past institutions influence the direction of institutional change.

Considering an institution as composed of institutional elements, however, enables capturing the influence of existing and past institutions on the direction of institutional change. Institutional elements are not properties of games but are properties of individuals and the socially constructed world that constitutes the environment within which they interact and on which they draw in new situations. Hence, institutional elements that were crystalized in the past transcend the situation in which they were originally formed and influence the direction of institutional change. Past norms, beliefs, organizations, rules, and symbols constitute part of the historical institutional heritage that influences processes leading to new institutions. Even institutional elements that were part of an institution which is no longer self-enforcing influence the direction of institutional change. Specifically, chapter 16 argues that the influence of past institutions on the direction of institutional change manifests itself through environmental, coordination, and inclusion effects.

However, this argument does not imply historical determinism. Past institutional elements are not the sole determinants of the direction of institutional change. The transactions costs implied by existing institutions determine the extent to which past institutional elements, rather than such considerations as efficiency or distribution, influence the direction of institutional change. Past institutional elements that are not incorporated into new institutions decay over time and cease influencing the direction of institutional change.

The various ways in which past institutional elements and their cultural manifestations have influenced the direction of institutional change have been explored in the literature on institutions. In studying economic institutions attention has been traditionally given to how past organizations - such as social networks, bodies for collective decision-making, or interest groups - influenced the direction of institutional change. Game theory fosters these analyses by enabling us to consider such organizations as part of the relevant rules of the game or explore their influence in coordinating on a particular outcome. Furthermore, game theory makes a unique contribution to the study of institutional dynamics: It enables us to consider how distinct (behavioral) cultural beliefs influence trajectories of institutional dynamics. New institutions are built around beliefs inherited from the past. To illustrates this contribution, chapter 17 presents a comparative analysis of the distinct institutional evolution among the Maghribi and the Genoese traders.

This empirical analysis illustrates the merit of combining historical analysis and an explicit, game- theoretic framework for a positive analysis of institutional dynamics. We can do more in pursuing the study of institutional dynamics than relying on equilibrium restrictions on the set of admissible institutions. We can also rule out particular inter-temporal relationships among institutions governing the same or different transactions based on our knowledge of past institutions. We need to impose the restriction that past institutions influence future ones in a particular way, namely, through past institutional elements. In a sense, past institutional elements are the default inter-temporal link among institutions. The cases in which they did not have a lasting influence are those that must be accounted for. Hence, considering institutional selection based only on theoretical grounds is useful but can divert attention to irrelevant alternatives. Instead we can place restrictions on the empirical analysis based on knowledge of the past beliefs, norms, organizations, rules, and symbols,. A context-specific analysis is thus required.

The conceptual discussion and empirical examples given in chapters 15 and 17 concentrate, in particular, on how an institution that is no longer self-enforcing can influence the institution that supersedes it to shape behavior in the same transaction. The discussion implies, however, that the influence of past institutional elements on the direction of institutional change will lead to the emergence of institutional complexes - namely, a set of institutions governing various transactions that share common institutional elements and are complementary to each. Chapter 18 elaborates on this conclusion and why such complexes are likely to emerge. The exact attributes of institutional complexes, in turn, influence both the rate and direction of institutional change. These attributes determine, for example, the speed and scope of institutional change when they occur, whether it will continue and encompass many institutions or not, and whether new institutions are more or less likely to include past institutional elements.

Hence, at any point in time, a society's institutions, composed of inter-related institutional elements, reflect a historical process in which individuals attempt to advance their objectives but these objectives, the knowledge required, and ability to advance them, depend on existing institutions.

&Chapter 15 The Influence of an Institution on its Rate of Change: Reinforcement and Endogenous Institutional Change

Why and how does an institution influence the rate of its change? How does an institution influence its ability to persist in a changing environment and how does it lead to its own demise? These questions are particularly difficult to address when institutions are considered self-enforcing. After all, a self-enforcing institution reflects, by definition, an equilibrium or a stationary state. The seemingly inescapable conclusion is that changes in self-enforcing institutions must have an exogenous origin. Indeed, analyses of institutions based on the notion that they reflect an equilibrium, assume that institutional change reflects *exogenous* factors. Institutions change following environmental changes, that is, changes in parameters exogenous to the institutions under study.

This chapter responds to this challenge by discussing and illustrating how and why self-enforcing institutions influence their rates of change. Central to the argument is the concept of institutional reinforcement. An institution is reinforcing, roughly speaking, when it exhibits a positive feedback: the behavior and processes it entails increase the range of parameters in which the behavior associated with these institutions in the transaction under consideration is self-enforcing. Reinforcement may reflect, for example, an institution's implications on wealth distribution, demography, knowledge, capabilities, norms, and existing organizations that increase the range of situations in which the associated behavior is self-enforcing. When an institution reinforces itself, it influences its rate of change: exogenous changes in the underlying situation that otherwise would have led past behavior to no longer be self-enforcing would fail to have this effect. **An institution is defined as self-reinforcing when it is self-enforcing and reinforcing.**

To illustrate a such reinforcement, consider a situation in which agency relationships among a community's members are governed by a multilateral reputation mechanism as we have seen been the case among the Maghribi traders. It is expected that an agent who cheated any community member will not be hired in the future by any other community member. Suppose that these expectations and this behavior is self-enforcing and that it also motivates each member to establish agency relationships only with other members.[1] If this seclusion of economic interactions foster personal trust and the internalization of norms of honesty among the members

[1] For a game-theoretic and empirical analysis of such institution, see Greif 1989, 1994a.

of this community, the institution is reinforced by its own implications in the sense that the associated behavior - honesty in agency relationships - has become self-enforcing for a larger range of parameters than before. Even, for example, if an agent's opportunity outside the community increases to a level that, prior to the institution's reinforcement, would have implied that his best response was cheating (because better outside opportunity reduces the cost of cheating), this now would not be the case.

But such reinforcing processes can fail to occur. The processes an institution entails can even undermine the extent to which the behavior associated with it in the transaction under consideration is self-enforcing. Past institutions can influence, for example, the creation of new knowledge, wealth distribution, and demography in a way that, over time, reduces the range of situations in which the behavior associated with the institution under consideration is self-enforcing. Hence, an institution can undermine itself and can cultivate the seeds of its demise. Yet, for reasons elaborated below, a particular regularity of behavior can be followed for a long time even as its own implications render it self-enforcing in a smaller range of situations. Institutional change will endogenously occur only when the self-enforcing process reaches a critical level and past patterns of behavior are no longer self-enforcing.

The structure of this chapter is as follows. The first section provides an extensive historical example of the approach taken here regarding institutional reinforcement and endogenous change. The second section provides a backdrop to discussing how an institution influences its rate of change by discussing the game theoretic insight of why self-enforcing institutions are stable. Namely, why they tend not to change in response to minor environmental changes. The third section defines institutional change and the fourth introduces the notion of institutional reinforcement and undermining. Sections five introduces the notion of quasi-parameters whose analysis enables us to link the study of institutions as a steady-state system and institutions change as a process. Section 6 presents various mechanisms through which reinforcement occurs and argues that these mechanisms are common. Sections 7 and 8 presents an example of undermining institution and discusses general mechanisms leading an institutions to undermine itself.

Before proceeding, however, it should be emphasized that the focus of the discussion is on how an institution influences its own rate of change. Clearly, an institution does not exist in a vacuum: it inter-relates with other institutions and they can and do influence each other. To the extent possible, however, I will ignore such interrelationships for the sake of clarity because the argument made here can easily be extended to such cases. Similarly, although the analysis can be extended to examine how past institutions influence the direction of institutional change, I explore this issue elsewhere. (Greif , forthcoming.)

15.1 Self-reinforcing and Self-destructing Institutions: A Tale of Two Cities[2]

It has been argued that "[w]estern wealth began with the growth of European trade and commerce which started in the twelfth century in Italy..." (Rosenberg and Birdzell 1986: 35). Many factors made this beginning possible, not the least of which was the decline of the Byzantine and Muslim naval powers that controlled the Mediterranean prior to the twelfth century (Lewis 1951). Yet, to make this beginning possible, residents of Italy had to cooperate in organizing the naval, military, and commercial infrastructure required for economic expansion.

In particular, the extent of an Italian city-state's sea-bound trade was determined by its "possessions" around the Mediterranean. These overseas possessions were both tangible and intangible and included ports, houses, custom's agreements, legal rights, and so on. Possessions facilitated the expansion of trade by substantially reducing the risk and cost of commerce. The acquisition of possessions by a city-state, in turn, depended on its potential naval and military forces. Hence, the governance of a particular transaction became crucial for the Italian cities' economic and political well being: the relinquishing of decision-making power and resources in return for political order and the economic benefits of collective action. Throughout history "states" constitute the institutional infrastructure governing this transaction. In the early stages of the Commercial Revolution, however, there was no state to provide the residents of the north Italian coast with such an infrastructure.[3] Indeed, the history of the Italian city-states of the late

[2] For first-rate presentations of political and economic aspects of Venice and Genoa during this time, see, for example, Lane 1973 and Epstein 1996.

[3] Nominally, Northern Italy was part of the kingdom of Italy, that was itself part of the Holy Roman Empire. During the late 11th and early 12th centuries it was embroiled in a civil war and was in a state of disintegration. Venice was de jura part of the Byzantine Empire and de facto independent in the period under consideration.

medieval period is that of endogenous emergence of political systems explicitly aimed at advancing the economic interests of those who established them.

Two such political systems of particular interest are those of Venice and Genoa, that became the two most commercially successful Italian maritime city-states.[4] This section briefly discusses the institutions that governed the above transaction in Venice and Genoa and their evolution. It argues that during the 12th century in each city self-enforcing institutions emerged or were established to enable cooperative behavior, namely, to motivate individuals to relinquish decision-making power and resources in return for political order and the economic benefits of collective action. These institutions supported economic prosperity and political order. At the same time, the nature of Venice's institutions was such that they self-reinforcing while Genoa's institutions were self-destructing and gradually led cooperation to cease.

This section further elaborates on how the nature of these institutions as self-enforcing and self-reinforcing. Due to space limitations, this section will not discuss these institutions origins: how interactions among particular decision makers led to the intentional establishment and unintentional emergence of these institutions. The focus here is only on the implications of these institutions on their rate of change. (The interested reader can consult Greif 1994b, 1995, 1998 for further details.)

The residents of the Venetian lagoon established Venice as a political unit in 697 and some Genoese organized themselves into a Commune around 1096. The political organizations of these city-states were neither identical nor constant over time and hence general statements regarding them are, at best, oversimplifications.[5] Yet, it should be noted that, superficially, the political organizations of Genoa and Venice exhibited profound similarities. Both cities were governed by an oligarchy that, by and large, elected its political leader or leaders, and these

---

[4] By evaluating the relationships between political institutions and economic outcomes, this line of analysis departs from a long tradition in the study of this historical episode. Lopez, in his seminal work on the commercial development during this period, did not examine the relationship between political organization and commercial success, maintaining that "the Italian communes were essentially governments of the merchants, by the merchants, for the merchants - an ideal platform for" commercial expansion (Lopez 1976: 71). This discussion thus follows the tradition of works established by scholars such as North 1981; Olson 1982; Weingast 1993; and Greif 1994b, 1998 who examined the political foundations of economic growth.

[5] For simplicity of exposition I will refer to Venice and Genoa as "city-states" when the details of their legal and political status are irrelevant to the argument.

leaders were subject to the law. At the top of Venice's political system was a Doge and the Ducal Council; Genoa was governed initially by consuls and, after 1194, one or more executive and a council of rectors.

Despite these similarities, the political and economic histories of Genoa and Venice differ substantially. Politically, Venice survived as an independent political unit until 1797. Its economy was based, until the fifteenth century, on an extremely profitable commercial empire in the Eastern Mediterranean and prosperous domestic industries. Various external factors, such as the advance of the Ottomans and the circumvent navigation of Africa by the Portuguese, contributed to the economic decline of Venice after the fifteenth century. During the economic boom and bust following the eleventh century, however, the city was characterized by internal tranquility with hardly any violent internal political conflicts.

Genoa was also able to maintain its independence for a long time; it did not cease to exist as a political unit until 1798. Similar to Venice, it was able to establish a commercial empire during the twelfth and thirteenth centuries stretching from the Black sea to Spain and beyond. In contrast to Venice, its political history was characterized by frequent violent internal political conflicts. At times, particularly during the fifteenth century, these conflicts were of such magnitude that, for this and other reasons, the Genoese gave up their political independence and submitted their city to the authority of foreign rulers. Internal conflicts in Genoa contributed greatly to its economic decline and they often occurred after a period of economic growth or when external common threats were not severe.

These histories suggest that the institutions that prevailed in Venice and Genoa during the twelfth and the thirteenth centuries were able to support political and economic cooperation that fostered commercial expansion and political order. This, however, was not the case in later centuries. While Venice was able to maintain political order in a changing economic environment, Genoa was not, and the deteriorating political order contributed to its economic decline. How can these different histories be accounted for despite the similarity in the basic political structures of the two cities? To understand these histories, it is necessary to examine more closely these cities' institutions and understand their long-term implications.

Such examinations, as elaborated in chapter 12, require considering how the historical context. In the historical context of late medieval Italy, examining the institutions that governed cooperation requires studying their inter-dependence with a particular social structure, the clan. The clan was a prominent organization in both cities. Clans emerged as important social and political entities in Northern Italy following the decline of central authority during the eleventh century.[6] Given this decline, "the corporate or consortial family was better able than the nuclear household to defend its wealth and status," increasing "family solidarity, at least among the aristocratic classes" (Herlihy 1969: 178).[7] Indeed, Genoa and Venice were established by an agreement among the most economically and militarily strong clans in each city to cooperate politically for the advancement of their economic interests. In establishing new political units, the relationships among their citizens were mediated by clans.

An agreements for inter-clan cooperation, however, does not imply that clans were necessarily unwilling to use force against each other to advance their particular interests. Indeed, the historical records are rich with evidence indicating that moral considerations were not sufficient to deter one Genoese clan from using force against another and that clans aspired to achieve political dominance.[8] In particular, Genoa's two dominant viscount clans where a product of the feudal world of the time in which one's objective was to become a lord within his domain. At the same time, the tight internal organization and military and economic resources of these clans were such that for each gaining control over a city was not out of reach.

Hence, the extent to which Genoa and Venice could have succeeded as political and economic entities depended on the extent to which clans were motivated to cooperate with each other to their mutual benefit instead of investing their resources in attempting to gain political control over the city or preventing others from doing so. What were the institutions that governed inter-clan cooperation?

---

[6] See Hughes 1978 for an excellent discussion of the importance of clans.

[7]7 See also Herlihy's discussion on pp. 174-5 in which he contrasts his analysis with the traditional one (namely, that the history of the family is a history of progressive nuclearization). Even the traditional approach does not dispute the importance of the clan in the late medieval period, but traces its origin to an earlier period.

[8] See the discussion regarding Genoa in Greif 1998c. For a general discussion see Tabacco 1989.

Consider first the case of Genoa. Initially (from 1096 to 1194), Genoa had elected consuls who functioned as the city's political, administrative, and military leaders.[9] These consuls were representatives of the main Genoese clans (Hughes 1978: 112-3). Holding a consular post was a position through which a clan gained economically from the city's resources. The behavior of these consuls and the clans they represented was guided by particular cultural beliefs: clans were expected to challenge each other militarily if the opportunity arose to gain political dominance over the city. Hence each of Genoa's main clans was motivated to mobilize its resources for inter-clan cooperation aimed at advancing the economy of Genoa but only to the extent to which it did not undermine its ability to deter the other clans from militarily challenging it. The self-enforcing institution that governed the clans' relationships was based on mutual deterrence: each clan expected other clans to use their military ability to gain political and economic dominance over the city but each clan was deterred from doing so because of the other's military strength. Genoa's self-enforcing political institutions thus implied political order but little inter-clan joint mobilization of resources to advance Genoa's economy.[10]

At the same time, this institution motivated each clan to invest resources in fostering its ability to deter the other clan from militarily challenging it. The historical records indicate, for example, that clans were buying land to acquire dominance in particular quarters which they then fortified, establishing a patronage network, and socializing their members to internalize the norms of revenge and a clan's honor.

For a period following 1154 an external threat - the attempts by the Emperor Frederick Barbarossa to regain de facto control over northern Italy - weakened the link between political order and resource mobilization. This joint external threat lessened each clan's incentive to challenge the others militarily. The result was that the Genoese mobilized their resources, acquired possessions, and expanded commercially. Genoa's economic structure had been transformed to one based on possessions-based commerce.

---

[9] CDG, vol. I, no. 285. For the development of Genoa's political system consulate, see Vitale 1955 and De Negri 1986. Along with these consuls, other consuls responsible for the judicial system were also operating.

[10] Initially, the relatively high gains from the joint mobilization of resources implied that inter-clan cooperation was not hindered by inter-clan rivalry. But because inter-clan cooperation advanced Genoa's economic prosperity, it intensified the competition over political and economic dominance in the city and inter-clan cooperation ceased.

Yet this commercial expansion and structural transformation undermined Genoa's self-enforcing institutions. It undermined the constraints that restrained inter-clan military confrontation by making them self-enforcing for a smaller range of parameters. The higher level of economic prosperity, and hence gains to a clan from gaining control over the city, implied a smaller set of parameters for which mutual deterrence could have been self-enforcing in the absence of an external threat. As noted by a twelfth-century Genoese chronicler, "civil discords and hateful conspiracies and divisions had risen in the city on account of the mutual envy of the many men who greatly wished to hold office as consuls of the commune" (*Annali* 1190, vol. II: 219-20).

Indeed, several times during this period changes in exogenous conditions implied that a faction - a main clan and its supporters - was still strong enough to aspire to hold its influence in the consulate, yet too weak to deter another faction from challenging it for this control. Twice during the twelfth century such conflicts became full-scale civil wars. These events do not reflect only the influence of shift in exogenous condition. Rather, they reflect the fact that endogenous changes - increasing commercialization and prosperity in Genoa and past investment in military ability - made Genoa's institution self-enforcing for a smaller set of parameters. Exogenous changes that previously would not have led to the collapse of Genoa's institution, now had a devastating effect.

For example, when Frederic Barbarossa first appeared in Italy in 1155 the two main Genoese clans cooperated in confronting him. Furthermore, the common threat he presented implied that each clan was better motivated to cooperate with the other in acquiring possessions and advancing Genoa's overseas commerce. This joint mobilization of resources marked Genoa's transition to an economy based on long-distance trade. Yet once the external threat subsided in 1164 when civil wars in Germany kept the Emperor away, the previous mutual deterrence equilibrium between the clans was no longer attainable. The commune sank into a lengthy civil war.

The second civil war, from 1189 to 1194, endangered the existence of the city since the war was inconclusive and one faction seceded from the Commune. The final outcome, achieved with the intervention of the Emperor of the Holy Roman Empire, was that the Genoese clans interacting through the consulate agreed to alter Genoa's political institutions by introducing a self-enforcing organization, that would foster inter-clan cooperation. The consulate was over.

At the center of Genoa's new institution was a non-Genoese *podestà* (that is, 'power'), who was hired for a year to be Genoa's military leader, judge, and administrator, and who was supported by the soldiers and judges he brought with him. The *podestà* and his military contingent fostered the factions' ability to cooperate by creating a military balance between them. The "threat" of assisting the other faction deterred each faction from attempting to take control over the city. Moreover, because the *podestà* was to receive a high wage at the end of his term, this threat was credible. If one faction took control over the city, there was no reason for it to reward the *podestà*. Furthermore, this reward scheme made it in the *podestà*'s interest not to fundamentally alter the balance of power between the factions. Hence he could credibly be impartial and retaliate against people who broke the law, rather than against a faction as a whole. The selection of an incoming *podestà* was made by a committee of representatives from the city's various neighborhoods. It was large enough not to be dominated by any particular faction and its operation was supervised by the outgoing *podestà*.

The *podesteria* fostered inter-factional cooperation for a while, and thus political stability and economic growth. It was a self-enforcing institution: the self-enforcing beliefs that any attempt by a clan to gain political dominance using force was futile deterred clans from doing so, and the belief that a clan could gain from cooperation without the risk of losing its fruits through military confrontation, motivated clans to cooperate. Hence, Genoa's main faction agreed to the introduction of the *podestà*.

Yet, like the consular system, the *podesteria* was not self-reinforcing - it contained the seeds of its own destruction. Specifically, it contained inter-clan rivalry but did not eliminate it. Each clan was still motivated to militarily strengthen itself vis-a-vis the others. The institution was based on an inter-clan balance of military power, and because the economic rent from cooperation was no longer distributed according to a clan's relative strength, stronger clans now had relatively more to gain and less to lose from achieving dominance.

Hence, Genoa's institutions motivated clans to further invest resources in acquiring military ability aimed at attacking other clans, fortifying their residences, establishing patronage networks, and indoctrinating their members to internalize the norm of revenge. Genoa's institution promoted one's affiliation with his clan rather than with the city as a whole. This self-destructing process reveals itself in an interesting social phenomena, the creation of the *alberghi* which were the manifestation of the clans' aims to achieve dominance. *Alberghi* were clan-like social structures whose purpose was to strengthen consorterial ties among members of various families through a formal contract and by assuming a common surname, usually that of the *albergo*'s most powerful clan (Hughes 1978: 129-30). By the fifteenth century the city's politics and economics were dominated by about 30 *alberghi,* each containing from 5 to 15 lineages.

In the short run, all these change did not render Genoa's institution ineffective; it was still self-enforcing. But over time these changes caused Genoa's institution to become self-enforcing for a smaller range of situations, leading to its eventual demise. The resulting political instability was further worsened by the influence of this self-enforcing institution on wealth distribution within the city. The attempt of each clan to develop a patronage network and the access of all residents of the city to Genoa's over seas lucrative trade, implied that overtime the non-noble element of the city - *popolo* - had acquired the resources, organization, and self-consciousness regarding their common interests to form a political faction. In the long run, a *podestà* could not retain the balance of power among Genoa' rival factions and the system collapsed.

After 1311 the city attempted to restore political stability by having a strong military ruler, either an external one such as the King of Germany, Henry VII, to whom the city submitted itself in 1311, or internal one, a Doge. Yet, more often than not, it was torn by intense factional strife or had one Genoese faction (with or without the support of Genoa's external foes) waging war against Genoa from abroad. In the process Genoa declined economically since it was unable to provide naval and military support to its commercial outposts abroad, or to prevent the devastation of its own agricultural hinterland. Only in 1528, when Andrea Doria established an aristocratic republic similar to that of Venice, was Genoa able to gain lasting political stability. At that late date, however, the political and economic situation around the Mediterranean prevented Genoa from restoring its past glory. Ironically, it may have been this inability that made a Genoese republic feasible again.

The history of Venice during its early days parallels that of Genoa. After an initial period of inter-clan cooperation, Venice's history was characterized by inter-clan rivalries aimed at capturing the office of the Doge.[11] Originally the Doge was a Byzantine official, but shortly after Venice was established in 679, the post became that of an elected monarch. For the next few hundred years, clans and factions fought in Venice for control over the Doge's post. Similar to Genoa, economic cooperation and political order were hindered by the lack of an institution able to contain inter-clan rivalry.

Changes around the Mediterranean increased the cost of such confrontation. Toward the end of the eleventh century, the decline of the Byzantine naval power presented the Venetians with an opportunity to gain much by forming political institution enabling cooperation. They have responded to this opportunity by establishing, during the eleventh century, a particular self-enforcing institution. At its center was a system of cultural beliefs that each and every clan would join together to fight against a renegade clan that attempted to gain political dominance over the city and its economic resources. These beliefs were coordinated by a set of rules whose prescribed behavior was made self-enforcing by the associated beliefs. The rules limited the Doge's power to distribute economic and political rents; curtailed the factions' ability to influence the outcome of the election of a Doge (or any other officer); established tight administrative control over gains from inter-clan political cooperation; and allocated these rents among all the important Venetian clans fairly so all had a share in them regardless of factional affiliation. Since these changes began to occur when Byzantine and Muslim naval powers were on the decline and cooperation was most beneficial, Venice was able to make the best of this opportunity.

Starting in 1032, the Doge's authority began to be limited through the establishment of various advisory councils until it was *de facto* altered from an elected monarchy to a republican magistracy. In 1172 it was established that a Doge should never act contrary to the advice of his councilors. The selection of the new Doge was entrusted to an official nominating committee, thus inhibiting the ability to use a faction's political machine and popular support to influence the

[11] See Lane 1973 and Norwich 1977 for Venice .

election. The nominating committee itself was selected and formed through an elaborate process that used both lots and delegations. The (partially random) process began in the Great Council, whose members were any noble of age 25, so that all Venice's main clans had representatives. From this Council a committee of 30 was chosen by lots and the selection proceeded through an additional nine steps of delegation and selection by lot until the proposed candidate for Dogeship was brought before the Venetian assembly for approval. The process itself was designed to reach a decision as fast as possible; only one family member could be on any committee, and a person could not vote when a relative was being considered.

Similar, although less elaborate, systems were used for the selection of other officials. Their numbers were relatively large and their time in office relatively short, so that members of many clans could hold an office in a short period of time. Nomination committees for many posts were selected by ballot in the Great Council in a way that gave every person present an equal chance of being on a nomination committee. The conduct of all officials (including the Doge) was subject to severe scrutiny by various committees to prevent unlawful gains. Furthermore, the provision of public goods, control over Venetian outposts abroad, and access to overseas lucrative trade, were designed to ensure the distribution of gains from them to all Venetians.

If the above rules were to be followed, and the associated organizations (such the Doge and various councils and committees) were to function as they were supposed to, this would have reduced a clan's incentive to challenge the system. This would have been so because these rules distributed the gains from inter-clan political cooperation among all the important Venetian clans equally regardless of factional affiliation. But because each clan had a stake in the implementation of these rules, it implied the self-enforceability of the belief that each clan would join others to confront any clan that attempted to use military power to gain control over the city. Hence, these rules and inter-clan cooperation were self-enforcing. But they were also self-reinforcing: they provided clans with few incentives to invest their resources in establishing patronage networks, fortifying their residences, or instilling in their members norms of loyalty to the clan rather than the city. Hence, by weakening the clans, this institution over time increased the range of situations in which it was self-enforcing. Furthermore, this institution also prevented from the endogenous formation of political faction among non-noble element of the city, the *popolo*. This was so because this institution did not motivate clans to establish patronage networks and while channeling rents from political control and Venice's lucrative overseas trade to the noble clans.[12]

During the 11th and 12th centuries, the self-enforcing institutions that emerged in Venice and Genoa were successful in fostering inter-clan cooperation. The rules and beliefs that governed inter-clan interactions were confirmed while the related organizations were self-enforcing. These rules coordinated on the cooperative equilibrium and these beliefs and organizations made cooperation self-enforcing. Yet, they had distinct long-run implications.[13] In Genoa these institutions contained inter-clan rivalry, but did not eliminate it. On the contrary, each clan was motivated to militarily strengthen itself vis-a-vis the others, and, most likely, individuals identified themselves more as clan members than as Genoese. Over the long run this destructing process undermined the self-enforceability of Genoa's institutions. Genoa's institutions eroded over time the range of situations in which Genoa's institutions were self-enforcing, leading to their eventual collapse.

In sharp contrast, Venice's institutions had the influence to reduce the political importance of clan structure. They discouraged the formation of factions within the city, and assured each clan that it would benefit from the political order and economic prosperity of Venice even if it did not belong to a faction. Arguably, Venice's institutions also reinforced one's identity as a Venetian rather than as a clan member. In other words, Venice's institutions were reinforcing themselves.

15.2. Institutional Stability in a Changing Environment

---

[12] Although several times this group had been extended to absorb emerging strong non-noble families. The system had the flexibility required for its perpetuation.

[13] The above discussion does not indicate the sources of these distinct institutions. Did the Genoese implement political organizations that in the long run were found to be devastating due to shortsightedness or some different initial conditions? Better theoretical understanding of organizational innovations and a more detailed historical analysis may sometime provide the answer.

Would a self-enforcing institution be stable in a changing environment? Is it usually true that even if the value of a relevant parameter marginally changed, the behavior associated with a self-enforcing institution would not change? Game theory suggests why self-enforcing institutions are most often stable. Behavior associated with the institution will be followed as long as the values of a marginally changing parameter remain within a particular range.

A well-known generic insight of game theory is that for a given parameter set, multiple equilibria usually exist. Less attention, however, has been given to a corollary of this insight: a particular strategy combination can usually be an equilibrium for various parameters value. A particular behavior can usually be self-enforcing when relevant parameters take various values. Cooperation in a repeated prisoners' dilemma game, for example, can be self-enforcing for a wide set of discount factors.

We have seen this in the above examples. Cooperation was self-enforcing in Genoa and Venice for clans with various military capabilities. Cooperation can and was self-enforcing under the *podesteria* for clans of various sizes and military abilities. A collective punishment within a community can be self-enforcing for communities of various sizes and for members with different levels of wealth.

Furthermore, when a parameter changes in a way implying that past behavior can still be self-enforcing, individuals are likely to continue to follow the old behavior. In other words, past self-enforcing behavior is likely to continue to be followed in marginally changing situations. This is the case for at least two inter-related reasons - coordination and knowledge. When the situation marginally changes, individuals face the problem of which behavior to follow in the new situation, given the multiplicity of self-enforcing behavior. Because people do not share the expectations that some new equilibrium behavior will be followed, they are likely to rely on past institutions to guide them. They are likely to continue following past patterns of self-enforcing behavior. This would be the case even when there are individuals and organizations with the ability to coordinate on new behavior. As analyses in political science and economics have revealed, there are many reasons why such coordination may fail to transpire even when it is beneficial. Sunk costs associated with coordinating change, free-rider problems, distributional issues, uncertainties, limited understanding of alternatives, and asymmetric information may hinder coordination on new behavior.

In addition, institutions that prevail in a society reflect knowledge its members share. The Venetians and Genoese who interacted in the late medieval period along the shores of the Mediterranean were unable to know the details of the strategic situations in which they were involved. How could the head of one clan know the details of another clan's military strength or its willingness to make a sacrifice today for the benefit of its future members? What these Venetians and Genoese did respond to, however, was the knowledge that their respective political institutions worked well in the past, and those who did not cooperate and revolted did not benefit from it. Hence, even if a clan's relative strength marginally increased, it might not have been enough to induce that clan to cease cooperation even if, in reality, it could have benefitted from doing so.

15.3 On the Definition of Institutional Change

The history of Genoa and Venice illustrates the relevance of two, non-mutually exclusive types of institutional change: a change in the regularities of behavior (in the transaction under consideration) and a change in the institutional elements supporting this behavior. The first type of institutional change occurred in Venice and Genoa when past regularities of behavior - inter-clan cooperation - were no longer adhered to. Institutional change of the second type occurred when the *podestà* was introduced and the Dogeship reformed. These two types of institutional change are often inter-related. Changes in institutional elements, for example, can lead to behavioral changes. Indeed, in Genoa cooperation ceased to prevail due to endogenous changes in institutional elements such as the strengthening of patronage networks and the rise of the *alberghi*. But institutional elements can change without leading to behavioral changes. As a matter of fact, they are often changed to pattern of behavior that previously prevailed. The introduction of the *podestà*, for example, restored inter-clan cooperation but this cooperation was supported by distinct institutional elements.

The distinction between institutional elements and the behavior associated with an institution enables differentiating between these two types of institutional change while capturing them within the same framework. An institutional change can be either a change in behavior in the transaction under consideration or change in the institutional elements underpinning this institution.[14]

Either of these types of institutional change can reflect causes exogenous to the institution under consideration, endogenous to it, or some combination of both. An institution can therefore influence its rate of change in two, non-mutually exclusive ways: directly and indirectly. An institution directly influences its rate of change when, over time, it causes new behavior and/or institutional elements to emerge in the absence of an exogenous, environmental change. An institution indirectly influences its rate of change when it influences the magnitude and nature of the exogenous shocks that will cause a new behavior and/or institutional elements to emerge. Hence, a conceptualization of the way that an institution influences its own rate of change should capture the direct and indirect influences of past institutions.

15.4 Institutional Reinforcement and Undermining

To capture the possible direct and indirect influences of an institution on its rate of change, it is useful to first elaborate on the concept of institutional 'reinforcement.' A self-enforcing institution is also **reinforcing** when, over time, the processes it entails imply that the associated behavior (in the transaction under consideration) is self-enforcing in a larger set of situations - parameters - than would otherwise be the case. I will refer to such institutions as self-reinforcing. A self-enforcing institution is defined to undermine (or destruct) itself when it implies a negative reinforcement - that is, when the processes it entails imply that the associated behavior will be self-enforcing in a smaller set of situations. I will refer to such institution as self-undermining.

[14] The ability to distinguish, yet accommodate, these two types of institutional change narrows the gap between the sociological and political lines of institutional analysis. The focus of institutional analyses influenced by sociology (e.g., Schotter 1981) has been on institutional change of the first type, namely, changes in behavior. The second type of institutional change, however, has been the focus of institutional analyses influenced by political science (e.g., North 1990). More importantly, the distinction between institutional elements and regularities of behavior enables precisely delineating what we mean by saying that an institution influences the rate of its change when change can be of either type.

Endogenous institutional changes in Venice and Genoa - whether changes in behavior or institutional elements - indeed reflected the extent to which these institutions were or were not reinforcing. The early institutions political institutions of Venice and Genoa were not self-reinforcing and thus directly led, over time, to the collapse of inter-clan cooperation. Indeed, the benefit of past cooperation undermined their self-enforceability. In both cities reinforcing institutional elements were introduced to foster self-enforcing cooperation. In Genoa this reinforcement took the form of establishing the *podesteria* and in Venice it took the form of reforming the rules governing the division of political posts and economic rents.

While restoring self-enforceability in the short run, the resulting institutions had distinct long-term implications thereby indirectly influencing their rates of change. Venice's institutions were self-reinforcing - they implied processes that made them self-enforcing in a wider range of situations and they lasted in changing environment for about six hundred years. In contrast, Genoa's institutions were self-undermining. The implied processes undermined the extent to which Genoa's institutions were self-enforcing; they caused inter-clan cooperation to be more sensitive to exogenous shocks. Temporary changes in the environment within which the Genoese interacted, or the power balance among clans, led to the break-down of cooperation and, at times, to civil wars. In the long run, this undermining process caused the *podestaria* to no longer be self-enforcing leading to its demise.

An institution thus influences its rate of change when it reinforces or undermines itself: when the behavior and processes it entails either increase or decrease the range of situations - parameters - in which the associated behavior is self-enforcing. This notion of the influence of an institution on its rate of change captures, but is not limited to, its influence on either behavior or institutional elements. Furthermore, this notion also encompass both direct and indirect influence of an institution on its rate of change either directly or indirectly. An institution, by reinforcing or undermining itself, indirectly influences its rate of change by determining the size of an external shock required to render behavior or institutional element associated with this institution obsolete. But this notion also captures the possibility that an institution can also influence its rate of change directly, leading to its own demise without any exogenous change.

A necessary condition for an institution to remain self-enforcing in the long run is that the range of situations in which the associated behavior is self-enforcing does not decrease over time: the institution's behavioral implications have to (weakly) reinforce it. Conversely, a sufficient condition for endogenous institutional change is that the institution's implications constantly undermine the associated behavior. In particular, unless an institution is (weakly) self-reinforced, it will eventually reach a situation in which the behavior associated with it is no longer self-enforcing. When this happens, past regularities of behavior and the institutional elements that supported it are inconsistent: the existing institutional elements can no longer make that behavior self-enforcing. (Henceforth I will use, by and large, the term reinforcing to denote either positive or negative (undermining) reinforcement.)

15.5 Quasi-parameters

Thus, examining the factors whose changes reinforce or undermine existing institutions is crucial to understanding how institutions influence their rates of change. What do the factors that are at the center of reinforcing processes have in common?

To illustrate the nature of factors that reinforce or undermine an institution, consider the following example. Suppose that belief in collective punishment within a community leads to a particular regularity of behavior. To study this institution, we have to examine the community (an organization), rules of behavior, and beliefs as a self-enforcing system of institutional elements generating that behavior. We have to study why each member of the community is endogenously motivated to retain his membership in it, hold these beliefs, follow the behavioral rules, and participate in a collective punishment. But even if such self-enforceability prevails at a particular point in time, this does not imply that this institution will last. For this to be so, the institution must be (weakly) reinforced, but this may not be the case. For example, the economic success of the community's members implied by the collective punishment may lead the community to grow over time. Growth can undermine the extent to which beliefs in collective punishment will prevail. If information transmission within a larger group is so slow that it takes too much time to initiate collective action, belief in collective punishment will not last. Similarly, each member of the community can become, over time, sufficiently wealthy so that the threat of communal punishment will no longer be sufficient to make past patterns of behavior self-enforcing.

In the above example, community size and the wealth of its members were factors whose change undermined intra-community enforcement. In general, factors whose changes reinforce or undermine existing institutions have two properties in common: first, their marginal change will not cause the behavior associated with that institution to instantaneously change. Only when

the cumulative change of the quasi-parameters crosses some threshold the behavior associated with the institution would change. The second property of factors whose changes reinforce or undermine existing institutions is that such factors can gradually be altered by the implications of the institution under study. These two properties imply that we can consider them as parametric - exogenous and fixed - in studying the self-enforcing property of an institution in the short run, but we have to consider them as endogenous and variable when studying the same institutions in the long run. I will therefore refer to such factors as **quasi-parameters**.

But are quasi-parameters common or is their existence rare? We have already discussed why a self-enforcing institution is not likely to change because of marginal changes in its parameters. Hence, quasi-parameters are common if it is usually true that an institution's behavioral implications will gradually change the value of the various parameters underpinning its self-enforceability.

That an institution usually has ramifications beyond the behavior it implies in the transaction under consideration is rather obvious. The above examples reflect such ramifications. In Venice and Genoa inter-clan cooperation gradually altered wealth distribution and patronage networks. The intra-community cooperation discussed above influenced demography and wealth. One can give examples in which institutions influence factors such as identity, ability, knowledge, residential distribution, and occupational specializations. Clearly, examples do not constitute proof that institutions have ramifications beyond the particular behavior they generate (in the specific transactions under consideration), but it seems difficult to think of any institution that in the long run does not have implications beyond the behavior in the transaction it governs.

Basically every parameter that can be changed through human actions, and which underpins an institution, can be a quasi-parameter. (Including the nature and details of an institution's institutional elements.) Demography and wealth distribution were quasi-parameters in the above example of communal punishment, but technological and other knowledge, political power, and social networks are examples of potential quasi-parameters, as are personal trust, capabilities, and norms.

In particular institutional elements and their attributes can be quasi-parameters. Internalized beliefs, norms, communities, other organizations, and their attributes (such as organizational size, intensity of beliefs), for example, are social factors that can be both quasi-parameters and institutional elements.[15] Each of the notions - an institutional element and a quasi-parameter - highlights a distinct characteristic of a men-made factor. An institutional element is part of a system that directs and constrains behavior. A main characteristic of a quasi-parameter is that it can change over time and only its accumulative change will influence behavior. There is no contradiction between these two characteristics.

Hence, there are usually parameters that can be considered as exogenous in studying an institution's self-enforcement in the short run. But they should nevertheless be considered as endogenous when studying that institution in the long run. When a change in such a parameter implies reinforcement, that is, when it influences the set of other parameters for which the institution is self-enforcing, this parameter constitutes a quasi-parameter. And as we have seen in section 15.2, reinforcing changes in quasi-parameters are not likely to cause behavior to change because of the rule of institutions in coordinating behavior and the knowledge they reflect.

But is reinforcement common? Is an institution likely to change its underpinning parameters in a way that would reinforce or undermine it - namely, in a way that would cause the

[15] The argument here may be confusing with respect to institutional elements. Is an institutional element that is a quasi-parameter exogenous in the short-run? Or is it endogenous and self-enforcing as has been argued before? Some institutional elements (particularly internalized norms) are, as discussed in section 15.3, exogenous in the short run. Others, such as organizations are endogenous. What is parametric, however, are their attributes such as size, speed of information transmission, etc. Note that in the above historical and other examples, this distinction has been made. For example, it has been claimed that the Genoese and Venetian institutions had distinct influences on the size of clans and factions.

associated behavior to become self-enforcing for a wider or smaller set of situations? The next sections argue that reinforcement and undermining processes are common.

15.6 Quasi-parameters and Reinforcement

This section argues that institutions tend to reinforce themselves by gradually changing quasi-parameters in a way that causes the associated behavior to be self-enforcing for a wider set of situations.

Beliefs and Knowledge Reinforcement

The view that institutions are self-enforcing reveals the importance of a particular quasi-parameter - beliefs and knowledge - in generally leading to institutional reinforcement. Beliefs about the implications of various behavior are central to institutions. One takes a particular behavior expecting that it will serve him well based on the belief that others will also take particular actions. But other's actions are not ex ante known with certainty and the many environmental factors imperative to choices of behavior and outcomes are not directly observable. Hence, when individuals try certain behaviors they are not sure whether or not they will succeed. The ex-ante expected value of this behavior is sufficient high to try it, but ex-post these strategies could fail. When, ex-post, these behaviors work, the value of continuing to use them is higher than it was ex-ante. The mere fact that a particular behavior led to particular results reinforces the belief that the strategy the relevant decision-makers adopted in a receptive environment will produce the same results in the future. This holds true also with respect to rules of behavior and organizations. Their success in generating particular behavior reinforces the beliefs that they will also work in the future.

Once an institution composed of particular beliefs, organizations, and rules has demonstrated its value, its expected worth increases relative to other, alternative institutions. In Genoa, the *podestà* was initially established for only one year. After that, the consular system was supposed to be reestablished. But during this year, the *podesteria* revealed itself as a viable institution. Similarly, an unsuccessful attempt in the eleventh century to use force to capture the position of the Venetian Doge probably reinforce the Venetians' beliefs that their political institution works. Such an attempt was not repeated for centuries. Once these events had occurred, and the value of the institution was proven, it was reinforced.

The path of democratization following Franco's death in Spain presents a modern example of such reinforcement.[16] Many on the political right were quite concerned that democratization would grant power to the left, and then the left would use this power, as they threatened during the Second Republic in the 1930s, to transgress the fundamental political rights of those on the right (e.g., the role of the church, capitalism, land owners). When the left came to power in the early 1980s and pursued moderate policies that helped integrate Spain with Europe and produce prosperity, most of these concerns vanished. Hence the value of these institutions to most people on the right rose. Similarly, because the left produced integration with Europe and economic prosperity, the democratic regime's legitimacy rose.

Various other general mechanisms contributing to institutions' tendencies to reinforce themselves were identified in the social sciences.

Reinforcement Sociology

Sociology has exposed various ways in which institutions shape individuals thereby reinforcing these institutions. Behavior influences, for example, individuals' internalized norms, personalities, identities, self-images, habitual actions and thinking patterns, and ideologies. While the exact meaning of, and distinctions among, each of these terms, as well as the details of the related processes, is still being refined and defined in sociology, the point made here transcends these debates. Institutions shape individuals in a way that tends to reinforce these institutions.

One such way, noticed, for example, by Davis (1949) is individuals' tendency to assign normative values to past patterns of behavior. Humans tend to think that what has been done in the past is the "right"way to behave - past patterns of behavior become internalized norms.[17]

---

[16] I am in indebted to Barry Weingast for this example.

[17] The term "norms' is used here to denote behavior rules that were internalized as normatively appropriate. Norms thus reflect the incorporation of behavioral standards into one's superego, essentially they means the development of an internal system of sanctions that supports the behavior specified by the norms as morally appropriate.

These norms, in turn, reinforce the patterns of behavior that led to their emergence: this behavior will be followed in a larger set of situations than before. Davis argued that "in human society there is what may be called double reality - on the one hand a normative order embodying what ought to be, and on the other a factual order embodying what is. In the nature of the case, these two orders cannot be completely identical, nor can they be completely disparate. The normative order acts, for example, as a determinant (though not the only determinant) of the factual order.... In turn, the factual order exercises an influence on the normative system, for the norms must always refer to events in the real world and take into account the factual situation.... The normative system, since it aims to achieve results in the factual world, is subject to constant modification by events in that world" (pp. 52-3).[18]

More broadly, sociologists have argued that social interactions shape the development of individuals personalities, that is, the fairly consistent pattern of feeling, acting, and thinking that they exercise. Since past institutions influence the nature of social interactions, they shape personalities in a way that is congruent to the behavior they imply. Once personalities have been established in a way that is congruent to existing institutions, these institutions are reinforced. To further clarify this argument, consider the nature and implications of each of the components of personalities, namely, feeling, acting, and thinking.

Feeling: One way to capture feeling is as a specification of normatively appropriate behavior in various situations. It has been argued and confirmed in experimental studies that individuals tend to internalize as normatively appropriate past patterns of behavior and they are willing to bear the cost of punishing others who deviate from what they consider the appropriate behavior. Deviation from appropriate, fair behavior - which is shaped by the behavior associated with past institutions - becomes more costly than it would otherwise have been. In other words, the institutions generating past behavior are being self-reinforced.[19]

[18] See also Homans 1950, Scott 1987: 16, March and Olsen 1989. For a recent economic analysis see Sugden 1989, Rabin 1994, Kuran 1998, Ben-Ner and Putterman 1998, and Hodgson 1998.

[19] For this line of argument, see, for example, Sugden 1989, Fudenberg and Levine 1993, Rabin 1993.

Acting and thinking about actions: Habitual behavior is another product of past institutions that self-reinforces them. It has long been noticed that individuals tend to adopt habitual behavior - the propensity to behave in a particular way in a particular type of situation.[20] It has been claimed in psychology (Clark 1997a, 1997b), that the reliance on habits to guide behavior reflects the fact that individuals have scarce time resources and face a complex world. Hence, they rely on external structures and circumstances to provide them with cues for action, while habit and judgment are inter-related in guiding behavior (Margolis 1987: 29). Hence, once a particular pattern of behavior is established in a society, it will be reinforced by habit. Guided by habit and with less reliance on judgment, a change in the environment that would undermine past patterns of behavior would have to be larger than otherwise.

Thinking: Sociologists have long held that human nature is such that a "complex of social actions" prevailing in a society tend to become the social equivalent of an instinct (Berger 1977: 104). Past regularities of behavior mold the way that individuals think about what possibilities are open to them. For example, in a society in which monogamous marriage is the norm, "the average young man... not only rejects the options of polyandry or polygamy, but, at least for himself, finds them literally unthinkable. He believes that the institutionally predefined course of action is the only one he could possibly take, the only one he is ontologically capable" (ibid: 106).[21] To the extent that this is the case, regularities of behavior created by past institutions are being reinforced by the human tendency to ignore alternatives. Fear of the unknown generates a similar pattern of self-reinforcement.

Concepts close to that of personality are those of identity and self, and the processes giving rise to both are such that they reinforce existing institutions. Individuals tend to adopt, intentionally or unintentionally, an identity that can be thought of as a menu of behavioral instructions about how the individual should behave in various situations.[22] Once adopted, there

---

[20] The analysis of habit and institutions can be traced to Veblen. For recent elaborations and references in Margolis 1994; Hodgson 1998, chapter 20that. These analysis, however, tend to identify habits with institutions.

[21] See also Kuran 1993.

[22] For a discussion of the concept and a recent economic analysis of the adoption of identity and its implications, see Akerlof and Kranton 2000.

is a psychological cost to deviating from the behavioral instructions associated with a particular identity, which can be thought of as the cost of deviating from the related set of internalized norms. Even the Bible reflects such relationships when it mentions that Moses led the ancient Hebrews for 40 years in the desert so that the generation that adopted the slave identity or mentality would perish prior to settling as a free nation. A society's institutions determine the costs and benefits of various identities and hence influence their adoption. Once adopted, however, the psychological cost of acting in a way that is not congruent to one's identity reinforces these institutions.

A closely related human tendency that leads to reinforcement is the one concerned with the development of the self. The self is a concept central to social behaviorism in sociology (Mead 1962). One's conception of his or her self - that part of an individual's personality composed of self-awareness and self-image - develops only through social interactions and reflects the human tendency to respond - not only to what others do, but also to individuals' tendencies to respond to what they think others have in mind when they take an action. But what others do and the normative meaning they have imputed to various actions, reflects, as discussed above, past institutions.

Institutions are also reinforced by the ideologies to which they give rise.[23] Ideologies "are efforts to rationalize the behavior pattern of individuals and groups" (North 1981: 48). Various opinions are held about the function and the origin of ideologies: Economizing devices to facilitate decision-making; and to provide a moral and ethical explanation for the social world; a set of beliefs that justify social stratification and, in particular, the distribution of economic wealth and political power. All these notions of ideology relate to Plato's definition of justice as an agreement about who should have what. Whatever the meaning of ideologies, all of them reflect the behavior and implications of existing institutions. At the same time, they reinforce these institutions by providing them with an 'ideological' basis.

Karl Marx and others have long claimed that ideology serves the interest of a society's economic, political, and social elite. (E.g., Dobb 1937.) Elites develop, intentionally or

[23] For a discussion, see, for example, North 1981 chapter 5.

unintentionally, ideologies providing moral support for the prevailing distribution of economic and other rights in the society. This ideology thus provides a moral justification for the behavior implied by existing institutions because the prevailing distribution reflects this behavior. Furthermore, elite's control over means of socialization such as schooling and public discourse can diffuse this ideology broadly in the society. When this is the case and because ideology provides a moral justification for the behavior implied by existing institutions, it reinforces them. Ideology reinforces internalized beliefs that further motivate individuals to follow the behavior associated with existing institutions. Members of a society in general tend to adopt this reinforcing ideology through the process of socialization and because individuals seek to align their system of beliefs and observed outcomes.

Sociologists have long claimed that one's self, identity, personality, and ideology are shaped by the process of socialization in which role models and the education system play a crucial part. The behavior implied by a past institution, however, influences the role models one is exposed to in his or her formative years. Furthermore, educators - be they parents or teachers - are individuals whose own identity, personality, self-image, and ideology have been shaped by past institutions. Hence, their influence on those under their authority will tend to reinforce these institutions.[24]

Reinforcement Politics

Reinforcement is common also because of the inter-relationships between the implications of past institutions and political processes. Institutions influence such social features as wealth, ideology, and norms are likely to lead to the use of the political system to reinforce the behavior associated with past institutions. Such implications of institutions are likely to influence political processes in ways that reinforces these institutions. Laws, regulations, regulatory agencies, and the inquisition are manifestations of such reinforcement processes. While there is a tremendous literature in political science on attempts by individuals to use the political process to improve their lot, the related - and often noted - point I am making

[24] For a classic economic analysis, see Bowles and Gintis 1976.

here is that the details of such attempts and their probability of success are such that they reinforce existing institutions.

There are two inter-related reasons why political processes tend to reinforce existing institutions. The first is an extension of the sociological sources of reinforcement. Institutions shape past behavior and hence, directly and indirectly, preferences, beliefs, ideologies, and norms. Once such social features have been shaped, those who hold them are likely to try to ensure that others will behave in a manner corresponding to them. Using the political system to achieve this aim is an obvious venue for such an agenda. But why are political systems likely to respond favorably to such pressures? Those in control of a political systems and whose control depends on popular support as is the case, for example, in a democratic system will attempt to accommodate the demands of their constituencies.[25] But even other political regimes depend on their legitimacy and, furthermore, those who control the political system are likely to want to reinforce existing institutions because they benefit from them.

The second reason why political processes are likely to lead to reinforcement is that the wealthy are likely to be those who benefit from existing institutions. At the same time, they have the resources, the connections, and the ability required to influence the political decision-making in a way that favors them, that is, in a way that reinforces the operation of existing institutions. The prevalence of such reinforcement processes has been emphasized by Mancur Olson (e.g., 1982) who argued that interest groups organized by those who benefit from the existing economic institutions are likely to invest in ensuring that the political system will lead to their perpetuation. Similarly, North (1990) has claimed that organizations - groups of individuals with the same objectives - are likely to use the political system to advance the institutions favoring them.

Reinforcement Economics

Economics also revealed processes that tend to reinforce existing institutions. Among these processes is that past institutions are reinforced through their implications on capabilities.

---

[25] Although, as political scientists have often emphasized, the extent to which the political system maps the public's preferences into political outcomes depends on the details of the political organizations.

While in the short run one's capabilities are often fixed, they can often be changed in the long run. Endogenous changes in capabilities are likely to reinforce existing institutions and this reinforcement can be due to the direct implications of past behavior. Adam Smith has noted such reinforcement in the Wealth of Nation when he argued that repetition increases dexterity. More recent scholars (e.g., Rosenberg 1982) have argued that learning by doing enhances ability. Dexterity and enhanced ability to take an action, in turn, reinforce the institution that generated this action to begin with. If employers found, for example, that it is best for them to organize labor in a particular way that lead to dexterity and learning by doing, the implied increase productivity of labor would make this organization no less profitable than before.

Institutions are reinforced also by the tendency of individuals and organizations to intentionally respond to, or unintentionally be selected based on the extent to which their capabilities are compatible with existing institutions.[26] North (1981) has provided the canonical example. If existing institutions lead to piracy, individuals will invest in acquiring the skills required for practicing piracy better. But once particular individuals have acquired these skills, they will find it beneficial to practice piracy in a larger range of situations than before. Similarly, intentional learning and unintentional experiments tend to be localized in the sense that they correspond to behavior and hence are likely to reinforce its underpinning institutions. More generally, sunk costs associated with establishing organizations and tacit knowledge generated within them reinforce existing institutions.[27]

Institutions tend to reinforce themselves through the knowledge they generate and the social, political, and economic processes they entail. In studying a particular institution these and other processes, specific to the situation under study can contribute to institutional reinforcement.

15.7 Quasi-parameters and Undermining

---

[26] Nelson and Winter 1982 have examined such feedback in the specific context of firms' responses to the incentives implied by the market.

[27] E.g. David 1994.

The implications of a self-enforcing institution, however, do not always have to reinforce it. Indeed, they might be just as likely to change its underpinning quasi-parameters and undermine it. The processes through which institutions undermine themselfs seems to be case-specific. More precisely, because relatively little analytic attention has been devoted to the study of such processes from the perspective advanced here, no generalizations about them have so far emerged. Although the above schematic conceptual and analytical framework presents a way to study endogenous institutional change, the details of its implementation depend on the particularities of the issue at hand.

Accordingly, this section proceeds by presenting some general insights regarding undermining processes and relevant empirical analyses demonstrating their relevance. The next section presents a more detailed analysis of a particular empirical case. This case, the decline of the Community Responsibility System (chapter 13) also provides a bridge to the next chapter. It illustrates how the direction of institutional change is shaped by existing institutions which reflect, embody, and influence various cultural, social, economic, and political processes. The discussion in both section also illustrates how game theory can facilitate an analysis of undermining.

The analysis of Genoa's self-undermining institutions illustrates how success can generate its own demise by increasing wealth. Genoa's self-enforcing institutions enabled wealth creating inter-clan cooperation. But this change in a quasi-parameter undermined the self-enforceability of Genoa's institutions. It made challenging more profitable to each clan, causing Genoa's institutions to be self-enforcing for a smaller set of parameters. The fact that such an undermining process did not transpire in Venice reflects the dependency of undermining (as well as reinforcing) processes on the details and environment of the institution under consideration.

When, in general, will self-enforcing institutions undermine themselves? We can address this question with respect to an important class of self-enforcing institutions, specifically those in which the fear of losing gains from future cooperation support current cooperation despite the ability to take advantage of the cooperation of others. (Such institutions are also known as reputation-based institutions.) In these institutions, the higher the present value of the gains from future cooperation, the more cooperation can be sustained in the present. Such institutions undermine themselves when the cooperation they enable reduces the gains from future cooperation, thereby decreasing the cost of non-cooperation or cheating today.

The medieval Merchant Guild provides an example of this undermining process (Greif et. al. 1994). To induce medieval merchants to travel to alien lands to trade, local rulers had to be able to credibly commit to respect their merchants' property rights. Institutions based on reputation mechanisms emerged to provide this security. Because a merchant was expected to respond to abuse by not returning for future trade, the gain that a ruler stood to lose from abusing a merchant's rights was his income from taxing the future trade of the abused merchant.

The ruler's income from taxing a particular merchant, and hence the extent of the ruler's loss if this merchant ceased trading, however, depended on the scale of trade because merchants from particular parts of Europe brought the same goods to a ruler's territory. Hence, the more merchants came to trade, the lower the cost to a ruler from abusing a particular merchant. The growth of trade thereby undermined the operation of reputation mechanism in securing merchants' property rights. To restore the property rights commitment as trade expanded, therefore, it was necessary to enhance the credibility of the merchants' threat to respond as a group (rather than as individuals), and collectively boycott future trade following an abuse of any merchant's rights.

Indeed, the historical records reflect that these undermining processes occurred and were followed by institutional change. In 1252, a Kontor of German merchants obtained extensive trading privileges from Bruges, and trade expansion followed. As trade grew, however, the trading privileges given to the alien merchants in Bruges were continually abused. The situation is described in a document dated 1280 reporting that "it is unfortunately only too well known that merchants traveling in Flanders have been the objects of all kinds of maltreatment in the town of Bruges and have not been able to protect themselves from this."[28] Along with most of the other alien traders who operated in Bruges, the German merchants retaliated in 1280 by

[28] Urkundenbuch der Stadt Lubeck, I, no. 156, p. 371, translated by Dollinger 1970: 383.

transferring their trade to Aardenburg. After two years of negotiation, a new agreement was reached and the Kontor returned to Bruges.

Seemingly successful, the embargo failed in the long run to guarantee the property rights of the German merchants, as Bruges simply ignored its agreement with them once trade had expanded further. It should be noted, however, that Bruges did respect the rights of non-German merchants who frequented the city. The embargo was not imposed by the German merchants alone, but by all alien merchants in Bruges, including the important and well-organized Italian and Spanish nations. These organized groups were able to commit that all their members would retaliate - by ceasing to trade - following an abuse of the rights of any of their members. This motivated Bruges to respect their rights despite the increase in the extent of trade.

But this was not the case with respect to the German merchants whose organizations were different. The Kontor proved incapable of enforcing its decisions upon its members. It was unable to make the threat of collective retaliation credible. This was because the Kontor encompassed only the German merchants actually present in Bruges, rather than all the potential German traders who might want to trade during a boycott. For a time, German merchants had to accept inferior treatment.

Another embargo, from 1307 to 1309, was thus required to force Bruges to respect its contractual agreements with the Germans, and only they participated in this embargo. What had changed between 1280 and 1307 was the ability of the German traders from different towns to coordinate their responses and enforce their embargo. A milestone occurred in 1284 when the Wendish German towns imposed an embargo on Norway. Merchants from the city of Bremen refused to cooperate in the embargo, and the other German towns excluded Bremen's merchants from all German Kontore. The German towns had achieved the coordination needed to expel one of their members. The importance of the achievement is indicated by the fact that the act of expelling a city was then referred to by a special word, Verhansung. After 1307, the ability of the German merchants to commit themselves to coordinating their actions and to enforcing their decisions on individual merchants and towns was rather advanced, thus guaranteeing that Bruges would adhere to its contractual obligations. Bruges respected the charters agreed upon in 1307 and 1309, and consequently Flanders' trade flourished and expanded for the next 50 years.

The exact mechanism that brings about institutional change once the behavior associated with past institution ceased being self-enforcing depends on how this came about. An institution can be undermined rendered not self-enforcing due to changes in quasi-parameters that unobservable, uncertain, and unrecognizable. In such cases, the mechanism of institutional change is likely to reflect individuals' willingness to experiment and risk deviating from past behavior, or when particular individuals gained better knowledge of the situation. Institutions are likely to change in an evolutionary manner.

But an institution can be also be rendered not self-enforcing due to changes in quasi-parameters that are observable and/or well understood. Decision makers actually realize that past behavior is no longer self-enforcing. In this case, the mechanism for institutional change will be intentional. Game theory indicates that in such cases, the expectations that an institution would no longer will be self-enforcing in the future, may lead to its instant demise. This is the case when institutions are based on the long-hand of the future. For the long-hand of the future to influence behavior, it has to be long. Indeed, the distinction in the equilibrium set between infinitely repeated game and finitely repeated games indicates that this hand has to infinitely long. If this is not the case, the unraveling problem implies that no cooperation is possible. In the last period of the game, the best one can do is non-cooperating. Recognizing that this is the case, noone would cooperate in the period before last, and so on until the present. But as we have already seen, this problem is not as much an issue in studying actual institutions as catches the eye. Individuals live finite period of time and hence every institution based on reputation mechanism must already resolved this unraveling problem.

In the case of the Maghribi traders, for example, inter-generational relationships among family members resolved the finite horizon problem. One did not cheat in his old age because his son - his insurance policy in old age - would have been punished. Hence, even if members of one generation foreseen that some generations down the line, the coalition would no longer be self-enforcing, their best response is still not to cheat. Similarly, consider the Community Responsibility System. Even if it would have been clear that the system will cease being self-enforcing some time in the distant future, the current generation can still find it best to cooperate.