Chapter 3: Ethics, Exchange, and Production

> If I have two journeymen, **one naturally industrious**, the other idle, but both perform a day's work equally good, ought I to give the latter the most wages? Indeed, lazy workmen are commonly observed to be more extravagant in their demands than the industrious; for, if they have not more for their work, they cannot live as well. But though it be true to a proverb that lazy folks take the most pains, does it follow that they deserve the most money?
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> If you were to employ servants in affairs of trust, would you not bid more for one you knew was naturally honest than for one naturally roguish, but who has lately acted honestly? Franklin, Benjamin (1734/2012-12-18). "Self Denial Is Not the Essence of Virtue." *Memoirs of Benjamin Franklin; Written by Himself,* Volume II (of 2) (Kindle Locations 414-419).

I. Introduction

Many of the advantages of life in communities are associated with specialization. Some persons devote more time to the production of goods and services such as hunting, farming, carpentry, pottery, and masonry than others. Such "specialists" tend to be more productive than the average person, because skills tend to be improve with practice, which implies that such specialization tends to increase a community's supply of useful goods and services. Such increases improve a group's ability to survive life's many unpredictable hazards, which is doubtless part of the reason that the places where settled communities emerged often attracted new residents.

A bit of specialization may emerge simply because of variation in the interests and natural skills of the individuals in the community, but possibilities for exchange also tend to increase the extent of specialization. Among the ancient trades, only gatherers, hunters, and farmers can survive by consuming only their own goods and services. Clothing, shelter, pottery, and related tools are all useful, but not edible. Exchange is thus a prerequisite for such forms of specialization.

Trade, however, is no more automatic than communities. It is facilitated by the rules of conduct that reduce unproductive conflict, solve commons and coordination problems, and by conventions regarding weights and measures and the provision of public services. However, there are other problems associated with exchange and team production that must also be overcome for significant networks of trade and production to emerge. It is most likely that specialization emerged gradually as productivity gains from specialization were discovered and as rules of conduct necessary to support informal exchange and contracting became commonplace.

As in chapter two, chapter 3 analyzes a community without a government, but with many internalized rules. This is mostly to emphasize the role that ethics may play in markets but also because early markets are very likely to have emerged before civil law and systematic law enforcement emerged. This chapter demonstrates that a subset of ethical dispositions can reduce many of the problems associated with trade, production, and commercial networks. Thus it is likely that the human capacity to create and internalize rule played an important role in the emergence of village markets and subsequent trading among villages. Trade emerged long before the first civil codes that we know of were worked out. Indeed, it is most likely that such formal collections of written rules simply wrote down and clarified the rules of conduct that were already internalized by most persons in the communities of interest.

Of course, it is not ethics alone that generated trading networks. Knowledge about what is possible and mutual gains from trade also matter. For example, the gradual improvement of methods of production, transportation, and storage often created new gains from trade. The emergence of various money goods also extended the variety of trades that were possible by eliminating the necessity for reciprocity or a coincidence of wants that barter requires. Money goods have been

found in archeological digs as old as 10,000 BCE, which is roughly at the time that settled communities and agriculture emerged.[1]

That local trading networks emerged at about the same time as settled communities suggests that many of the technologies, rules of conduct, and laws that allowed reasonably peaceful and comfortable communities to emerge also facilitated commerce—albeit not everywhere and not in every case.

The hypothesis being analyzed in this chapter is not that ethical conduct per se increases commerce, but that a subset of conduct that is regarded to be ethical does. The ethical rules examined in chapter two indirectly facilitate commerce by allowing communities to emerge without effective law enforcing organizations. The ethical dispositions of interest in chapter three do so more directly. They directly affect a variety of transactions costs and thereby the extent of gains from trade that can be realized.

That the organization of production and extent of networks exchange vary through time is widely acknowledged and has long been studied by economic historians. Douglas North (1981, 1990) was arguably the first to stress that gradual reductions in transactions costs account for much of the gradual extension of trading networks. The main hypothesis of this book is compatible with North's approach, but focuses on internalized dispositions rather than innovations in organizational rules.

This chapter demonstrates that variations in cultural support for commerce in the form of ethical and normative dispositions may account for a good deal of the variation in the effectiveness of markets through time. It also suggests that such effects are likely to at least partly determine the variation in the extent of commerce among contemporary communities as well.[2]

II. Gains to Trade without Transactions Costs among Honest Trading Partners

As true of other potential benefits of lives in communities, the realization of mutual gains from trade and specialization among community members is not always easy. If they were, many other animals besides humans would have extensive networks of exchange. The difficulties include those pointed out by Hobbes. An individual or group that wants what another party initially controls may simply use force to attempt to take away that control. The result of such efforts may escalate to the war of every man against every other posited by Hobbes, if similar choices are made by most persons in the region of interest and those persons have roughly equal ability to organize and produce force. For trade to take place, it must be possible to peacefully transfer control (ownership) of particular things from one person to another.

Chapter two mentioned partitioning as one of the possible ways that communities may solve the Hobbesian and commons problems. Such solutions reduce conflict by making some claims of control over resources uncontroversial, legitimate, just, or fair. If that control includes the ability to shift one's control to another person or group, trade becomes possible. An individual that is acknowledged to control a resource may in that case voluntarily shift control over part or all of that resource to another person or group. When two such parties have such clear control over two or more valued resources, they may each agree shift control over some of their resources from themselves to the other. Trade and gift giving are both possible in such communities.

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[1] See Aristotle's *Politics* or Menger (1992) for early evolutionary theories of the emergence of money. See Davies (2010) for an overview of contemporary theories of the emergence, use, and importance of primitive monies. Einzig (2014) provides a useful overview of anthropological research on the uses of primitive money.

[2] North (1992) explicitly includes rules of conduct among what he terms informal rules, although he does not explicitly discuss ethics or normative dispositions.

Trade is less likely to emerge in communities that have adopted various sharing rules to address both problems because control is vested in the community rather than in individuals, families, or small groups. Moreover, things are not partitioned in such cases but simply "ours" rather than "mine and thine." Thus even the possibility of exchange may go unrecognized in sharing and rationing based societies. This is not to say that such societies are necessarily less attractive than ones in which trade is possible, but it is likely that they will have less commerce and a lower standard of life in terms of goods and services.

However, it bears noting that establishing "ownership" of a subset of the resources in a community does not itself necessarily produce significant exchange because of various actions are necessary to undertake exchange and risks are often associated with even relatively simple transfers of control from one person to another.

Textbook Representations of Voluntary Exchange

Table 3.1 represents the trading setting of a standard economics textbook. The seller makes an offer (possibly by placing goods "for sale" on display). Potential "buyers" decide whether to accept the offer or not. Every trade involves making and accepting offers.[3] The first setting is the simplest that can be imagined. There are no transactions costs and the goods or services to be exchanged are well understood by both parties.

Offers can be made or not by Friedrich, and accepted or not by Adam. Clear gains to trade are assumed to exist. Yet even in this simple setting, trade is not an entirely automatic process.

Table 3.1: An Exchange Game without Transactions Costs

		Friedrich (Seller)	
		Make offer	Don't
Adam (Buyer)	Accept Offer	(A , F) (3, 3)	(A , F) (0, 0)
	Don't	(0, 0)	(0, 0)

The exchange game has two potential Nash equilibria. The trade equilibrium postulated by economics textbooks in the upper lefthand corner is stable, in that neither person can improve their payoff by changing their strategy. Note, however, that this is also true of the lower righthand equilibrium. Neither Adam, nor Friedrich can improve their payoff by changing their strategy from "don't" to the alternative.

It can be argued that one of these equilibria dominates the other in that players in the lower righthand cell can change their strategies from don't to the alternative strategy without cost and without risk. Thus, it can be said that making and accepting (or soliciting) offers is a weakly dominant strategy for each potential trader in this setting. Adam is at least as well off accepting the offer as rejecting it, no matter what Friedrich does. Similarly, Friedrich is at least as well off making the offer as not making it, regardless of what Adam does.

[3] See Vernon Smith (1962) for an experimental demonstration that a process of offers and acceptance can generate equilibria similar to those of competitive markets. Experiments based on his induced preference methodology are often used in classroom demonstrations of how market prices emerge from decentralized decision making (Holt 1999). Nozick (2913) uses the offer and acceptance vocabulary to develop implications of voluntary relationships.

This implies that the textbook result of the upper left-hand corner is the most likely outcome of this choice setting, although this involves a more subtle understanding of the rewards from exchange than that required to characterize the two Nash equilibria in table 3.1.[4]

Note, however, that somewhat strong assumptions are made in the textbook setting. Offers must be costless to make and accept, the evaluation of offers must always correct, and no possibilities for simply taking what is wanted exist. Neither law nor ethics can improves market outcomes in such a setting, except insofar as these are required to define and shift control over the goods traded.

III. Gains to Trade with Transactions Costs among Honest Trading Partners

Let us now modify the choice setting by assuming that making and accepting offers takes time, attention, and energy. For purposes of illustration, assume that both making and accepting offers costs 1 unit of the measure of payoffs, which is an index of well-being: utility or net benefits. The seller may have to travel to a particular location (a shop or marketplace) and the buyer may also have to make a special trip to observe and evaluate the offer of goods for sale. Traders are again assumed to be well informed about the details of the offers made. There is neither fraud nor misunderstanding of the terms of trade.

This choice setting is characterized in table 3.2. Transaction costs affect the net gains to trade that are ultimately realized and also the off-diagonal payoffs that occur when offers are made but ignored or sought but not made.

Table 3.2: Exchange Game with Transactions Costs

		Ronald (Seller)	
		Make offer	Don't
Douglas (Buyer)	Accept Offer	(D , R) (2, 2)	(D , R) (-1, 0)
	Don't	(0, -1)	(0, 0)

The existence of transactions costs transforms the choice setting into an assurance game. Assurance games are similar to the coordination games discussed in chapter 2 in that there are two possible Nash equilibria; however, in an assurance game one equilibrium is regarded by all game participants to be better than the other. Nonetheless, either equilibria may plausibly emerge from individual decision making.

There are no dominant strategies in this game, because the best choice depends entirely on what each expects the other to do. Douglas will not look for an offer (accept) if he anticipates that Ronald will not make an offer, because Douglas would bear the transactions cost of doing so, without realizing potential gains to trade. Similarly, Ronald should not bother to make an offer if he anticipates that Douglas will not look for or accept such offers.

Gains to trade may exist, but may not be realized, because making and accepting offers is costly. Consider, for example, all of the "treasure" that lies buried in today's basements, attics, and closets that

[4] As in the previous chapter, the matrices can be interpreted either as one shot games or as repeated games in which the payoffs are present discounted values (net benefits) for the pure strategies. The equilibria in the latter cases are subgame perfect equilibria in pure strategies.

could have been sold on one of the internet selling services, but isn't. Some is sold (as at the top left cell), but much is not that might have been (as at the bottom right cell).

In the beginning, as the notion of trade itself emerges, the lower lefthand corner would surely have been the most common equilibrium.

Culture and the Emergence of Markets

In Adam Smith's classic text, the *Wealth of Nations* (1776), he suggests that trade takes place largely because people have a "propensity to truck, barter, and exchange one thing for another." In such cases, transactions costs may be offset by the joy of trading. A similar propensity would be associated with normative dispositions that regard trade to be an inherently virtuous activity because, for example, it increases aggregate utility as argued by many twentieth century utilitarians.

Table 3.3 represents such internalized predispositions to trade as, V, a benefit associated with trading itself that is independent of whether a trade actually takes place or not. If the trading propensity is sufficiently strong, making offers and accepting them becomes the dominant strategy for each player, and all of the potential gains to trade are realized. In table 3.3, V>1 is sufficient to assure that the potential gains to trade are realized.

Table 3.3: Gains From Trade with Transactions Costs in a Trade-Supporting Culture

		Friedrich (Seller)	
		Make offer	Don't
Adam (Buyer)	Accept Offer	(A , F) (2+V, 2+V)	(A , F) (-1 + V, 0)
	Don't	(0, -1 + V)	(0, 0)

We can now generalize a bit from our results. Given a variety of transactions costs, as cultural support for trade increase, realized gains from trade also increase, other things being equal. The opposite occurs when there are predispositions against trade, as for example in Thomas More's *Utopia* (1516). If guilt rather than virtue is associated with trade, then V is less than zero rather than greater than zero—which is to say that guilt penalties G are subtracted from the make-offer and accept-offer strategies. In such cases, the potential gains to trade are reduced, rather than increased by internalized norms, and the no-trade equilibrium of table 3.2 is reinforced rather than undermined by normative dispositions.

In a community where such anti-trade norms are common, only transactions that would have generated relatively large gains from trade (in the absence of such norms) will ever be realized. For example, in the case illustrated, trade will not take place at all if V<-2.

Thus we can conclude, that for a given distribution of potential gains to trade and transactions costs, the greater are a community's normative supports for exchange, the broader markets tend to be, other things being equal. A general increase in Smith's propensity to truck and

barter tends to increase the extent of trading networks. Conversely, the more a community's ethical dispositions tend to discourage trade, the less extensive markets tend to be.[5]

IV. The Problem of Fraud and Market Support for Ethical Sellers

Transactions costs themselves are not simply a matter of the resources consumed making offers and appraising any offers made or moving goods and services from one place to another. There are a variety of informational costs that have to overcome as well. The terms of trade are not always known or obvious. Some trades have net losses, rather than benefits, associated with them. Thus, buyers often devote time and attention to assessing the quality of the goods on offer and their costs. Sellers, similarly, often undertake steps assure that they will be paid for the goods sold.

In such cases, errors can be made among honest buyers and sellers, and one or the other may regret having participated in a particular exchange. However, not all sellers or all buyers are honest. A buyer might be intentionally fooled by a seller into purchasing a good that not as good as claimed, or a seller might agree to a sale, but be paid less than promised.

Such risks can make it difficult to realize many of the potential gains from trade. Indeed, they can prevent the emergence of markets for some types of goods and services.

Pragmatic Sellers

The effects of fraud on the extent of trade can be analyzed by adding a row to the game characterized in table 3.2. The new row characterizes a seller's profits from making fraudulent offers if they are accepted by buyers. A fraudulent offer is one for which the true quality of the product or service offered for sale is far less than that which the seller claims. An honest offer accurately describes the product and terms of the product on offer, as in the illustrations above.

The advantage of trade for the buyer is greater from an honest offer than a fraudulent one.[6] Fraud-based profits are possible whenever lower-quality goods or services are less costly to produce than higher quality ones and the difference is not immediately obvious to most potential purchasers. The effect of potential fraud on exchange is characterized in table 3.4.

[5] Technological change may, of course, also generate increases in gains from trade or reduce transactions costs. New goods and services may be introduced and new modes of selling may reduce transactions costs, such as standardized selling hours and posted prices. Such innovations also tend to increase the extent of commerce. These are neglected here to focus on the effects of normative dispositions. It bears noting that the rate of technological advance is similarly affected by ethical dispositions toward and ideas about the possibility of progress, a topic taken up in the next chatper.

[6] For the purposes of the illustration, the possibility that fraudulent offers produce subjective benefits for the buyer are ignored. A buyer, might for example, benefit subjectively from the idea that he or she has an original Picasso until it is identified as a copy. Such cases are acknowledged to exist, but are clearly less common and worrisome than the one(s) illustrated.

Table 3.4: The Dilemma of Fraud

		Gordon (buyer)	
		Accept or Solicit Offer	Ignore All Offers
Richard (seller)	Fraudulent Offer	(R ,G) (3, -3)	(R , G) (-1, 0)
	Honest Offer	(2, 2)	(-1, 0)
	Do Not Make Offers	(0, -1)	(0, 0)

Note that if Richard expects Gordon to accept his offer, then he should make a fraudulent one. If Richard expects Gordon to refuse or ignore the offer, then he should not bother making either type of offer, because making offers is costly. Gordon will only accept an offer if he anticipates an honest one, but given Richard's incentives, this is not likely. In this setting, there is just one Nash equilibrium, which is to say one stable outcome, rather than two: the no-trade cell in which offers are neither made nor accepted.

The potential profits of fraudulent offers thus can eliminate the market for products whose quality is not immediately apparent to potential buyers. In choice settings where fraudulent offers are likely, markets will not emerge. Offers will neither be made nor accepted. [7]

If Erasmus' (1532) characterization of medieval merchants was accurate—where sellers routinely cozen and cheat their customers—one would anticipate relatively small trading networks in that period. Only easily assessed goods and services would be routinely purchased by prudent buyers. And, of course, as predicted, medieval markets were small and simple by comparison with those in today's commercial societies.

The no-trade equilibrium is problematic from a Paretian perspective because there is a feasible outcome that could make both parties better off without making anyone else worse off. The honest trade cell would make both traders better off than the no-trade equilibrium. The no-trade equilibrium is also problematic from a utilitarian perspective because it fails to maximize aggregate utility, here the sum of the payoffs in each cell ($2+2=4 > 0$). The outcome is also problematic from the perspective of community survival insofar as trade promotes specialization and increases a community's material reserves for addressing and weathering various crises.

Ethical Sellers

The likelihood of fraud can be reduced in a number of ways. It can be reduced by posting bonds and other warrantees by sellers (such as a money back guarantees). Unfortunately, claims about bonds and warrantees can also be fraudulent. The likelihood of fraud can also be reduced by formal laws against making false claims. However, court cases against fraud are costly, which make anti-fraud laws an effective deterrent only for frauds involving relatively large losses that can be recovered through a lawsuit. Moreover, there it is not always the case that law enforcement is free from corruption and favoritism.

The likelihood of fraud is more directly and assuredly reduced by the ethical dispositions of a subset of sellers. As in the earlier cases, a

[7] This market is a special case of the market for lemons developed in Akerlof (1970). If the game were restricted to the upper four cells, neither of the potential traders would have a pure dominant strategy. In that case, mixed strategies may be adopted by each. Repeated dealings may also affect the payoffs associated with honest and fraudulent offers, although there are cases in which the present discounted value of a long series of transactions have payoffs with relative magnitudes that are the same as in Table 3.4.

variety of internalized norms can reduce a seller's propensity to make fraudulent offers. An internalized general norm against telling lies or a narrower one with respect to misleading one's customers would inhibit sellers by associating guilt with such offers. Alternatively, feelings of virtue or pride may be associated with selling good products or making only fair honest offers. Internalized norms thus change the rewards associated with fraudulent or honest offers.

Table 3.5 characterizes the effect of guilt associated with making fraudulent offers. It illustrates how internalized ethical or normative beliefs that tend to make fraudulent offers less attractive can solve the dilemma of fraud. A sufficiently strong guilty reaction from making fraudulent offers, G>1, can cause the honest trading cell, (2,2), to reemerge as a possible equilibrium.

Table 3.5: Markets with Fraud and Guilt from Fraudulent Behavior

		Gordon (buyer)	
		Accept or Solicit Offer	Ignore All Offers
Richard (seller)	Fraudulent Offer	(R ,G) (3-G, -3)	(R , G) (-1-G, 0)
	Honest Offer	(2, 2)	(-1, 0)
	Do Not Make Offers	(0, -1)	(0, 0)

To take advantage of the offers of honest sellers, buyers must able to recognize (relatively) honest sellers. For a one-time or first-time trade, buyers must be able to appraise a seller's character, which is arguably one of the skills that most persons acquire through time, although it is rarely perfectly accurate.[8]

As experience with the honest and dishonest sellers accumulates, some sellers may acquire reputations for honest dealings with their buyers and others with fraudulent dealings. Buyers will naturally favor sellers who give good value for the money spent over those that do not, and such sellers with thrive with the others largely disappear. The transactions costs associated with dealing with such sellers also tend to be lower, because less effort has to expended assessing the quality of the products on offer.

These additional gains from exchange are likely to be shared among buyers and sellers. Buyers would be willing to pay a premium to purchase goods from sellers known to be honest, which would tend to further increase the profits of well-known honest sellers.

The price premium realized by honest sellers tends to encourage "honest dealings" even in the absence of moral dispositions. Pragmatists may thus adopt rules similar to those followed by honest sellers in pursuit of profits, which of course benefits consumers and also tends to further increase the scope of trade. For consumers, it matters little whether honest dealing emerge from a sellers internalized duties or from pragmatic assessments of the profits that can be realized. In either case, many formally risky purchases become less so. Moreover, as pragmatists follow trust building business practices, such practices may become habitualized and the seller themselves honest rather than pretending to be so.

[8] Frank (1988), for example, suggests that this ability is added by various genetically supported signals that a dishonest person tends to exhibit such as facial expressions, blushing, posture, and nervousness.

Nonetheless, this choice settings has two possible equilibria, namely the two associated with the assurance game of table 3.2 in which only honest sellers and buyers were assumed to exist. As in that simpler case, additional support is needed to realize all potential gains to trade because of other transactions costs and coordination problems.

It is interesting to note that in this choice setting, an association with virtue rewards with honest offers, as opposed to guilt with fraudulent offers may overcome the assurance game dilemma as well. If a sufficient virtue reward is associated with with making honest offers, a single unique Nash equilibrium tends to emerge—namely, the one previously illustrated in table 3.3, in which honest offers are made and accepted.

Even quite similar normative or ethical dispositions may differ in the extent to which they solve social dilemmas. Indeed, different principles may be applied to different markets. Some fraudulent offers may be discouraged, and others deemed irrelevant or even entertaining.

A Short Digression on Reputation, Legal Recourse, and the Extent of Fraud

The choice setting characterized by table 3.5 was contrived to make the problem of fraud as difficult to overcome as possible when both buyers and sellers have only narrowly self-interested (pragmatic) goals. The purchaser is assumed to be completely unable distinguish between fraudulent and honest offers before the exchange is takes place. In modern parlance, this tends to be true of all "credence" goods. It is a plausible characterization of products or services whose effects take many years to be observed (as often the case with products or investments that are claimed to improve one's health or wealth). It also applies to many more ordinary goods that come prepackaged or for which fully operational and faulty versions of the same product or service look essentially the same to the untrained eye.

As this assumption is relaxed the required strength of internalized norms necessary to support a particular market diminishes because the profitability of fraudulent transactions diminishes as the likelihood of detection increases. More buys reject such offers, and this has increasingly negative effects on a firm's reputation.

It is, however, only in cases in which fraud can be easily detected by most buyers for essentially *all* goods and services that the rules of conduct adopted by sellers are irrelevant for the extent of commerce and its associated trading networks. In such cases, fraudulent transactions become impossible—more or less by assumption.

Given a well-functioning legal system, it might be argued that internalized codes of conduct are less important than suggested by the above analysis. Laws against fraud may impose fines and jail time rather than feelings of guilt, and these too reduce the (net) payoffs associated with fraudulent offers. However, court proceedings are not costless, perfectly accurate, nor entirely free of corruption. Moreover, it takes, time, attention, and money to bring case to court. The more often court proceedings need be applied to recover losses from fraud, the more risky transactions are, and the smaller market networks tend to be—even with honest efficient law enforcement.

Significant court costs also imply that small frauds are rarely if ever brought to court, and small transactions are among the most common transactions undertaken in market networks. Many, perhaps most, common purchases thus fall into this gap between law and anarchy. A great-tasting and disgusting bottle of wine, loaf of bread, apple, or can of beans all look basically the same. It is not until one actually takes them home and consumes them that one really knows the quality of the product purchased. Similarly, the durability of a pair of shoes, a shirt, stove, cell phone or other consumer capital good will not be known until well after the purchase is made. Disappointments about such "bargain" are more likely to cause buyers to exercise greater care in their future choices of merchants and brands than it is to produce a civil or criminal filing for fraud.

It also bears noting that any reputation that emerges from repeated dealings—through one's own experience or indirectly through social networks—concerns the ethical dispositions and norms of the firm being assessed. This is largely determined by a seller's rules of conduct for its employees and its recruiting practices. The hiring of ethical

employees—in the sense used in this section on fraud, as persons not inclined to make fraudulent claims—is one the most effective ways to generate such reputations. Persons who have such dispositions do not require as much training or as monitoring as those that do not.

A good reputation provides evidence of a seller's character. Seller A is always honest with its customers, can be trusted, always delivers on what is promised, stands by its warrantees, never takes advantage of ignorance, and so on, whereas you never can trust seller B to do the same. Seller B may play pragmatic mix strategy against its consumers or conditionally cheat only in circumstances in which it unlikely to be detected (as in choice setting 3.4), rather than doing so routinely.

When an economist argues that a firm's reputation will prevent fraud, he or she is implicitly arguing that sellers will adopt and enforce codes of conduct that require their customers to be treated ethically, which is to say honestly and fairly.

Market Support for Ethical Conduct: Shopping for Ethical Suppliers

The strength of the preference for ethical sellers is indirectly indicated by the choice settings illustrated by tables 3.4 and 3.5. Few or no transactions will be taken with firms that are considered to be untrustworthy or in product markets where all dealers have such reputations. Table 3.5 illustrates why buyers prefer to deal with trust-worthy sellers. The net benefits from exchange are higher from such sellers, other things being equal.

If buyers frequent only relatively trustworthy sellers, relatively untrustworthy sellers will disappear, transactions costs in the relevant product markets diminish, and gains from trade increase. All these effects tend to broaden networks of exchange and encourage productive forms of specialization. It also induces sellers to build and protect reputations for being trustworthy.

Efforts to build trust require answers to a variety of questions not all of them involving ethical issues. Sellers have to recognize what "it" is that buyers want? Do my buyers prefer honesty over guile? How can I improve my products for them? How can I make shopping a more pleasant or efficient process for them? and so. As a consequence, the question most often heard when one walks into a service orientated store is "can I help you?" rather than "how can I profit from you?" even though a pragmatic owner/manager is more interested in the latter than in the former.

What buyers want is generally a complex combination of services and goods, rather than a single one. The trustworthiness of sellers, however, is likely to be among the most important services for most buyers of most products.

Consumers may also care about internalized norms of a firm's owners and employees beyond those that tend to reduce transactions costs, increase efficiency, and reduce risks. Such customers are willing (by definition) to pay a higher price for the services provided by persons they deem virtuous, good, honorable, praiseworthy, and so forth. When relatively small numbers of such consumers exist, specialty shops may provide the additional moral services, as with stores that sell "fair trade" goods or specially shops for orthodox members of various religious groups.

As the numbers of such "ethical consumers" increase, pragmatic retailers may start to espouse normative positions consistent with those consumers, because complete indifference to the ethical concerns of large groups of consumers would tend to reduce their potential customer base and profits. They may decorate their stores in a manner with associated holidays and stock special merchandise on such occasions even if they have not internalized the same moral or religious dispositions.

V. Commercial Organizations: Specialization and Production by Teams

The choice settings explored to this point have all involved individuals who make independent decisions about what to do in "given" choice settings. We next consider the significance of internalized norms for organizations. Other organizations such as tribes and villages are likely to have emerged well before commercial organizations and these and other organizations confront many of the same problems as

commercial organizations. Thus, the analysis undertaken in this section, although focused on commercial organizations, also has implications for many other organizations that contribute to a community's viability and attractiveness. Indeed, chapter 2 has already analyzed several relevant problems.

Organizations are by definition "organized," which is to say that they are groups of people who follow organization-specific rules and so achieve different outcomes than unorganized groups. Commercial organizations also do so, but are limited in their ability to enforce the rules. Exit is always an option for members of a commercial organization's team. They are, essentially by definition, voluntary organizations in which the persons employed may leave and seek other employment. The rules enforced by a commercial enterprise may be quite narrow—show up at a particular time and place and undertake a specific task—or they may be general—cooperate and facilitate the organization's general objectives. Commercial rganizations may form spontaneously, as a group may recognizes advantages from coordination that can be realized if everyone follows similar rules. Such organizations are referred to as "natural cooperatives" in this section of chapter 3. Alternatively, commercial organizations may be organized by a small group of "formeteurs" who believe that there are advantages that can be realized by organizing a team—often profits for the formeteurs, but not always.

All organizations have rules that their members are duty-bound to follow, although the rules adopted in the former case may be ones agreed to by everyone rather than ones contrived by an organization's formeteurs. All organizations have aims that their founders believe can be better advanced by rules of conduct that are in a sense imposed on their members, whether their aims be a more productive hunt, philosophical improvement, religious observance, mutual amusement, conquest of one's neighbors, or profits. Following the rules imposed is "part of the job," which is to say a duty associated with being a team member. Such rules are reinforced by organizational sanctions of various sorts, which in the voluntary organizations of interest here include various chiding, financial penalties, and expulsion from the organization. Such rules may become internalized, in much the same manner as ethical dispositions are. However, as demonstrated below, the enforcement efforts of organizations do not eliminate the advantages that can be realized if their members have efficiency enhancing ethical disposition.

Commercial organizations tend to emerge when organized groups can produce more goods or services for sale and/or are more effective at selling them than unorganized groups of individuals with the same resources. They are potentially useful because they facilitate production and exchange. They are self-sustaining only if they benefit all members of the organization (especially their formeteurs). Otherwise, a commercial organization will tend to disintegrate as member leave and/or formeteurs end their association with the enterprise.

The advantage associated with organized production and selling are not easily or automatically realized, because the efficiency increasing rules need to be developed and those rules must be more or less followed to realize advantages from "team production." The rules themselves are often subtle and unwritten, and following those rules is not always in the immediate interest of individual members of the organization. Thus the first organizations were likely to be very small, most likely two or three partners, and larger organizations emerged only as thousands of minor and major innovations in rules, production methods, and sales took place.

This subsection demonstrates that in communities where potential members have not internalized norms that tend to increase the efficiency of commercial organizations, such organizations are less effective and may be less efficient than uncoordinated individual production. As a consequence, specialization and markets are limited. In such communities families might erect their own shelters, grow and harvest their own food, and produce their own clothing. That subsistence hunting and gathering and farming by families and small groups was the norm for much of anthropological history suggests that the advantages of organized production are difficult to realize—and it also tends to be less useful before market networks emerge.

Markets and commercial organizations can thus be said to coevolve in much the same manner as communities and ethical dispositions.

The Shirking Dilemma and Team Production

Relatively simple organizations can be thought of as teams and the process through which their organized commercial activities occur as team production (Alchian and Demsetz 1972).

Team production is often potentially much more efficient than production by the same individuals acting alone. For example, a team of hunters can use tactics that no single persons could. A team of loggers or bridge builders can move timbers and stones that no single persons could. A construction team of 6 specialists—for example, a framer, roofer, electrician, plumber, sheet-rocker, and painter—can build 6 houses faster (and often of higher quality) than 6 persons working alone who lack particular skills at construction. A team of medical specialists can likewise undertake surgical procedures that no single person would be able to.

Nonetheless, there is a sense in which team production is unnatural. Every person on a team has private incentives to under-provide services to the team, because each team member captures only part of the overall gains from their efforts. On an effective team, each members efforts directly or indirectly increase the productivity of other team members.

To illustrate this dilemma, suppose that a team is organized as a "natural cooperative" and shares the output produced equally. Each person participates in the team activities for 8 hours. The team's output is two times the total effort invested in production. Suppose that effort is unobservable, as when a group tries to lift or carry a heavy object or separately searches for fruit to be harvested and shared. The benefits of leisure (the absence of productive effort) are realized only by the person(s) shirking. Assume that the value of an hour of shirking is equivalent to 1.5 units of the team's output for the individual choosing whether to work or shirk.

Table 3.6 illustrates the resultant "shirking" dilemma for a two-member team. The payoffs are net benefits measured in output units. They are the sum of each team member's share of the team's output plus the value of each player's own leisure.[14]

Table 3.6 The Shirking Dilemma of Team Production (in Natural Cooperatives)

		Harold (hours of effort)		
		8 hours	6 hours	4 hours
Armen hours of effort	8 hours	(A, H) 16, 16	(A, H) 14, 17	(A, H) 12, 18
	6 hours	17, 14	15,15	13, 16
	4 hours	18, 12	16, 13	14, 14

The Nash equilibrium is at the lower right-hand corner of the table. That a shirking problem exists is implied by several normative theories. From the Pareto and contractarian perspectives, there are many feasible moves that could make at least one person better off without making another worse off. To the extent that shared output or net revenues can be interpreted as utility levels, aggregate utility is not maximized. And to the extent that the output of the team contributes to a village's survival by reducing its material reserves, the shirking dilemma diminishes its likelihood of survival in the long run.

The Economic Value of a Work Ethic

Such problems are ancient and so are a subset of solutions. In communities with governments, laws could be passed against shirking (idleness), although this is rarely done. Exceptions being the early Puritan colonies of Massachusetts and some periods in ancient Athens. In productive organizations with their own governing rules, the rules may be adjusted to encourage work over shirking as with output shares or wages conditioned on effort. Alternatively, it is possible that norms emerge to solve the problem of shirking. Such rules may be internalized and encourage diligent efforts by all members of the team. Indeed, all readers who regard the terms "shirking" to have a negative connotation have at least partly internalized such rules.

Norms that reduce propensities to shirk can take many forms. The simplest is an internalized duty to work diligently—a work ethic—that brings forth feelings of virtue when one works or guilt when one shirks. The "guilt" variety of this normative disposition is incorporated into table 3.7. As in the other case, an internalized sense of virtue or pride for working diligently would achieve similar results. In the case illustrated, guilt-avoidance indirectly increases happiness (and income) by increasing team output and team member rewards. The reward may be a share of a commercial organization's revenue or profits after money economies emerge, but may simply be the net value of shares of the output produced in pre-commercial cooperative enterprises.

Given the payoffs of the previous illustration, a work ethic which associates a guilt penalty with shirking can induce 8 hour days of effort by each team member if G>1. Note that the result is increased utility or net benefits for all (16>14>14-G).[9]

Table 3.7 How a Work Ethic Reduces the Shirking Dilemma

Harold (hours of effort)

Armen hours of effort	8 hours	6 hours	4 hours
8 hours	(A, H) 16, 16	(A, H) 14, 17-G	(A, H) 12, 18-2G
6 hours	17-G, 14	15-G,15-G	13-G, 16-2G
4 hours	18-2G, 12	16-2g, 13-G	14-2G, 14-2G

A variety of norms can solve or reduce the shirking problem, thus the same norm need not be internalized by every member of an organization's team for it to avoid the shirking dilemma. Reciprocity norms can induced team members to match each other's effort. Notions of "fair" or "reasonable" efforts, may induce fellow team members to chide, embarrass, or evict members who shirk their duties. Partially internalizing the benefits realized by others on the team—as a utilitarian tends to—would also reduce an individual's subjective gains from shirking.

The point here, as in the other illustrations of this chapter, is that internalized norms can solve social dilemmas associated with commercial activities, and that communities that have such norms will tend to have broader more effective markets than those that do not.

There are also norms that tend to undermine the productivity of team production. For example, norms that encourage shirking may exist when a team is organized by a formeteurs rather than by all team members. A subset of team members may believe, for example, that shirking advances goals such as solidarity or justice or by undermining efforts to punish shirking enhances the lives of those who benefit from sharing the output of the team, but without working as hard or as much as others do. Such norms tend to produce leisure for the relevant team members, but reduce the use of team and the average size of the teams used in productive activities within their communities.

[9] Although not important for the purposes of this illustration, some readers may be interested to know that the individual cell payoffs for Armen are $1.5\,(8-E_A)+ 2(E_A+E_H)/2$ where E_A is the number of hours Armen devotes his energies to team production, rather than shirking. The payoffs for Harold are Armen are $1.5\,(8-E_H)+ 2(E_A+E_H)/2$. ($E_A$=4, E_H=4) is the Nash equilibrium of the continuous version of this game. The joint optimum is an 8-hour day for each.

Such norms may at least partly account for the fact that large teams of volunteers (as opposed to slaves) were rarely employed by commercial organizations until the past few centuries.[10]

VI. Recruiting and Rewarding Ethical Dispositions

All individuals have the capacity to internalized rules—our great capacity to do so is partly what makes us human as argued in chapter 1. However, an individual's inclination to internalized new rules at a point in time is partly a consequence of rules that one has already absorbed and refined during one's prior lifetime. This implies that a potential team member's preexisting normative and ethical dispositions affect his or her willingness and ability to follow an organization's rules.

Insofar as the productivity of every organization depends in large part on the rule-following propensities of its members, organizations will attempt to recruit members that are likely to follow their rules. Thus, a potential member's preexisting norms will be one of the considerations taken into account when an organization accepts or recruits a new member, because these dispositions have significant effects on a new member's behavior within the firm and thereby his contributions to the team's activities.

This is not to say that only mild-mannered rule-following individuals will be admitted into organizations, but it is to claim that whether a person can be expected to follow the organization's rules or not is a non-trivial consideration. Some rule-breaking behavior may be acceptable if an organization is to evolve or innovate, but it cannot be the norm. An organization would cease being organized if all of its rules were ignored by all of its team members.

When organizations hire team members to produce goods for market, it is clear that highly skilled persons with dispositions to work hard are preferred to low skilled, dishonest, persons with a predisposition to shirk, other things being equal (such as wage rates and availability). Whether a firm would prefer a low skilled individual with a disposition to work diligently over a high skilled individual with a propensity to shirk depends upon a variety of factors including the cost of monitoring particular tasks, the difference in potential output from high and low skill workers, and differences, if any, in market wage rates.

Table 3.8 illustrates the tradeoff confronted by a commercial organization's owners or managers when assembling a team from persons who would join the organization if asked. Table 3.8 represents the skills and moral dispositions of nine persons who would like to join the firm. (As conventional in economic writings, commercial organizations are often be referred to as "firms.")

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[10] That ethics can increase the productivity of teams has been studied by a few economists. See, for example, Congleton (1991), Buchanan (1994), or Rodgers (2009) for general analytical assessments. Although Weber's (1909) famous short book on the Protestant Ethic seems to imply that the work ethic was first associated with Protestantism in Europe, this is not likely to be the case, although it is possible that Protestantism increased its relative importance. Several academic pieces, for example, have been written on the Islamic work ethic. See for example, Murtaza et al (2016). Based on the above illustration and the discussion in the next section, work ethics and other norms that moderate shirking problems are likely to have emerged in most communities, although with somewhat different intensities and internalized duties.

Table 3.8: Menu of Potential Team Members and Their Anticipated Marginal Revenue Products

	High Skill	Mod. Skill	Low Skill
High Ethics	10	8	6
Mod. Ethics	7	6	5
Low Ethics	6	5	4

The same table can be used to consider the appeal of all types of ethics, but for now assume that "ethics" refer to the extent of a person's work ethic—his or her preexisting propensity to work diligently whether observed by the firm's managers or not. The production process is assumed to be one for which monitoring is costly, and so a propensity to work diligently when not monitored is nearly as important as task-related skills. In such organizations, a skillful person who can freely shirk may produce less than a less skillful person with a predisposition to work rather than shirk.

Low ethics in this context does not necessarily imply criminal behavior, but rather a weakly internalized vector of relevant propensities for honesty, industry, prudence, and so forth, and thus a greater propensity to shirk from one's duties to the firm when not closely monitored. It is such considerations that Franklin was contemplating in the quote at the beginning of the chapter.

If all nine types of potential employees are willing to work for the same wage or share of the firm's output, the firm will first hire the type (HH) worker, the one with the highest skill and strongest work ethic. The second hired is the person of high motivation and moderate skills (HM). That person works hard enough to offset his or her lower skills. The third person hired is the person with a modest work ethic but high skills (MH). and so forth until the new team is staffed out or departing members replaced. The last to be hired are low-skill "lazy" potential team members.

Given the productivity differences implied by the illustration, however, high skill employees may earn more than low skill employees and ethical employees may be paid more than less ethical ones, because they produce more output, other things being equal. The extent to which wages reflect productivity depends on the extent of competition among organizations for productive employees.

In perfectly competitive markets for labor, workers are paid their full marginal revenue product, and each of the above potential employers would have a different reservation wage rate—indeed one that eliminates incentives to pick one over another potential employee. However, in less competitive (more realistic) environments, wages may reflect marginal revenue product but generally be somewhat less than that product. (Employees cannot be paid more than their total contribution to an organization without undermining a firm's overall net benefits or profitability.)

Unfortunately for all organizations, neither a person's skill set nor propensity to work diligently can be perfectly assessed. Nonetheless the importance of estimating a potential team members true marginal revenue product induces firms to devote a good deal of time and energy in their recruiting efforts. It also partly explains why wage rates and salaries tend to be less fine-grained than competitive models predict.

Various objective measures that are roughly correlated with skills and ethical dispositions such as college degrees, criminal records, and letters of recommendation are used to estimate both the skills and ethical predispositions of potential employees, along with an interviewer's assessment's of a potential team members quickness and character. Both interviews and trial periods would be less commonplace and shorter, if objective measures were completely reliable—or if only skill-related differences were at issue.

The demand for employees with particular internalized norms varies among firms and also among occupations within firms. For example, honesty has a greater effect on the marginal productivity of persons overseeing the operation of cash registers than on those washing

windows. This is not to say that a given window washer may not be more honest than a given cashier, but the quality of a window washer's work is easier to access. The extent to which change is miscounted to customers or items paid for in cash are miss-rung on cash registers is essentially unobservable. Similarly, promise keeping is more important in industries where contracts are consummated via handshake than in ones where careful detailed contracts are worked out and expected to be enforced by litigation or arbitration, rather than reputation.

The tradeoffs between skill and ethical dispositions thus vary among industries, which is consistent with surveys that indicate that some industries and professions are considered to be more trustworthy than others.[18]

VII. Markets and the Distribution of Ethical Dispositions

Thus, far this chapter has demonstrated that there is not a conflict between markets and all systems of ethics. Indeed, it has demonstrated that markets are far more likely to emerge when ethical dispositions have solved a variety of problems confronted by communities, potential trading partners, and organizations. It has not, however, argued that "all" conduct that may be regarded as "moral" has such effects. Some normative systems tend to support the emergence of peaceful attractive communities, reduce transactions costs and increase the effectiveness of team production—but others may undermine them. Moreover, not all ethical systems solve the same problems as well as others. As a consequence, communities may be more or less attractive and have more or less extensive networks of exchange and commercial enterprises.

This is not to say that culture drive everything, only that it is important if one wants to understand how community and markets emerge and sustain themselves. It turns out that markets also affect the distribution of ethical dispositions in communities insofar as relative rewards associated with particular dispositions affects a family's tendencies to encourage particular virtues or an individual's interest in acquiring them. Franklin, among many others, argues that developing virtuous dispositions tends to advance one's economic interests.

At the level of a community, the distribution of ethical dispositions and skills can be taken as given or predetermined in the short run, because these reflect long term investments made by individuals and over the course of several decades. Moreover, many of the rules of conduct and ethical principles that an individual is exposed to and rewarded for mastering are ancient ones, transmitted from one generation to the next for centuries. Thus it can easily be argued that a community's ethos (most commonly internalized rules and principles) tends to be relatively stable and durable.

Nonetheless, to say that change is difficult is not to say that its impossible. If we accept Aristotle's characterization of virtue as an "unnatural" disposition accumulated through deliberate practice during one's life, it is clear that virtue like any other skill at problem solving can be gradually accumulated at any point in one's life. According to Aristotle, Franklin, and many others, ethical dispositions are not all or nothing affairs but rather accumulated effects of training, practice, and reflection. An individual's own decisions and efforts also affect the collection of ethical dispositions and skills that he or she accumulates over a lifetime.

Adam Smith argues that investments in virtue are made because of the rewards of praise from fellow members of one's community and from a person's own internal impartial spectator.. Aristotle and Mill suggest that it is a method for increasing one's long term happiness. Only Kant among the scholars reviewed in Part III argues that self-interest and ethics are entirely different realms of choice.

The analysis of the last part of this chapter explores the extent to which economic factors are likely to affect such choices—at least at the margin.

Investing in Virtuous Dispositions

In commercial societies, investments in skills—including a subset of ethical dispositions—tend increases one's productivity on teams and in business transactions for reasons already developed. The higher incomes associated with such skills is arguably the main reason that so many persons attend college and trade schools. However, not all skills and not all ethical dispositions are equally rewarding. To the extent that

anticipated rates of return affect one efforts to acquire a "skill set," the same rewards are likely to affect the "virtue set" acquired by individuals.

The latter may not be as consciously pursued as a degree in engineering, economics, of philosophy. Nonetheless, the personal rewards of prudence, diligence, persistence, and self-mastery are obvious in the period in which one undergoes formal education, where it is encouraged both through grades and prospects for a college education. And, such virtues are subsequently rewarded with raises and more interesting job opportunities when one is employed or seeks employment within commercial organizations.

With respect to markets, some virtues are highly rewarded while others are less so. These differential market rewards will affect the mix and degree of internalization of all virtues, not simply those sought by employers. For example, modesty makes it less likely that an individual's other virtues become known to potential employers and so arguably makes one somewhat less likely to be hired, other things being equal. Bravery may induce persons to ignore what their employers or customers want from them, even if it places their future employment at risk. Such persons may be proud, but under- or un-employed insofar as many firm owners prefer rule following "meek" persons to impetuous heroic ones.[11] The same reasoning also applies to ethical dispositions that are socially rewarded with praise and esteem.

Table 3.9 illustrates how the rewards from virtue can affect a person's allocation of time among activities, including the production of virtuous habits. The numbers in the cell represent marginal utilities or marginal benefits associated with successive hours of investment in 5 activities, including investments in three virtues. All the activities are assumed to exhibit diminishing marginal returns, as per the usual economic assumption.

For purposes of illustration, it is assumed that Ben can only work at one thing at a time and that the marginal utilities of the five activities are independent of one another. This simplification allows the benefits from various allocations of time to be represented in a table, which is useful for purposes of illustration and not entirely unrealistic.

The shaded cells represent Ben's initial allocation of 16 hours among these activities listed. That choice is assumed to represent investments in ethical dispositions in a community with relatively simple markets. This allocation maximizes his (or her) utility from these activities.

Table 3.9 Ben's Allocation of Time and Effort (Cell Entries are Marginal Utility, 16 Hours Allocated)

	Leisure	Work	Honesty	Prudence	Bravery
1 hour	20	30 +s	11 +s	12 +s	11
2 hours	16	24 +s	9 +s	11 +s	10 9
3 hours	12	18 +s	7 +s	10 +s	
4 hours	9	12 +s	6 +s	8 +s	8
5 hours	6	8 +s	5 +s	6 +s	6
6 hours	3	4 +s	4 +s	4 +s	4
7 hours	4	2 +s	6 +s	2 +s	1
8 hours	2	1 +s	4 +s	1 +s	0

[11] The above simply follows Montesquieu's reasoning. Unusually brave and bold nonconformists may be well-rewarded in the most dangerous industries. As in all markets, the interplay of supply and demand determine the rewards. If there are more unusually braver and bold persons than jobs for them, wage premiums for bravery will tend to be relatively low. Knight (1921/2006) suggests that risk taking within markets, the bravery of what he calls entrepreneurs, often tends to be well rewarded.

Now, suppose that commerce expands. Assume that the returns to work, honesty and industry all increase by two utils or two units of net benefits (s=2) because of new rewards (salary plus praise) associated with those virtues. Given this new pattern of rewards, Ben's utility maximizing or net-benefit maximizing investment in virtues changes a bit at the margin. Ben's new allocation is represented with the underlined cell entries. The new pattern of rewards induces Ben to shift an hour of leisure to work and an hour of time spent perfecting bravery to be shifted to perfecting prudence, because prudence is now relatively more rewarding than it had been before.

Table 3.9 thus illustrates the tension between commerce and virtue that concerned Montesquieu, among many others. Some virtues are supported by markets, but others are undermined. Bravery and leisure may be less evident in a commercial society than in a pre-commercial society. On the other hand, as argued by Franklin, Bastiat, and Spencer, commerce is not inconsistent with ethical development. It simply supports some virtues more than others, as most choice settings do. In this particular market, the virtues of prudence and industry are supported by commerce.

Whether ethical conduct has increased or not depends on the relative value that an observer places on prudence, work, and bravery. If prudence and diligence are regarded to be a more important than bravery and leisure—as Aristotle and Smith argue—average virtue has been increased by the expansion of commerce. If not, ethical conduct can be said to have declined.

Table 3.9 can also be used to illustrates how a shift from one community to another may affect one's ethical dispositions. When a person immigrates from a relatively less commercial society to a more commercial one, the rewards associated with various ethical dispositions tend to change. As the rewards associated with particular virtues change, more or less effort will be made to acquire those dispositions or at least to behave as if one had the virtues sought.

Max Weber and John Steward Mill, among many others writing in the late 19th century, argued that large scale economic enterprises require the support of internalized norms by team members. As large-scale organizations emerged, predispositions to cooperate with fellow employees increased in importance and evidently became more commonplace. Weber also argued that ideas about the good life changed as commercial societies replaced pre-industrial societies. Older ideas about a good life in which leisure was very highly valued were replaced with ideas about a good life in which productive activities and material comfort became more central or important.

> A man does not "by nature" wish to earn more and more money, but simply to live as he is accustomed to live and to earn as much as is necessary for that purpose. **Wherever modern capitalism has begun its work of increasing the productivity of human labor by increasing its intensity, it has encountered the immensely stubborn resistance** of this leading trait of pre-capitalistic labor. And **today it encounters it the more, the more backward (from a capitalistic point of view) the laboring forces are with which it has to deal**. … Labor must, on the contrary, be performed as if it were an absolute end in itself, a calling. But such an attitude is by no means a product of nature. It cannot be evoked by low wages or high ones alone, but can only be the product of a long and arduous process of education. (Weber (1909/2012: KL 271-315).

VIII. Conclusions: On the Coevolution of Commerce and Ethics

Chapters 2 and 3 have provided an analytical history of the emergence of commerce grounded on solutions to a wide variety of social dilemmas. The latter have be illustrated with the simplest possible choice settings to demonstrate why such dilemma are likely to be significant barriers to the emergence of settle communities and significant commercial networks. Simple dilemmas commonplace and doubtless among the first to be solved through the adoption of rules of

conduct that become habitualized. Small number settings in which problems are relatively obvious, would naturally be recognized first and it is easy to image agreements about rules of conduct being agreed to by those affected. More complex social dilemmas may never be directly understood and consciously solved, but rules developed for other purposes often generalize and those generalizations may solve broader problems as well as the one's they were adopted to solve. In every dilemma illustrated, all parties benefits from solutions: peaceful relations may emerge, local resources would not be over utilized, useful community services provided, mutual gains from trade may be realized, and material advantages associated with team production and specialization realized.

Without solutions to these social dilemmas in their many and varied real-world forms, neither attractive communities nor productive networks of exchange and production are likely to emerge.

With respect to markets, it turns out that trade is no more "automatic" than communities. There are numerous preconditions that must exist and numerous dilemmas to be ameliorated or solved. Chapter 2 dealt with general classes of problems and types of norms that facilitate the emergence of settled communities. Chapter 3 focused on social dilemmas that must be overcome for trade to emerge. Some of the prerequisites for trade are are likely to have emerged partly as solutions to the dilemmas discussed in chapter 2. For example, norms regarding "partitioning" or "legitimate control" over various subsets of resources solve both the Hobbesian dilemma and local commons problems. If "legitimate control" can be shifted from one person to another then trade becomes conceptually possible. Without such "legitimate" shifts of control from one person to another, the only manner in which resources can be shifted from one person or tribe to another is by forcibly taking what one wants, more or less as many animals do including household pets. (Readers may note, for example, there are no obvious exchange relationships between cats and dogs.)

Humanity's enormous ability to internalize rules provides a possible explanation for why humans engage in exchange—even in settings without significant government protections—but cats and dogs do not. If rules that create "ownership rights" are internalized and those rules imply that some transfers from one person to another are "proper," "fair," or "just" then exchange is likely to emerge. It is unlikely to be a major part of life in small communities for roughly the same reason that voluntary exchange is not the center of life within a family. The gains from exchange and specialization and exchange within families tends to be small—and trade tends to be limited to "favors" and supported by promise keeping and reciprocity norms, rather than external enforcement—although parental interventions also contribute to peace among siblings.

More advantages from specialization are associated with larger communities because the gains from specialization are greater when one can makes dozens of goods for exchange than one or two. As the saying goes, "practice makes perfect," which is to say that productive skills increase through repetition.

As exchange opportunities increase and specialization increases, the advantages of team production also tend to increase. However, as noted in this chapter, team production is no more "natural" than communities or exchange are. Numerous free riding / shirking and coordination problems have to be over come to make all but the very simplest teams more productive than production alone or by families. And, as those problems are solved for the specific choice settings at hand, the advantages of team production tends to increase. The potential advantages of team production also increase as the extent of trade increases as noted by Stigler (1951).

All this suggest that a communities ethos—its predominant ethical dispositions—tends to co-evolve with both the attractiveness of the community itself and the extent of the commerce that it supports and sustains it—more or less in the manner posited by Herbert Spencer in the mid to late 19th century. Spencer also speculated that, in principle, a perfected community ethos may resolve essentially all problems and a peaceful prosperous society without a law enforcing or imposing.

That trade and peaceful relations may emerge without government may be a counter-intuitive proposition in today's world with its broad range of rule enforcing organizations. However, trade among

communities with different governments have long been undertaken, as are international trading relations today. Those transactions are largely governed by customary rules that allow shifts of ownerships to take place among parties that are subject to quite different formal laws of ownership in their home countries. There are also, of course, many illegal products for which extensive markets exist, as with various narcotic markets, markets for sex, and markets for "non-tradable" military equipment. In all these cases, governments actively intervene to suppress trade, but trade continues nonetheless.

This is not to say that governments never add to the support provided by internalized norms and customs, but simply to point out that they are not prerequisite for trade or communities to emerge.

The theory being developed in chapters 2 and 3 suggests that rather than moving from the Hobbesian jungle to society well-governed by leviathan as postulated by Hobbes, that communities emerged gradually as a variety of social dilemmas were solved through innovations in rules of conduct that became internalized. The process of rule adoption and internalization may in some cases have been consciously adopted as suggested by Buchanan (xxxx), but in others rules may have be adopted for other purposes that just happened to solve an important dilemma. Insofar as rules that solve social dilemmas are more likely to be transmitted from one generation to the next (because groups with such rules are more likely to survive and flourish), a community's ethos tends to become better and better adapted to the problems confronting it.

Whether the result is one analogous to that postulated by Locke (1690) in which the natural state is largely governed by natural laws, but not entirely so, or the one postulated by Spencer (1851) in which ethical evolution solves all of a community's problem is an issue that is not beyond interest—but insofar as Spencer's ideal has not yet been reached, Locke's may be the more useful one for most purposes. The dilemmas analyzed illustrated and analyzed this chapter and the previous one imply that commerce in the sense of extensive trading networks are more feasible when trust and productivity increasing rules and principles have been widely and relatively strongly internalized within the communities of interest. That trade takes place without government support implies that internalized norms are often sufficient to address the dilemmas associated with commerce.

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Appendix: Contractual Solutions to Team-Production Problems, Economizing on Ethical Dispositions

This chapter has emphasized what might be called the recruiting solution to team production problems. Most economists, in contrast emphasize the contractual or organizational solution. This appendix illustrates how reward systems can be adjusted by the firm to elicit better outcomes from teams. It bears noting, however, that rewards need not be entirely pecuniary. Smithian approbation and disapprobation often play roles in this process. Particular habits of conduct and internalized norms are often consequences of such formal reward systems.

The game matrix below illustrates a pecuniary solution to the shirking or team production dilemma. Team production is again assumed to be worthwhile, which implies that the productivity of each member is increased by the efforts of the others. In the game above, which is referred to as the natural cooperative, the group's output is shared equally. In the game below, a formeteur has created an artificial reward structure for his or her team. Each team member receives a reward (R) for work and a penalty (P) for shirking that is independent of the efforts of other team members.

Table 3.10 Contractual Solutions to the Shirking Dilemma of Team Production

		Harold (hours of effort)		
		8 hours	6 hours	4 hours
Armen	8 hours	(A, H) R, R	(A, H) 14, 17-G	(A, H) 12, 18-2P
hours of effort	6 hours	17-P, 14	15-P,15-P	13-P, 16-2P
	4 hours	18-2P, 12	16-2g, 13-G	14-2G, 14-2G

In the natural cooperative illustrated in the main text with table 3.6, the group's output is shared equally. In the choice setting illustrated in table 3.10, a formeteur has created an artificial reward structure for his or her team. Each team member receives a reward (R) for work and a penalty (P) for shirking that is independent of the efforts of other team members. Notice that wen R>17-P and 18-2P, that the shirking problem is solved. Note also that the difference between 2R and the total output produced is a profit for the formeteurs.

However, to be as effective as internalized norms, the penalty imposing process has to be quite effective and the penalties have to be non-trivial, but not too harsh or persons would leave the organization and seek another with better rule enforcement or simply produce as individuals rather than as a team. These constraints are not necessarily true for a work ethic, because it is self enforced rather than externally enforced.