

The Economics of Monasticism

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ABSTRACT: Since their emergence in ancient times, Christian monasteries have proven to be among the most durable of all human institutions, and in the medieval centuries made enormous contributions to the emergence of Western civilization. They are organized internally on socialist lines: monks own no property and owe total obedience to the abbot, making the monastery a miniature ‘centrally planned economy.’ A puzzling contrast exists between the longevity of monasteries and the transience of secular socialist communes. This paper presents a theoretical model which shows why voluntary socialist communes might be viable despite ‘shirking’ problems, yet fail due to *turnover*, and how *worship*, which induces people with high ‘spiritual capital’ to self-select into the monastery and then grows that spiritual capital through ‘learning-by-doing,’ can solve the turnover problem and make a worship-based socialist commune—a monastery—stable. Monasticism, like the market, is a form of ‘spontaneous order,’ but unlike the market, it does not depend on third-party enforcement (e.g., by a state) to function: this explains why monasticism (unlike capitalism) was able to thrive in the anarchic Dark Ages. Monasteries, in principle and largely in practice, are a form of society based on *consent of the governed*, unlike liberal states which preach but do not practice consensual governance, and it is interesting to juxtapose the real, live ‘social contracts’ of the monasteries with the notional social contracts of liberal political theory.

KEYWORDS: Religion, economic history, Middle Ages, socialism, communes, social contract, spontaneous order, liberal ideology, clubs

JEL: N00, N33, N43, D02, D23, D70, P32, P50, J41, J12, B15

For man's character has been moulded by his every-day work, and the material resources which he thereby procures, more than by any other influence unless it be that of his religious ideals; and the two great forming agencies of the world's history have been the religious and the economic. Here and there the ardour of the military or the artistic spirit has been for a while predominant: but religious and economic influences have nowhere been displaced from the front rank even for a time; and they have nearly always been more important than all others put together. Religious motives are more intense than economic, but their direct actions seldom extends over so large a part of life.

- Alfred Marshall, *Principles of Economics*, "Introduction"

Introduction

Why are there monks and nuns? Why do some men and women under the influence of this motive take vows of poverty, chastity (celibacy) and obedience? Why do communities of such people adopt peculiar economic arrangements which prohibit individual private property? And why have such institutions been so successful historically, lasting for generations, sometimes under such adverse circumstances that few or no other institutions have been able to survive, and made wide-ranging contributions to learning and law, agriculture and architecture, and technology?

Clearly, the quintessential motive for a monk or nun is to worship God. Alfred Marshall, in the epigraph, emphasizes the power and pervasiveness of this motive. That human beings desire to worship is not a phenomenon that can be readily explained in biological terms, as for example, human desires for food, sex, or shelter, can be. So one might ask: *Why* do humans want to worship God? That, however, is not a question for economists, who tend to treat human motivation (the "utility function") as a black box, relying on the method of "revealed preference" to deduce human desires from human actions.

If we are not to attempt to explain the worship motive, it might seem that we should treat monasticism as a black box as well, e.g., "religions just tell some people to become monks and nuns." But this is doubly inaccurate, first because the monastic life is optional—no Christian church has declared it to be either necessary or sufficient for

salvation—second because monasticism itself was not invented by Church hierarchs and imposed from above, but is an example of what Hayek called “spontaneous order.” In the emergence and spread of monasticism a sort of *invisible hand* seemed to be at work: each individual ascetic or monk, to paraphrase Adam Smith, “neither intended to promote [the emergence of monasticism], nor knew how much he was promoting it,” but in seeking his own salvation by fleeing the world, he was “led by an invisible hand to promote an end which was no part of intention,” though St. Anthony might have been glad to see the movement he and others like him inspired, just as a businessman might be glad to discover that his quest for gain was promoting the public interest as well.

Today we associate monasticism with rigid rules, like the Rule of St. Benedict. But St. Benedict wrote his rule long after the emergence of monasticism and in the light of long experience as an abbot. Though he probably innovated in some ways, he was more a codifier than an inventor. Also, his Rule enjoyed no automatic pre-eminence but competed with other rules, emerging as the dominant, but never the exclusive, paradigm of Western monasticism only in the course of several centuries. Moreover, actual practices in Benedictine monasteries varied greatly, both because the Rule was sometimes modified or ignored in practice, and because it left room for interpretation. Yet there were repeated *returns* to the Benedictine Rule, as later to the way of St. Francis, to the extent that we may speak of a monastic reform *cycle*, in which monasteries relax until they are seen as too worldly by zealots, who then seek to renew austere devotion by founding new orders or reforming older orders from within.

Alfred Marshall defined economics as “a study [that] examines that part of individual and social action which is most closely connected with the attainment and with the use of the *material* requisites of wellbeing” (my italics)—clearly distinct, for Marshall, from the *spiritual* requisites of wellbeing that a study of religion might illuminate. Marshall might approve of an economics of monasticism, which is, in part, a material phenomenon, and in medieval Western Europe or Russia an exceedingly interesting and important one. First, monks built, farmed, made machines, studied, wrote books, educated, settled new lands, bought, sold, lent, borrowed, and probably even invented. Second, and strangely,

monasteries did all this under internal constitutions that can be described as *socialistic*: monks were completely forbidden to own individual property, and had taken vows of obedience, so that the monastery was (is) a miniature centrally planned economy. In an age when “the magic of the market” is credited with miracles and “communism doesn’t work” is a truism, it may seem almost a paradox that entities organized internally on socialist principles were able to survive at all, let alone persist for centuries and make great contributions to civilization. This is worth studying, but Marshall might have thought—and many economists and laymen today might think—that an economics of monasticism should focus on the material and, so to speak, *commercial* aspect of monasticism and ignore the *religious* side of monastic life, as being outside an economist’s competence. But can the material side of monasticism be understood without some insight into its spiritual impetus? One reason to think not is that *secular* socialist communes have consistently failed.¹ The worship motive must be, somehow, the secret of monasticism’s success, but how?

This paper develops a model of monasticism which features a certain type of socialistic commune (a monastery) which excels in a ‘specialized consumption activity’ (worship) the enjoyment of which is proportional to a special form of human (spiritual) capital which is acquired through learning-by-doing. Any commune competes for membership with an outside world which offers a certain distribution of ‘rewards’ to different members of a population. Those who get the least (relative) rewards in the outside world are drawn to the commune, so the higher utility the commune can offer its members, the more members it can attract. Within the commune, ‘shareable’ and ‘non-shareable’ goods are produced, and a larger membership results in more shareable goods and higher utility. This creates a possibility of *multiple equilibria*: if the commune is large enough it can provide sufficient utility to retain its members, but if it is too small, its remaining members wish to leave. The problem for communes (and on this point a study of modern secular communes confirms the theoretical prediction) is *turnover*. Since only a small proportion of the population wish to be members at any given time, it is unlikely that a

¹ The one partial exception, the Israeli *kibbutzim*, is the exception that proves the rule, since Jewish identity gives them a tenuous connection to religion even if many or most *kibbutzniks* are irreligious, and since most *kibbutzim* have retreated from their former communal lifestyle.

large overlap will exist between period- t membership and period- $t+1$ membership, making the equilibrium in which the commune exists unstable across periods. What makes monasteries different is that when monks and nuns engage in worship (for which the monastery provides an especially favorable environment) they also build spiritual capital, thus acquiring an increasing ‘taste for’ (or ‘productivity in’) worship, which makes them unlikely to wish to leave the monastery in future. By this account, worship has properties that resemble ‘addictive’ goods. Marx’s dictum about religion being an ‘opiate’ turns out to be true, except that, unlike narcotics, worship does not degrade human faculties. The ‘addictive’ character of worship solves the turnover problem and enables monasteries to make (voluntary) socialism work.

Besides accounting for the robustness of monasticism, the model sheds light on the special institutional/constitutional aspect of monasticism, perhaps its most interesting feature. An ordinary market, with price equilibrating supply and demand, presupposes a certain institution, namely *property rights*, which must be well-defined and alienable in order for people to buy and sell wares. Enforcement of property rights typically involves some kind of state. By contrast, this model of monasticism does *not* depend on an implicit assumption of enforceable property rights. It is not clear whether *any* specific assumptions need to be made about the nature and organization of the external society, unless it is merely that the monastery not be destroyed by an external *force majeure*. Monasticism could survive the Dark Ages because, unlike most markets, it was a form of spontaneous order that did not require state enforcement of property rights. More than that, monasticism was, in principle and to a large extent in practice, a *consensual, open-access order*, based on a *social contract*—such as the Benedictine Rule—which anyone could join. Oddly enough, the political theories underlying today’s most successful states, such as those expressed in Locke’s *Second Treatise* and in America’s Declaration of Independence, posit a social contract as the basis for the legitimacy of governments, but the social contract is a fiction: citizens do not really sign one, and the government rules over them anyway. Monasticism is an example, perhaps unique, of true ‘government by the consent of the governed.’ What role might the monastic experience

have played in shaping the thought of monkish medieval scholastics like Thomas Aquinas whose thought about 'natural law' ultimately gave rise to modern liberalism?

I. Background

(a) Literature review

The model developed here does not take any earlier model as a point of departure. A number of literatures are relevant, including the theory of clubs (Buchanan, 1965), the theory of household production (Becker, 1965) and the family (Becker, 1981), the theory of 'consumption capital' (Becker and Stigler, 1977) and 'rational addiction' (Becker, 1988), old arguments about the viability of socialism (Mises, 1920; Lange, 1937), John Locke's *Second Treatise on Government* (1690) and *The Calculus of Consent* (1962) by James Buchanan and Gordon Tullock, and especially Lawrence Iannaccone's work on church and sect (1988) and to a lesser extent on religious 'sacrifice and stigma' (1992),² and even Ronald Coase's theory of the firm (Coase, 1937), but no familiarity with these literatures is needed to understand the argument. Various historical writings on monasticism were useful raw material but the historiographical merits of particular works were of little importance for my purposes. "Economic" issues are dealt with from time to time in the histories, but not in a theoretically informed way. The crucial question of why monasticism is viable at all is generally not asked.

There seem to be only a handful of papers that could be regarded as 'economics of monasticism.' One of these, Roehl (1969)'s Ph.D. dissertation in economics, resembles the historical writings on monasticism in that it is well-researched but mostly atheoretical. Roehl studies the divergence between "plan" and "reality" in the medieval Cistercian order. The Cistercian order was founded to seek a new monastic life, more austere than that of the older Benedictine order, less entangled with the world, which would not receive feudal dues or "live by the sweat of other men." Roehl finds that

² I owe a personal debt to Iannaccone for opening my eyes to the possibility of applying economics to religion.

Cistercian practice approximated this norm for one or two generations at most, and that the Cistercian order soon began acquiring more lands than they could cultivate and letting it to others, becoming *rentiers*, like the Benedictines before them. Roehl treats this as a 'decline' of the Cistercians, and attributes the decline to falling recruitment of *conversi*, the 'lay brothers,' due to competition from the mendicant orders, beginning in the 13th century, for the allegiance of lower-class men with religious aspirations. Roehl offers no formal theory of why monasticism in general, or the Cistercian order in particular, emerged and endured.

Davidson's study of the Cistercians (Davidson et al., 1996) is an attempt, albeit unconvincing, at theoretical explanation of the order. Davidson argues that the Cistercians were 'retailers' in the 'salvation industry,' and he attempts to apply the theory of franchising to explain the Cistercian monasteries' behavior and relationship with the Church. For example, Church guidelines on penances are called 'maximum' and 'minimum' 'resale prices' for salvation to confessing sinners. But it would seem appropriate to regard penance as a 'price' for confession only inasmuch as penance consisted of a payment to the confessor, and to regard the monastery as a 'retailer' only inasmuch as fees for confessions and other religious services to the laity were monasteries' principal source of income. Given that medieval manuals of confession did not focus on payments to confessors, a practice which in fact the Church tended to disapprove of (calling it 'simony'), Davidson's characterization of the Cistercians is *prima facie* implausible and would need strong supporting evidence, which Davidson does not provide. In reality, Cistercians' resources came mostly from working the land or from donations by wealthy patrons. Again, Davidson refers to the distinction between choir monks (who performed liturgical duties, and were more educated) and lay brothers (who did farm work, and tended to come from the lower classes) as 'price discrimination' in the 'monastic labor market.' But what 'price' was involved here is not clear, since it was against the Rule to put money wages at the disposal of monks for personal consumption. Since monks wanted salvation at least as much as the laity, it might make more sense to regard them as the Church's 'customers' rather than as its labor force.

Such difficulties suggest that the paradigm of a commercial firm is poorly applicable to monasteries.

Rost et al. (2008)'s analysis of the 'corporate governance structure' of Benedictine monasteries faces the same problem of inaptness of the firm paradigm to monasteries. The most interesting passage in this article for present purposes is a numerical estimate of the impressive longevity of Benedictine monasteries:

[From a sample of] 119 institutions after the year 1000 AD... 17% of the monasteries were never closed down; these institutions still exist today. 4% of the monasteries were voluntarily closed. A large proportion of all monasteries, 53%, broke up due to [external] institutional factors. These monasteries fell victim to secularization or were violently closed during the Reformation. Beside these outstanding events, a revolt of the peasants or the plague could also lead to break ups and forced shutdowns...

Focusing on agency problems, 13% of the monasteries broke up due to mismanagement, including lack of discipline, insolvency or recruitment problems. An analysis of the particular monasteries shows that the breakups were mainly due to a combination of all three factors. 7% disappeared due to control failures, including hostile takeovers. The changes in governance structures are revealing: 6% of the monasteries studied changed into collegiate churches. To a large extent, these changes indicate the monastic leaders' desire for wealth, since collegiate churches permit private ownership and further liberties...

The findings on the reasons for closures indicate that a maximum of one quarter (26%) of the monasteries studied were unable to survive due to agency problems. The vast majority of monastic houses were closed due to external institutional factors or they still exist today. On average, monasteries survived 463 years, which suggests that agency problems in Benedictine monasteries are relatively small. These institutions are extremely stable. (Rost et al., 8-9).

An average longevity of 463 years makes monasteries more durable not only than firms, but even than most states. Rost et al. are chiefly interested in drawing lessons from the successes of the Benedictines which can be applied to corporate governance, and they go on to explain some of the means by which monasteries solve 'principal-agent' (or 'agency') problems. It is, however, far from clear how the concept of agency problems is

applicable to monasteries. When a principal such as an employer or an investor delegates a task to an agent such as an employee or an entrepreneur, it is usually unproblematic to identify the interests of the principal and of the agent. An agency problem exists if these interests diverge. But what are the conflicts of interest among Benedictine monks, their abbots, and the Catholic Church? Ideally, the goal of all three is the same: salvation. Each monk hopes to save his soul. The abbot and the Church also want him to do so and govern him to that end. There is no conflict of interest. Perhaps, in practice, the motives of monks, abbots, and the Church are not so pure as in the ideal case. But, if not, what stylized assumptions would describe the deviations from this ideal so as to permit us to characterize the situation as beset with agency problems?

An example may clarify the difficulty. Suppose we accept the suggestion in the quote above that some monasteries were converted into collegial churches so that their members could acquire wealth. Under what assumptions can this phenomenon be regarded as an ‘agency problem?’ If the ‘principal’ is the Church, and the ‘agents’ are the monks, are we to assume that monks desire wealth while the Church wants them to remain poor? But why should the Church want that? If the Church wants to keep monks poor to save their souls, it is odd that the monks should be willing to take an action which jeopardizes their salvation. Or, if the monks can convert their monastery into a collegial church, gain a little private wealth, and still save their souls, why should the Church object? Rost et al. seem to think it is self-evident that for a monastery to break up so that its members can seek wealth is an agency problem. It is not.

What is missing from the literature is an economic theory of monasticism. It is not good enough to try to cross-apply the theory of the firm. Those who participate or have a stake in the operations of firms—owners, managers, workers, bondholders, customers—have private interests outside the firm, and are expected to. Monks and abbots typically do not. When they do, it represents an abuse. In no sense is it the goal of a monastery to “maximize profits.” Monks and nuns have goals (worship and salvation, and probably lesser things as well), but they seek to achieve them within and through the life of the

monastery or convent. An analysis of monasticism, like an analysis of markets, should begin with individual utility maximization.

(b) A brief history of monasticism

A brief history of monasticism will serve to acquaint readers with the phenomenon we are seeking to explain. St. Anthony of Egypt (251-356) is sometimes called ‘the father of monasticism,’ but we read in St. Athanasius’s *Life of St. Anthony* that:

For there were not yet so many monasteries [12] in Egypt, and no monk at all knew of the distant desert; but all who wished to give heed to themselves practised the discipline in solitude near their own village.

Clearly, Anthony was not the first hermit, and he relied on others for instruction in the monastic life:

Now there was then in the next village an old man who had lived the life of a hermit from his youth up. Antony, after he had seen this man, imitated him in piety. And at first he began to abide in places out side the village: then if he heard of a good man anywhere, like the prudent bee, he went forth and sought him, nor turned back to his own palace until he had seen him; and he returned, having got from the good man as it were supplies for his journey in the way of virtue...³

Since Athanasius’s *Life* is the oldest major source on monasticism, and since St. Anthony seems not to have invented the monastic way of life—his innovation, according to Athanasius, was to take it to the “distant desert,” and we cannot verify Athanasius’s claim that “no monk had heard of” that idea before Anthony—the origins of monasticism are unknown. The fact that there seem to have been many hermits in Anthony’s youth suggests that the innovation was probably developed independently by many people. This suggests that some sort of social law, rather than the influence of a single personality, was at work.

³ <http://www.fordham.edu/halsall/basis/VITA-ANTONY.html>

During his long life, Anthony acted as a guide and spiritual father to those who followed him into the desert as disciples, but no regular communal life was established. The word ‘monk’ comes from the Greek *monos*, meaning ‘alone,’ and Anthony’s followers lived alone in cells, in solitary spiritual combat with devils. Monastic community life emerged as a retreat from eremitical rigors. St. Pachomius (292-346) was a younger contemporary of Anthony who became the leader of a large monastery, “numbering upwards of 1,000 monks or nuns,”⁴ obedient to Pachomius as abbot and to a Rule. After Pachomius’s rule came that of St. Basil (330-379), and, most importantly, that of St. Benedict of Nursia (480-547).

Benedict wrote his Rule, which later came to dominate Western monasticism, as an abbot who had had both good and bad experiences. Once, when he was living as a hermit, some monks begged him to be their abbot, then later tried to poison him. He was not a bishop or pope, in a position to impose his Rule on other monasteries. Rather, monasteries adopted the Rule because it was useful. At the time it attracted no great attention: a biography of St. Benedict by Gregory the Great and makes but a single mention of the Rule, with no indication that Gregory had read it, and connecting it more with the holiness of Benedict’s life than with the organization of monasteries. In the late 8th century, one Benedict of Aniane (the second St. Benedict) dedicated his life to advocacy for the Rule of St. Benedict and secured it a dominant position in Western monasticism. It never enjoyed a monopoly, however: Irish monks and Irish monastic foundations on the Continent had different rules; there was a Rule of St. Augustine; and later, in 1223, the Rule of St. Francis appeared.

We can describe the economic arrangements prescribed by the Rule of St. Benedict,⁵ anachronistically yet precisely, as socialist. First, Benedict vehemently prohibits private property:

The vice of personal ownership must by all means be cut out in the monastery by the very root, so that no one may presume to give or receive anything without the command of the Abbot; nor to

⁴ Lawrence, 7

⁵ Available online at: <http://www.kansasmonks.org/RuleOfStBenedict.html#ch34>

have anything whatever as his own, neither a book, nor a writing tablet, nor a pen, nor anything else whatsoever, since monks are allowed to have neither their bodies nor their wills in their own power. Everything that is necessary, however, they must look for from the Father of the monastery; and let it not be allowed for anyone to have anything which the Abbot did not give or permit him to have. Let all things be common to all, as it is written. And let no one call or take to himself anything as his own (cf Acts 4:32). But if anyone should be found to indulge this most baneful vice, and, having been admonished once and again, doth not amend, let him be subjected to punishment.

Second, Benedict (following the Bible) recommends a principle of distribution reminiscent of the modern socialist slogan:

It is written, "Distribution was made to everyone according as he had need" (Acts 4:35). We do not say by this that respect should be had for persons (God forbid), but regard for infirmities. Let him who hath need of less thank God and not give way to sadness, but let him who hath need of more, humble himself for his infirmity, and not be elated for the indulgence shown him; and thus all the members will be at peace.

Concerning admission to the monastery, Benedict makes it clear that, while novices are welcome to try the monastic life without commitment, full membership in the community is lifelong:

Let not anyone, newly coming to the religious life, be granted easy entrance... If he promises to persevere in his purpose, at the end of two months let this Rule be read to him from beginning to end, and let him be told: 'Behold the law under which you wish to serve; if you can observe it enter; but if you cannot, depart freely.'... After the lapse of six months let the Rule be read to him so that he may know upon what he is entering. If he still abides, let this same Rule be read to him again after four months. And if, after having deliberated with himself, he promises to observe all its provisions and to obey all commands given him, then let him be received into the congregation. But let him know that from that day forth he shall not be allowed to leave the monastery nor to withdraw his neck from under the yoke of the Rule, which it was open to him, during that long period of deliberation, either to reject or to accept.

This was an innovation—in earlier times, monks could move from monastery to monastery or depart at will, a practice which Benedict alludes to but condemns in the

Rule—and one which may seem harsh or retrogressive from a modern perspective, as it curtails individual freedom. Yet as Benedict points out, anyone is free not to join: “it was open to [the monk], during [his novitiate], to reject or to accept [the Rule].” A partial exception to this was the institution of “child oblates,” who were dedicated to the monastery by their parents well before the age of discretion (a practice later condemned by the Cistercians and forbidden by the Church after the 13th century). We will see in the next section the theoretical reasons why the requirement of lifelong commitment can contribute to monastic success. Certainly it seems to be the case that the contributions of monasticism to civilization after St. Benedict were greater than those before.

The Rule of St. Benedict describes an *open-access* order: No restrictions, other than requirements of behavior and commitment, are placed on who can join, and worldly distinctions of rank are to be abolished within the monastery:

Let him make no distinction of persons in the monastery. Let him not love one more than another, unless it be one whom he findeth more exemplary in good works and obedience. Let not a free-born be preferred to a freedman, unless there be some other reasonable cause.

Not surprisingly, rank was not easy for the monastery to overcome, and in later centuries access to Benedictine monasteries was often restricted to the noble classes, or was conditional upon payment of fees or up-front contributions, to prevent members from being a burden to the community. The Cistercians restored the open-access character of the Benedictine monastery when the institution of ‘lay brothers’ opened up the religious life to the lower classes.

The Rule also regulates the work, food, drink, conversation, and daily schedule of the monks, placing much emphasis on liturgy and worship. For six centuries thereafter, Benedictine monks were a pillar of medieval Western civilization. They preserved literacy, and the texts of the classical heritage, supplied much of the Church leadership, drained swamps and cleared forests, advised kings, and built abbeys and churches.

In later centuries, the Benedictine tradition came to exhibit a paradoxical form of innovative conservatism, as later reform movements, like the Cluniac in the 10th century or the Cistercians in the 12th, sought to *return* to the Rule of St. Benedict, rejecting a contemporary monasticism which they saw as having grown too lax and/or worldly and lapsed from the Rule, even though in hindsight these movements were clearly innovations which pioneered new forms of monasticism, and not merely resummptions of older monastic forms. This pattern of (perceived) decay and (innovative) renewal continued into modern times, with the Maurists, who in 1621 emerged to revive the Benedictine spirit, and the Trappists, who starting in 1663 sought to revive strict Cistercian observance. A similar pattern can be seen in the Franciscans, where the Capuchin Order was founded in the 16th century as an offshoot seeking to renew the pristine practices of St. Francis.

How did/do monasteries support themselves? Even nations are typically not economically self-sufficient, so naturally monasteries are too small to supply all their own needs. From the Egyptian desert to the present day monks have engaged in trades and sold goods to lay people in order to purchase necessities. Ancient Egyptian hermits wove baskets; one modern Russian Orthodox monastery in Washington (state) sells coffee. Secular communes also produce goods for exchange with the outside world.

But monasteries also receive donations from the faithful. Does that give them an advantage and explain their greater longevity? Perhaps, but pious donations can be interpreted either as a *subsidy* or as a *payment for services*. Much of what monasteries do, including the worship they engage in, has often been regarded by the faithful as a public good, a good from which they benefit. Indeed, some of the monasteries' work, such as the copying of ancient texts, would be regarded as a public good even from a purely secular perspective. Liturgical, scribal, educational and charity work, accepting pilgrims, advising rulers, etc., was costly, absorbing a substantial part of the time and resources of monks and nuns, making it difficult for them to engage in enough manual labor to support themselves. If this work is regarded as consumption, monasteries' and convents' frequent reliance on pious donations might make them parasitic, but if it is

regarded as a form of public service, pious donations are part of an exchange between the monasteries and the world.

In Europe in the Middle Ages, monasteries played a creative role out of proportion to their numbers in most fields of human endeavor, from practical arts like agriculture and industry to philosophy and high culture. A striking “hymn to technology,” quoted in Jean Gimpel’s *The Medieval Machine*, shows how far the Cistercians had come in the use of machinery (in particular, water-mills) by the mid-12th century:

Entering the Abbey under the boundary wall, which like a janitor allows it to pass, the stream first hurls itself impetuously at the mill where in a welter of movement it strains itself, first to crush the wheat beneath the weight of the millstones, then to shake the fine sieve which separates flour from bran. Already it has reached the next building; it replenishes the vats and surrenders itself to the flames which heat it up to prepare beer for the monks, their liquor when the vines reward the wine-growers’ toil with a barren crop. The stream does not yet consider itself discharged. The fullers established near the mill beckon to it. In the mill it had been occupied in preparing food for the brethren; it is therefore only right that it should now look to their clothing. It never shrinks back or refuses to do anything that is asked for. One by one it lifts and drops the heavy pestles, the fullers’ great wooden hammers... and spares, thus, the monks’ great fatigues... How many horses would be worn out, how many men would have weary arms if this graceful river, to whom we owe our clothes and food, did not labor for us...

When it has spun the shaft as fast as any wheel can move, it disappears in a foaming frenzy; one might say it had itself been ground in the mill. Leaving it here it enters the tannery, where in preparing the leather for the shoes of the monks it exercises as much exertion as diligence; then it dissolves in a host of streamlets and proceeds along its appointed course to the duties laid down for it, looking out all the time for affairs requiring its attention, whatever they might be, such as cooking, sieving, turning, grinding, watering, or washing, never refusing its assistance in any task. At least, in case it receives any reward for work which it has not done, it carries away the waste and leaves everywhere spotless. (Gimpel, 5-6)

Gimpel adds that “this report... could have been written 742 times over; for that was the number of Cistercian monasteries in the twelfth century, and... it has been said that a blind Cistercian monk moving into any of the monasteries would instantly have known where he was. In certain ways the discipline imposed by Saint Bernard on his monks—

the rigid timetable, the impossibility of deviating from the Rule without facing punishment—brings to mind the work regulations that Henry Ford imposed on his assembly lines.” (Gimpel 4-5)

Benedictine and Cistercian monasticism was peaceful, rural, and agrarian. In the “high” Middle Ages, i.e., the 12th and 13th centuries, the monastic impulse was turned in new directions by the Knights Hospitallers and Templars, who combined monastic vows with knighthood and fought in the Crusades, and by the two orders of mendicant friars, founded by St. Francis and St. Dominic, who sought to live an apostolic life of poverty in the midst of the new bourgeois towns of the Middle Ages. (The Franciscan family of monastic orders has the largest membership in the Catholic religious orders today.) Also, where the Benedictines had copied manuscripts and taught their own to read, the friars entered the universities, where they lived in some tension with the secular masters of arts, but championed the introduction of Aristotle into the curriculum, and produced some great scholars, especially St. Thomas Aquinas, St. Bonaventure, Duns Scotus, and Roger Bacon.

Many monastic orders were founded in the Middle Ages and thereafter. The Carthusian order, begun by St. Bruno (1030-1101), was officially born in 1140, along more eremitical lines than the Benedictine orders. The Camaldolese order was founded by St. Romuald (951-1027) around 1012, drawing inspiration from the ancient eremitical traditions of the Egyptian desert. The Capuchin order was founded in 1520 by Matteo de Bascio (1495-1552). Monasticism declined in influence during the Renaissance and Enlightenment, but large-scale closure of monasteries was usually a result of political upheavals. This occurred during the Reformation, with King Henry VIII, for example, closing and expropriating the monasteries of England, as did some German princes. During the French Revolution the same fate befell the monasteries in France, and those in Russia during the Bolshevik Revolution. Monasticism persists to this day, though monks and nuns comprise a much smaller share of the population than at some times in the past.

Needless to say this account is highly incomplete and unduly focused on Christian and Western monasticism, but it may be sufficient to illustrate some stylized facts of monastic history, such as the following:

STYLIZED FACT 1: Monasticism was originated by hermits and became communal later.

STYLIZED FACT 2: A high degree of competition has existed within monasticism among orders and practices.

STYLIZED FACT 3: Monasteries adopted socialist economic arrangements internally.

STYLIZED FACT 4: Mature monasticism called for lifelong commitment.

STYLIZED FACT 5: Monasteries are highly robust institutions, which survived the chaos of the Dark Ages and many other calamities, and which, unlike secular socialist communes in modern times, were usually able to persist for generations and centuries if not destroyed by external force.

STYLIZED FACT 6: Monasteries made great contributions to civilization and often acquired great wealth.

STYLIZED FACT 7: There seems to be a monastic reform cycle, with repeated decay and renewal.

The model presented in the following two sections will provide explanations of all of the above stylized facts except (2)—competition. Competition is not addressed explicitly, but since the model shows why the emergence of monasticism is a general pattern rather than a singular event, the model may indirectly predict that monasticism will arise repeatedly, with consequent competition between monastic orders.

II. The Model

(a) Sharing and shirking

Our point of departure has no special connection to religion, but, instead, with an examination of a phenomenon that we may call ‘shareable goods.’ Worship, which distinguishes monasteries and convents from secular communes, is introduced at a later stage in the argument. Until then, the words ‘commune’ and ‘monastery’ will be used interchangeably.

The concept of shareable goods resembles ‘club goods’ and ‘public goods,’ or may be regarded as a special case of ‘transactions costs.’ However, it may not, on balance, facilitate understanding to introduce any of this terminology. The idea is simply that there are many goods which people who are living in the same household can ‘share’: that is, one member of the household can enjoy them without detriment to other household members’ enjoyment of them. A garden, a library,⁶ quiet and clean air, and movies⁷ are a few examples. While food is not shareable, cooking might be, if, say, the marginal labor cost of doubling the recipe is negligible. If people have a utility over ‘shareable’ and ‘non-shareable’ goods, as in Equation (1),

$$(1) \quad U = U(C, X); \quad \partial U / \partial C > 0; \quad \partial U / \partial X > 0; \quad \partial^2 U / \partial X \partial C < 0$$

where C represents shareable goods, X , non-shareable goods, they may benefit from being a member of household where they can pool shareable goods with other people. We ignore opportunities for trade with people outside the household, and since shareable goods are non-rival and non-excludable for household members, and non-shareable goods are treated as fungible, there is no incentive to engage in trade. (We also ignore redistribution of non-shareable goods within the commune, partly because some such goods, such as leisure, are non-transferable by nature.) The usual distinction between

⁶ Provided, of course, that the books are not used so heavily that several people often need to use the same book at the same time.

⁷ At least if the room where the movies are being watched is not too crowded.

production and consumption therefore becomes unhelpful here. Instead, we may think in terms of household production subject to a time constraint:

$$(2) \quad X = T_X; \quad C = T_C; \quad T_X + T_C = 1$$

where T_X is the time devoted to producing X and T_C is the time devoted to producing C .

In a “Robinson Crusoe” case, the individual chooses X and C such that $\frac{\partial U}{\partial X} = \frac{\partial U}{\partial C}$. If the utility function is such that the Inada conditions apply, we know that Robinson Crusoe will produce some of both goods, i.e., there will be an “interior solution.”

A member of a household, whether it be a single-family household, a secular commune, or a monastery or nunnery, gets to enjoy whatever shareable goods are produced by the other members. His utility is:

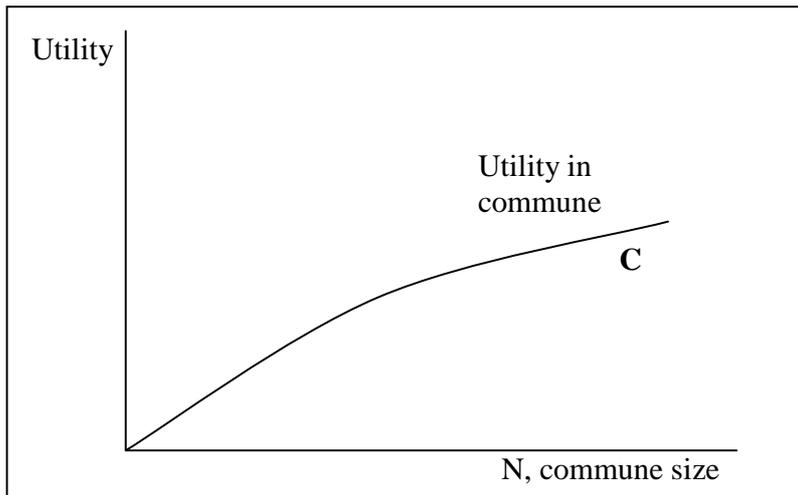
$$(3) \quad U_i = U \left(X, C_i + \sum_{j \neq i} C_j \right)$$

The availability of shareable goods produced by others lowers the marginal value of shareable goods to each household member and causes him to produce less than he would as Robinson Crusoe, and also, less than would be optimal for the welfare of the household, since producing shareable goods creates benefits for others which the individual ignores. This effect may be called ‘shirking.’

Despite shirking, commune members will always be better off than Robinson Crusoe. First, they will never collectively produce less shareable goods than Robinson Crusoe would, since in that case their marginal value would be higher than that of non-shareable goods and members would increase their shareable-goods production. Second, cooperative production of shareable goods frees up time to produce more non-shareable

goods. Therefore, commune members enjoy more of both goods than Robinson Crusoe. Utility of commune members is therefore a monotonically increasing function of commune size, as shown in Figure 1:

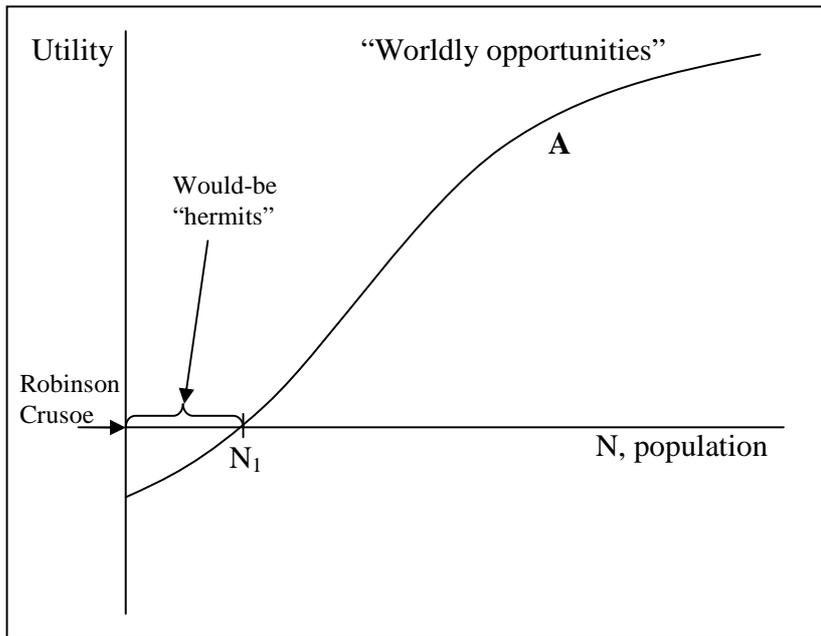
Figure 1: Utility rises as the commune gets bigger



(b) Competition between the monastery/commune and the world

Our one prediction so far—that communes can easily compete with the Robinson Crusoe alternative—is realistic enough: very few people choose to abandon society and live as solitaries. But the main competition for monasteries and secular communes is not solitude but “the world”: that is, mainstream society. What the world has to offer varies across time and space. The world may be a capitalist market economy, or agrarian feudalism, a primitive tribal system as it was when St. Patrick brought monasticism to Ireland, or the slave economy of ancient Rome. In order to generalize across such diverse situations, we offer a highly abstract representation of “worldly opportunities” as a distribution of utilities across a population which is organized in rank order of worldly opportunities, from worst (left) to best (right), as shown in Figure 2:

Figure 2: "Worldly opportunities," and hermits

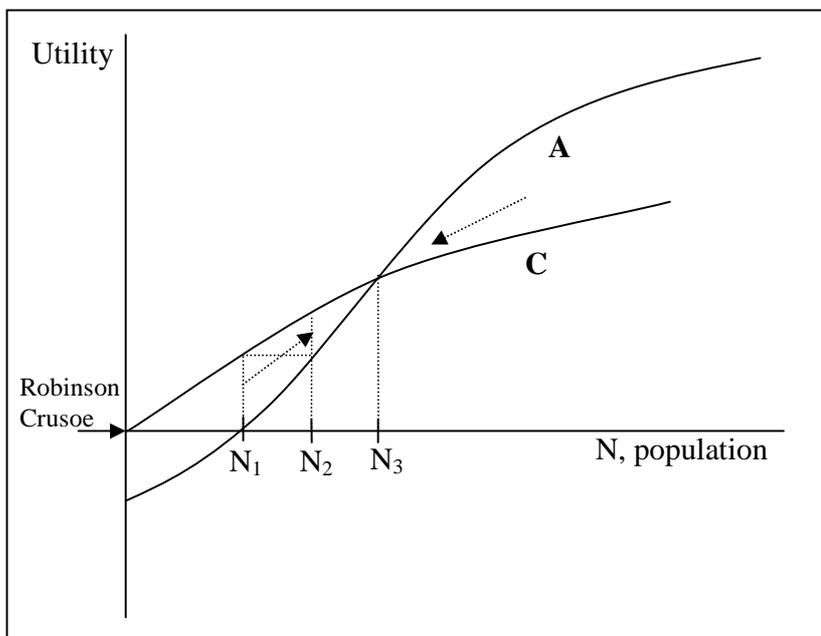


In Figure 2, the A curve represents “worldly opportunities,” while the horizontal axis is positioned to represent the utility of a Robinson Crusoe. Importantly, the A curve as drawn in Figure 2 starts *below* the Robinson Crusoe level, implying that some people, N_1 individuals to be precise, are so disadvantaged in the world, or find it so distasteful, that they would exit and become hermits if they could. The example of St. Anthony of Egypt suggests that such “hermits” occur, but they are certainly rare.

Figure 2 shows how to compare the world with Robinson Crusoe, but how do we compare it with the commune? In fact, we can juxtapose the A and C curves from Figures 1 and 2 directly, provided that we interpret the axes carefully. The vertical axis presents no difficulties: it represents utility in both Figures. The horizontal axis in both Figures represents *persons*. However, in Figure 1, each point in the horizontal axis should be interpreted as a *quantity* of persons living in a commune or convent. In Figure 2, it is most natural to interpret each point as a *single person*, positioned along the axis in rank order of their worldly opportunities. However, we can also interpret the horizontal axis as a quantity of persons, and the points (x, y) in the A curve as representing a proposition of the form: “there are x persons in the population whose worldly

opportunities provide utility less than y ." Another problem is that we have so far ignored differences of taste for the communal/monastic life, but this leads to the unwelcome conclusion that those pursue the monastic life who have the poorest worldly opportunities, whereas in reality a person's attitude towards the communal/monastic life clearly plays a role. We can therefore interpret the vertical axis as the *difference* between utility from worldly opportunities and utility in a commune of size one, i.e., in Robinson Crusoe isolation, with the added utility derived from others joining the commune being measured by the **C** curve. The reward for this exercise in definition is that we get two curves in utility-population space, as shown in Figure 3:

Figure 3: The commune and "the world"



If the horizontal axis represents the individuals who comprise the population, each of these individuals will be faced with a choice between the commune and the world. If an individual joins the commune, the commune grows. In Figure 3, the first N_1 individuals would choose to join a commune of size zero, i.e., to be hermits, in preference to the world. But a commune of size N_1 would attract enough members to grow to size N_2 , and a commune of size N_2 would attract still more members. Eventually, the commune would grow to an equilibrium size of N_3 . A commune larger than N_3 would lose

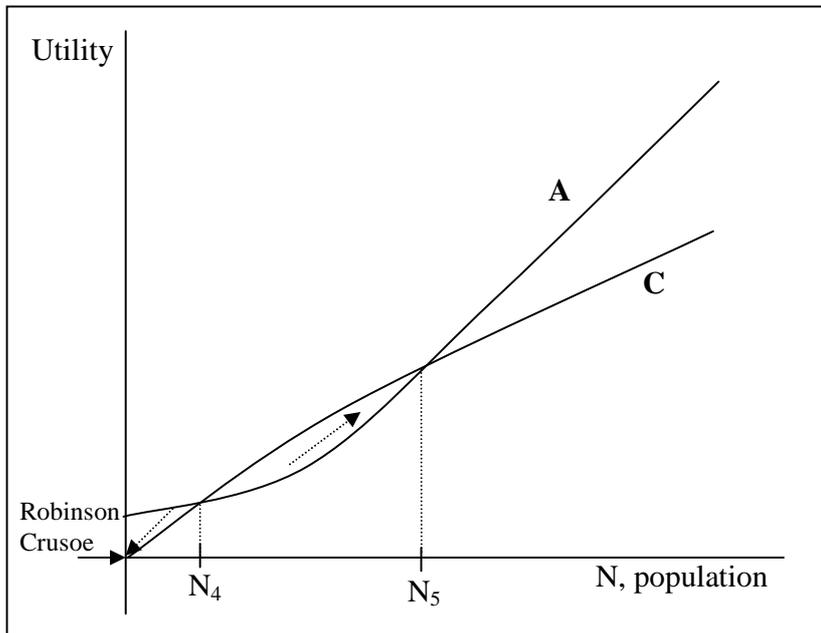
members and return to size N_3 . In this system, then, there is a unique equilibrium: one commune will exist, of size N_3 . Contrary to the truism, socialism works! That is, the benefits of sharing, even if offset by shirking, make communal life better than Robinson Crusoe isolation, and are sufficiently appealing to some members of society who are less fortunate or more drawn to that style of life to make a commune possible.

(c) Multiple equilibria: commune or no commune?

The possibility, or not, of a viable commune, depends on the shape of the **A** curve. In particular, the “hermits” play a crucial role in catalyzing the formation of communal arrangements. Because they will retreat from the world and found a commune if one is not available, no equilibrium without communes exists in the world represented in Figure 1. This gives us an explanation of stylized fact (1), that monasticism began with hermits, and later gave rise to communities.

We may note here that Figures 3 and 4 suggest an explanation of stylized fact (5), the stability or robustness of monasticism, namely that the existence of a monastery is an equilibrium of the system. However, this argument would also make the unwelcome (because false) prediction that *secular* socialist communes are robust. In any case, this theoretical prediction depends on the perhaps unlikely (because of the scarcity of hermits) shape of the **A** curve in Figure 3. For this result changes if the **A** curve is such that there are no “hermits,” as in Figure 4:

Figure 4: If there are no "hermits," a case of multiple equilibria



In the case shown in Figure 4, there are *two* equilibrium commune sizes: N_5 and 0. Actually, there is a third as well: N_4 . But the equilibrium at N_4 is unstable, since a commune of size $(N_4 + \varepsilon)$ would grow size N_5 , while a commune of size $(N_4 - \varepsilon)$ would shrink to size 0. But the equilibria at N_5 and 0 are both stable. If there is no commune (if the commune has size zero), no one wants to start one (join an empty one). If there is a commune of size less than N_4 , some members will wish to leave it, and the commune will unravel. On the other hand, if there is a commune of size greater than N_4 , because curve **C** is above curve **A** at this point, new members will want to join, and it will grow to size N_5 . (Clearly, if curve **A** shifts still higher, there will be no equilibrium at all. Since there are no restrictions on the shape of **A** except that it be monotonic, there could also be more than two equilibria, but this possibility is for our purposes not interestingly different. Our interest is in whether a commune exists at all.)

If there are multiple stable equilibria, what determines which equilibrium society will arrive at? Here the conceptual tools of equilibrium economics fail us, and we have to adopt ideas from evolutionary economics, such as path-dependency. A simple assumption is that if there are multiple equilibria, whichever equilibrium prevailed at

time t will prevail at time $t+1$. If there was a commune (monastery), it will persist. If not, none will appear. This threatens to create an infinite regress, and raises the question: How did monasteries appear in the first place?

There are two ways this might have happened. One is that some number of individuals, between N_4 and N_5 , might have deduced that they would be better off if they all founded a commune (monastery) together, solved whatever coordination problems are involved, and done so. Or, the emergence of monasteries could be explain by shifts in the **A** curve over time. Perhaps, even if there are no hermits at time t , there might have been hermits at time $t-s$, and these catalyzed the formation of monasteries which can then endure indefinitely without the appearance of any further hermits, at least until such time as the **A** curve rises above the **C** curve altogether. (Generally speaking, secular communes seem usually to have been founded by solving coordination problems, while monasteries have often been catalyzed by hermits.)

(d) Turnover and transience

But can we take for granted that if the world at time t has a commune, the world at time $t+1$ is able to “inherit” that commune? We must bear in mind both that there is turnover in the population as a whole—there are births, and deaths—and that individuals’ positions in the “worldly opportunities” distribution are not necessarily constant from period to period: many who prefer the commune today may prefer the world tomorrow. So, to take an extreme case, can a commune survive if *all* the members at time t exit, and a completely different set of people wishes to join at time $t+1$? If not, how many members must stay in order to keep the commune going?

Stories might be told that would justify various answers to this question. However, the most salient single answer is probably that the commune will survive if and only if the number of members who stay is greater than N_4 , that is, if the number of commune members “inherited” from the previous period is enough to make the system converge to commune size N_5 , rather than to commune size 0.

The next question is: How likely is any given commune member at time t to stay in the commune at time $t+1$? Since willingness to be a commune member depends on “worldly opportunities,” the stability of commune membership depends on the autocorrelation of worldly opportunities. First, let us take the extreme case of no autocorrelation. For the moment we will also ignore mortality. Let N_T be the threshold population needed to sustain the commune, N_E be the equilibrium population of the commune, and S , the share of the commune in the population. What are the odds that a commune of size N_E in period t will retain N_T members so as to persist until period $t+1$? This is equivalent to asking what the odds are of getting N_T heads in N_E coin flips, with an “unfair” coin that turns up heads on any given toss with probability S . The answer is:

$$(4) \quad P_{survival} = \frac{N_E!}{N_T!(N_E - N_T)!} S^{N_T} (1-S)^{N_E - N_T} + \frac{N_E!}{(N_T + 1)!(N_E - (N_T + 1))!} S^{N_T} (1-S)^{N_E - N_T - 1} + \dots$$

$$+ \frac{N_E!}{N_E!(N_E - N_E)!} S^{N_E} (1-S)^{N_E - N_E}$$

Now, equation (4) looks intimidating, but the key is to note that S , the share of the population that lives in the commune, must be small. The *kibbutzim* may have comprised as much as 5% of the population of localities in Israel around World War II. This is probably the largest share of any society that has ever lived in secular, voluntary socialist communes. Monks and nuns have probably never comprised much more than 10% of any population. Every term on the right-hand side of equation (1) is multiplied by S to the power of N_T or higher. If, for example, S is 1% and N_T is ten, each term in equation (4) will be multiplied by 10^{-20} . So we may conclude that, if there is no autocorrelation in individual willingness to be a commune member, the probability that a secular commune will survive from one period to the next is very small. If the coordination problem of setting up a commune is at all difficult to solve, we should expect to see the no-commune equilibrium most of the time.

(e) The commitment problem: theory and evidence

Monasteries and communes, then, are vulnerable to what we may call a *commitment problem*: their existence may be a momentary equilibrium of the system, but turnover will tend to cause the system to revert to its other equilibrium, their non-existence. It turns out that this problem is just what sociologist Rosabeth Kanter (1972) diagnosed as the most serious problem for utopian communities in the 19th century. Kanter found that economic problems *per se* were generally *not* insurmountable:

The successful nineteenth century [utopian communes]... tended, on the whole, to become financially prosperous. Whereas in their early years they had suffered through periods of struggle and hardship, by the time they dissolved they were often wealthy, or if they had many outstanding debts, these had followed a period of prosperity. (Kanter, 157)

However:

For communes, the problem of commitment is crucial. Since the community represents an attempt to establish an ideal social order within the larger society, it must vie with the outside for the members' loyalties... The problem of securing total and complete commitment is essential... A person is committed to a group or a relationship when he is fully invested in it, so that the maintenance of his own internal being requires behavior that supports the social order... he is committed to the degree that he can no longer meet his needs elsewhere. (Kanter, 1973, 65- 66)

Kanter finds that the degree of commitment is the key determinant of the success of 19th-century communes:

In long-lived communities of the nineteenth century, group life was organized in such a way as to support six commitment-building processes. The nine successful groups tended to have, at some point in their histories, a large number of concrete social practices that helped generate and sustain the commitment of their members... The twenty-one unsuccessful communes, by contrast, tended to have fewer such commitment mechanisms and in weakened forms. (Kanter, 75)

St. Benedict, too, appreciated the importance of commitment, as is shown in his insistence that monks, once they have made their vows, shall “not be allowed to leave the monastery nor to withdraw their necks from under the yoke of the Rule.” If commitment

is the problem, a vow seems to be an appropriate solution, and the use of monastic vows is surely one reason why monasteries have been more successful than secular communes, which have tended not to require vows. We have thus explained stylized fact (4), that mature monasticism calls for lifelong vows.

Vows, however, cannot be a complete explanation of monastic stability, for two reasons. First, if people are rational, they ought to foresee the possibility of future changes in their desires, and be reluctant to take vows. Second, a vow is no guarantee that a person will keep it, as one million divorces per year in the United States show. St. Benedict made provisions both for the expulsion of disobedient monks and for receiving back monks who had left. Institutional economists understand that contracts that are not incentive-compatible *ex post* often fail to be observed, particularly in the absence of third-party enforcement. But it was more common for monks to keep their vows, as the survival of the monasteries shows. Why were monks and nuns willing to take vows, and why did they keep them?

So far, we have arrived at an explanation of why voluntary socialist communes tend to be transient, even though at any given time some people will regard them as desirable and really would benefit if they existed. What we have not explained so far is why the same transience is not observed in the case of monasteries.

(f) The worship motive, spiritual capital and ‘learning-by-doing’

Since worship is clearly a major distinguishing feature of monasteries vis-à-vis secular communes, an explanation of the peculiar properties of monasteries begins with an inquiry into the nature of worship, and the human enjoyment thereof. That is to say, how does worship enter the utility function?

The first thing to note about worship is that people engage in very different amounts of it. Some people do not worship at all, while some ascetic saints, according to their hagiographers at least, do little else. This result emerges mathematically if we introduce

in the utility function “spiritual capital” which makes worship more productive for some than others. Second, it does not seem plausible to apply the usual assumption of “non-satiety” to worship: most casual churchgoers, it seems safe to assume, would find it tedious and burdensome to spend all their time praying or attending church even if they had nothing better to do. Third, some environments are more suitable for worship than others. Based on these stylized facts, but building on the utility function in equation (1), we can write down the following utility function over worldly goods and worship:

$$(4) \quad U = U(C, X, W; A, B, S) = AX^{0.5}C^{0.5} + sBW - W^2$$

where C =shareable goods, X =non-shareable goods, as before, but now W =worship, s =spiritual capital, and A and B represent the conduciveness of the environment to enjoyment of material goods and to worship, respectively. (For concreteness, I have adopted a specific functional form instead of pursuing greater generality by merely describing its characteristics. Others may seek to define conditions for utility functions necessary and sufficient for the emergence of monasticism, if so inclined.)

As before, each individual faces a time constraint:

$$(5) \quad X + C + W = T_x + T_c + T_w = 1$$

Maximizing (4) subject to (5), and to the constraints that $W \geq 0$ and $W \leq 1$, we get the following solutions:

$$(6) \quad W = \begin{cases} 0 \\ \frac{sB}{2} - \frac{A}{4} \\ 1 \end{cases} \quad C = X = \begin{cases} 1/2 \\ \frac{1}{2} - \frac{sB}{4} + \frac{A}{8} \\ 0 \end{cases} \quad U = \begin{cases} A/2 \\ \frac{A}{2} + \frac{A^2}{16} - \frac{AsB}{4} + \frac{(sB)^2}{4} \\ sB - 1 \end{cases}$$

Equation (6) shows that, for each variable, there are two corner solutions and one interior solution. If $sB < A/2$, the lower bound on worship is binding: the individual engages in no worship at all. This result is realistic: some people do not worship. In fact, according to this model, all individuals with positive spiritual capital would choose to engage in *some* worship if there were no opportunity cost (the doubting atheist might try an occasional prayer), but since there is an opportunity cost, low- s individuals will choose $W=0$. If $sB > 2+A/2$, the upper bound on worship is binding. (This implies that the person consumes “zero” X and C , not an inapt descriptive of some ascetic saints’ lives provided that a minimal X and C necessary for survival is assumed.) If $A/2 < sB < 2+A/2$, an interior solution will occur, and the individual will “consume” positive amounts of X , C , and W .

For our purposes, the crucial question is: will higher levels of s , of spiritual capital, make a person more likely to enter (or remain in) a monastery? Let the monastery and the world be two environments, each of which has an A and B , that is, a rate of productivity for secular goods (shareable and non-shareable) and a conduciveness of worship. We may assume that a monastery is an environment with a relatively high value of B , that is, a place conducive to worship. Let A_{world} represent “worldly opportunities,” which, as before, varies among individuals.

Those for whom $A_{\text{world}} < A_{\text{monastery}}$ have an easy choice and prefer the monastery regardless of their level of s . This raises an important issue: the monastery may, especially if it is materially prosperous, attract people with no interest in its spiritual life at all. (History seems to provide some examples.) To this we will return.

Those for whom $A_{\text{world}} > A_{\text{monastery}}$ face a more interesting choice. If $s = 0$, they will choose the world. As s rises, this initially has no effect, since the marginal value of worship is still less than that of secular activities. But as s rises further, they begin to engage in positive amounts of worship, and at that point, the relative appeal of the monastery begins to rise. At some point, as s rises indefinitely, people will wish to leave the world and enter the monastery.

(g) ‘Learning-by-doing’ and monastic stability

If membership in a secular commune depends only on worldly opportunities, desire for membership can be no more autocorrelated than those worldly opportunities. If membership also depends on spiritual capital, which presumably is strongly autocorrelated over time, this provides an extra reason for the membership of a monastery to be consistent from one period to the next, thus solving the commitment problem.

More importantly, worship seems to have a ‘learning by doing’ character: the more you do it, the more you like it. As religious people gradually learn the doctrines and grow in appreciation of the rituals of their faith, they generally derive more net utility from worship. (*The Way of the Pilgrim*, a spiritual classic by an anonymous 19th-century Russian, describes this process in an especially accessible way.) Mathematically:

$$(7) \quad s_{t+1} = F(s_t, W_t), \frac{\partial F}{\partial s_t} > 0, \frac{\partial F}{\partial W_t} > 0$$

Monks and nuns engage in more worship than they would in the world, their spiritual capital rises, and the probability that they will wish to stay in future rises relative to otherwise-similar men and women who stay in the world. Foreseeing their future desires to remain in the monastery, monks and nuns will be more willing to take vows. Thus, by reducing turnover, worship and spiritual capital solve the commitment problem which makes secular communes tend to be transient.

At this point, we have explained stylized fact (5). Shirking creates problems for voluntary socialist communities, but these are offset by the advantages of sharing. What makes communes transient is problems of commitment. Monasteries and convents are able to get commitment from their members because they specialize in worship, for which they offer a more conducive environment than the world can. They therefore attract people with high “spiritual capital,” that is, with a strong “taste for,” or

“productivity in,” worship. Not only does the autocorrelation of spiritual capital make members more likely to stay, but ‘learning by doing’ in worship increases members’ commitment over time.

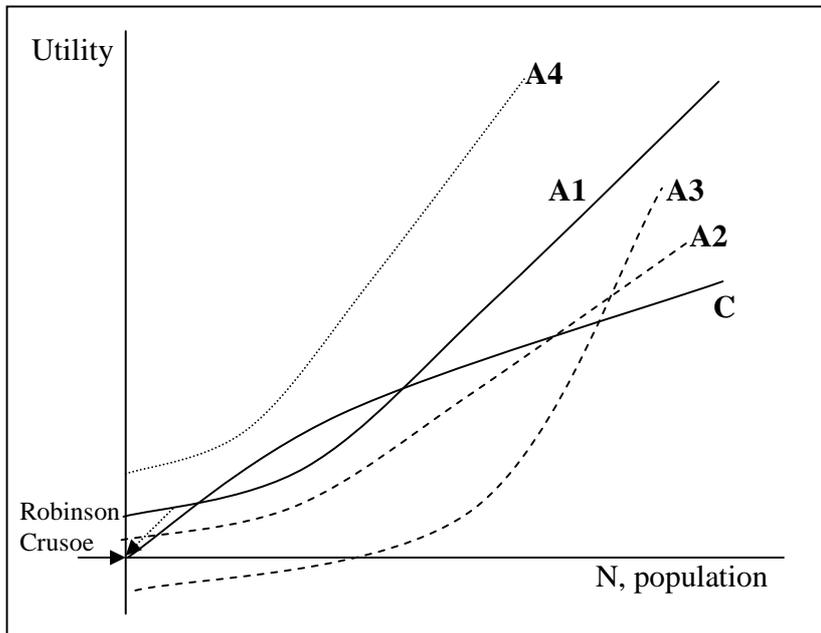
Yet one puzzle remains: if the secret to making a commune sustainable is to offer an environment conducive to the enjoyment of a specialized consumption activity requiring specific human capital acquired through learning-by-doing, why does that activity have to be *worship*? Might there not be secular activities—music, say, or surfing, or smoking marijuana—that have these same properties? Here we may appeal to Marshall and suggest that the answer is “no.” Only religion rivals economics as a “great forming agency of the world’s history”; only religion has “nowhere been displaced from the front rank [of man’s motivations] even for a time”; only “religious motives are more intense than the economic” and are sufficient to motivate the lifelong vows of celibacy that spare communes the disruptive influence of families. The stylized fact that only monasteries have been able to sustain socialism can be the basis for an unusual application of “revealed preference” to the effect that only worship is valued highly enough among men and women to be the nexus of successful community life generation after generation.

We have now developed the model sufficiently to begin to apply it. Our first application will suggest an explanation for the waxing and waning of monasticism in history through exploring the “comparative statics” of the model.

(h) Comparative statics

The main exogenous factor in this model is the distribution of relative “rewards” in the outside world, the curve labeled **A** in Figure 5. This curve is upward-sloping by definition, because individuals are positioned in rank order according to their relative rewards in the world; but it might be higher or lower, steeper or flatter, convex or concave. And it might change over time.

Figure 5: How world prosperity and crisis affects monasticism



In Figure 5, four alternative distributions of relative worldly rewards are shown: **A1**, **A2**, **A3**, and **A4**. Curve **A1** implies that there are multiple equilibria, and a monastery can be sustainable, though it will not emerge spontaneously if none exists. Curve **A2** also represents a multiple-equilibria case, but here worldly rewards are relatively less attractive, so a monastery should be easier to establish and sustain, and if it exists, it will be somewhat larger. Curve **A3** represents a case where rewards in the non-monastic world are sufficiently unattractive that some people would rather be hermits than live in it, implying that the existence/emergence of a monastery is the *only* equilibrium. Finally, Curve **A4** represents a case where relative worldly rewards are much more attractive, so that there is *no* size of monastic community which can retain its membership. If the distribution of relative worldly rewards shifts to **A4**, the monastery, if it exists, will dissolve.

Since **A** represents the distribution of *relative* worldly rewards, that is, the differences between rewards in the world and as a hermit, it can be affected by both religious and secular factors. If a great preacher or theologian—St. Bernard, for example, or John Cassian—persuades a generation of young people to “lay not up for yourselves treasures

on earth, where moth and rust destroy... but... treasures in heaven” (Matt. 6:19-20), the relative *subjective* value of worldly rewards may fall even if there is no change in the real economy. Popular disillusionment with ecclesiastical corruption, or the spread of a new atheistic philosophy, might have the opposite effect, lowering the subjective value of (formal) worship, and making the world relatively more attractive. We will not explore these possibilities further.

But economic progress or regress can also make the world more or less attractive an alternative to the monastery, and two important episodes in the history of monasticism may be explained by this factor. First, the decline and fall of the Roman Empire, beginning in the 3rd century and accelerating after the sack of Rome by the Vandals in 410 A.D., seems to have had a calamitous impact on living standards and security, especially in the Latin West, and this probably increased the relative appeal of monasticism and accounted for the flourishing of monasticism in the (so-called) Dark Ages. Second, in modern times, economic growth has steadily raised living standards in the West and many other places. This has probably reduced the relative appeal of monasticism and accounts for its recent decline (though not disappearance). Note that this does not necessarily imply that people are engaging in less, or less effective, worship.

(i) Local externalities of worship, and the monastic reform cycle

We have assumed that monasteries can provide an environment more conducive to worship than the world. If we examine why, we discover an explanation for stylized fact (7), the monastic reform cycle, as well as a further explanation for (1), hermits. Factors of mere physical infrastructure such as churches, icons, statues of saints and Madonnas, etc., as well as peace and quiet, no doubt explain some of the religious appeal of monasteries, but probably a more important factor is the effect of one’s peers on one’s own spiritual life. Here, adapting Iannaccone (1992), we may adopt an assumption that:

$$(8) \quad B = B\left(\frac{s_0 + s_1 + \dots + s_n}{n}\right) = B(\bar{s}), \frac{\partial B}{\partial \bar{s}} > 0 \forall i$$

That is, the higher the average s of the monastery's members, the more conducive is the monastery as an environment for worship. This leads to an ironic result. The more $A_{\text{monastery}}$ rises relative to A_{world} , the lower the s that is needed to make the monastery attractive to prospective members. Prosperity therefore lowers the quality of spiritual life in the monastery by attracting less committed members. For members whose s is higher than the monastery average, the hermit option begins to have advantages, since a solitary life will raise the average s and therefore B , i.e., conduciveness to worship. Thus, high spiritual capital individuals have an incentive to become hermits (in opposition to both world and monastery) and more zealous members dissatisfied with the slide in a monastery's spiritual standards may withdraw and found new orders, as did the Cistercians and the Capuchins. Interestingly, Benedict's requirement for lifelong monastic membership does not seem to have been too much of an impediment to various medieval innovators who wished to withdraw from traditional monasticism to become hermits or found new orders.

We have explained stylized facts (1), (4), (5), and (7). To explain stylized facts (3) and (6) requires a closer look at monastic constitutions.

III. Monastic Constitutions

A monastery was as much like a state as like a firm, as it governed the whole lives of its members. We have seen that communes face shirking problems, and so far we have assumed that nothing is done about them; but clearly it can be Pareto-superior to overcome the problem using rules and punishments. However, monasteries, unlike firms and other private contractual arrangements among individuals, did not typically rely on third-party enforcement. St. Benedict appeals to third-party enforcement only once, and rather vaguely, concerning the election of abbots:

In the election of an Abbot let this always be observed as a rule, that he be placed in the position whom the whole community with one consent, in the fear of God, or even a small part, with

sounder judgment, shall elect. But let him who is to be elected be chosen for the merit of his life and the wisdom of his doctrine, though he be the last in the community.

But even if the whole community should by mutual consent elect a man who agreeth to connive at their evil ways (which God forbid) and these irregularities in some come to the knowledge of the Bishop to whose diocese the place belongeth, or to neighboring Abbots, or Christian people, let them not permit the intrigue of the wicked to succeed, but let them appoint a worthy steward over the house of God, knowing that they shall receive a bountiful reward for this action, if they do it with a pure intention and godly zeal; whereas, on the other hand, they commit a sin if they neglect it.

We have seen already that a Benedictine monastery is a consensual order. It is not exactly a democracy, not only because the abbot is elected for life and has absolute authority, but because of the way he is elected: Benedict appears to call for unanimous election of the abbot (which would obviously create problems if the monks could not come to agreement) but then, retreating, and seemingly ignoring the alternative of majority rule which would seem natural to a modern democrat, he allows for a *minority*, “even a small part, with sounder judgment,” to make the decision. Benedict’s call for intervention by Church hierarchs or even what seems to mean secular rulers (“Christian people”) to override the elections if the monks (but in whose opinion?) elect an unsuitable candidate, would seem to reduce the monastery’s independence, but sustained intervention by the state or appeals to secular laws are not envisioned. At any rate the monastery is to be self-governing, and need not appeal to the state in the ordinary course of things. Discipline within the monastery is maintained by harsh but generally non-coercive measures, such as shunning (though Benedict is not above beating). The monastery is in this sense a different, and perhaps a more fundamental, institution than a market, for in market transactions, third-party enforcement is typically implicit. The absence within the monastery of property rights, which would create a basis for appeals for third-party enforcement, is linked to the monastery’s independence.

The intellectual life of monasteries was important in that it preserved literacy during the Dark Ages, but also for another reason. For most of human history, thinkers and philosophers have tended to rely on the patronage of the powerful, though there were

exceptions to this, for example in the democracy of 5th-century Athens, when the Sophists were able to make their living educating middle-class citizens. This position seems to have affected the perspective of many philosophers. For example, Aristotle, who worked for the royal house of Macedon for part of his life and was a tutor to Alexander the Great, argued that, while conquest was generally wrong, it was acceptable to conquer 'natural slaves,' a category which included 'barbarians,' i.e., non-Greeks, such as those that Alexander conquered in Persia and Egypt.

In the monasteries, perhaps for the first time in history, the life of the mind had a lasting refuge which, if not immune to occasional state interference, did not depend on the beneficence of the state for its sustenance. After the last of the philosophers of the ancient West, Boethius (480-524), having written his most famous work, *The Consolation of Philosophy*, in prison, was executed by King Theodoric the Ostrogoth on false charges of conspiracy, his friend Cassiodorus, another scholar who had served in Theodoric's cabinet, retreated to the monastery of Vivarium and initiated the work of transmitting the classical legacy which would continue for centuries in monastic scriptoria. The story of Boethius and Cassiodorus symbolizes the way learning retreated to the monasteries and thereby freed itself from the whims of tyrants, even if it was a long time before it came to rival the excellence of the ancients there. Many centuries later, Thomas Aquinas, author of a comprehensive philosophical system and probably the most influential philosopher after Aristotle and before the 17th century, was a member of the Dominican "friars preachers," a mendicant, or begging, order. This meant that Thomas relied on the order, and thus ultimately on the donations of the faithful, for his upkeep, and not on princely patrons.

Bertrand Russell notes that, much later, the political philosophy of John Locke, leading ideologist of the "Glorious Revolution" which launched the constitution of modern, liberal England, was in crucial respects derived from the schoolmen:

[Robert] Filmer [against whom Locke's *Second Treatise* is written], [a spokesman for] the most extreme section of the Divine Right party... begins [his book *Patriarcha: or The Natural Power of Kings*] by combating the 'common opinion' that 'mankind is naturally endowed and born with

freedom from all subjection, and at liberty to choose what form of government it please, and the power which any one man hath over others was at first bestowed according to the discretion of the multitude.’ ‘This tenet,’ he says, ‘was first hatched in the schools’... (Russell, 618)

Locke... having shown the impossibility of [Filmer’s notion of] deriving the authority of government from that of a father... sets forth what he conceives to be the true origin of government... He begins by supposing what he calls a ‘state of nature,’ antecedent to all human government. In this state there is a ‘law of nature,’ but the law of nature consists of divine commands, and is not imposed by any human legislator... Men emerged from the state of nature by means of a social contract which instituted civil government...

What Locke has to say about the state of nature and the law of nature is, in the main, not original, but a repetition of medieval scholastic doctrines. Thus Saint Thomas Aquinas says, ‘Every law framed by man bears the character of a law exactly to that extent to which it is derived from the law of nature. But if on any point it is in conflict with the law of nature, it at once ceases to be a law; it is a mere perversion of law.’... The view of the state of nature and of natural law which Locke accepted from his predecessors cannot be freed from its theological basis; where it survives without this, as in much modern liberalism, it is destitute of clear logical foundation. (Russell, 623-4)

If the roots of modern liberalism can be traced back to the medieval schoolmen, the fact that monasticism made it possible for thinkers to live and write independently of governmental patronage, and from that position to develop and publish theories profoundly subversive of arbitrary state power such as the natural law doctrines of Aquinas, would seem to be of considerable historical significance. Of course there were other monks, such as Joseph of Volokolamsk in 15th-century Russia, who were powerful defenders of divine-right absolute monarchy. But whatever the ideologies espoused by monks, the monastery itself embodied, from the beginning, a key feature of the kind of order to which liberals aspired: government by consent of the governed.

Thomas Jefferson, in *The Declaration of Independence*, wrote that:

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of

Happiness. — That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed...

While these lines have reverberated through history and inspired generations of American patriots, there is something odd about them. How is it possible, let alone self-evident, that “governments... derive their just powers from the consent of the governed?” How could such a government enforce laws? Do lawbreakers consent to the laws they are breaking? If not, how can the laws bind them? Jefferson was writing the manifesto for a revolution that sought to establish, and in due course succeeded in establishing, a new government. Would that government wait for universal consent before it began to rule? Would it wait only for majority support, and if so, why would that suffice to establish its claims? Would the Constitution which the revolution gave rise to be binding on future generations, who had not consented to be ruled by it?

In the late 20th century, scholars James Buchanan and Gordon Tullock, in *The Calculus of Consent* (Buchanan and Tullock, 1962), attempt to re-conceive the kind of social contract theory that the generation of the “Founding Fathers” of the United States believed in, using the conceptual apparatus of economic theory. They offer a “generalized economic theory of constitutions,” according to which rational individuals may agree to collective decision rules, or constitutions, *ex ante*, even if they anticipate that *some* of the collective decisions will be disadvantageous to them, on the grounds that the establishment of the constitution will provide them, in expectation, net benefits. Buchanan and Tullock insist that the constitutional adoption decision be *unanimous*: this is required by their attempt to conceive of a social contract as analogous to a market. But would it be possible, in practice, for people to arrive at such an agreement as a basis for civil government? Presumably not. Among other things, ‘hold-up’ problems, where the last person or persons to ratify the constitution would try to alter the terms of the deal in order to extract all the surplus value for themselves, would make negotiations interminable. Even if a social contract were established, its interpretation would present insuperable problems. Thomas Hobbes, in *Leviathan*, proposed an alternative social contract theory, which vested all power, including all powers of interpretation of the laws, in the sovereign, and

claimed that contracts extracted by fear are valid. The state might indeed be able to achieve unanimous consent if it is authorized to use unlimited coercion to do so; but if, as Locke and Jefferson (and Aquinas) believe, people have *a priori* rights which must be respected during and after the establishment of civil government, unanimity in a large population on the constitution becomes vanishingly improbable.

Yet it is a different matter if, as in the case of monasteries, the membership is self-selected, entering as adults into a community with already established rules. In that case, there are no problems of endless negotiation, since the Rule amounts to a take-it-or-leave-it offer by the monastery. Indeed, it seems clear that a real constitution of consent would have to take this form, beginning with a rule and then allowing members to self-select into the community, rather than attempting to bring a pre-existing community, e.g., based on kinship, to consent unanimously to a rule. It is interesting to contrast the real, live social contracts of monasteries with the notions of modern social contract theories.

Locke believed that property rights were natural, existing in the state of nature, and that the state's job was not to assign, but to preserve them. Jefferson agreed. For Hobbes, by contrast, individual property was subordinate to the will of the sovereign and to that extent became nugatory. But the idea that property rights are natural and prior to government involves metaphysical claims which are difficult even to express, let alone to defend, today. Jefferson writes that the purpose of government is to protect "life, liberty, and the pursuit of happiness"; Buchanan and Tullock write that

Individual considerations of all possible collective action may be analyzed, in terms of the costs-minimization model, but it will be useful to "jump over" the minimal collectivization of activity that is involved in the initial definition of human and property rights and the enforcement of sanctions against violations of these rights. (Buchanan and Tullock, 44)

As if the "definition of human and property rights" were a minor affair. In fact property is a very difficult matter, a vexed question that inspires revolutions. Who gets what is hardly the sort of question that the members of a universal constitutional convention would be able to agree on. In this case, it is interesting that the monasteries go to the

opposite extreme of Locke and Jefferson, abolishing private property within the monastery altogether. In any case, it is worth recalling that the British common law, now practiced also in America and other former colonies of Britain, was introduced not by any democratic or consensual process, but by William the Conqueror, a Norman king who had conquered a Saxon country and wanted to establish firmer control by sending out royal judges. Property rights are hard to establish by common consent. Monasteries simply did without them.

As consensual, open-access orders, monasteries enjoyed a degree of independence from the political and feudal powers of the time that may explain their disproportionate contributions to civilization in medieval times. Competition among monasteries and with the world for members may also have given impetus to monastic achievements. This is not inconsistent with a simpler explanation of monastic achievements which we have already seen, without giving it much attention: communes produce more *C*, more of the kinds of goods that are shareable within the household. The best example of this is books. In the age of printing, to print a book for one reader is not wasteful. But in the Middle Ages, when each book had to be transcribed by hand on costly parchment, unless a reader-patron of this process were very rich, many readers were needed to justify the costs of making a book. Monasteries, which had a unique concentration of literate people in one place, naturally exhibited far more demand for (and supply of) books than any other segment of medieval society. Even today, monasteries often have libraries, gardens, and other household shareable goods (including churches) much superior to those which ordinary citizens who are in some ways wealthier enjoy.

In the Middle Ages, though, the principle of *economies of scale* that made books possible also made technological achievements possible, such as the water-mills of the Cistercians, which secular society found difficult to organize. A reason is not far to seek. Given the low level of development of commercial institutions and the legal institutions to protect them at that time, the monastery could mobilize more labor and other resources for such projects than private commercial institutions typically could. Later, with the rise

of banks and joint stock companies and the like, this role of monasteries became less important.

A joint-stock company, like monastery, is a consensual (no one becomes an investor, manager, bondholder, or worker in a joint-stock company without agreeing to it) and open-access (anyone can invest) collective endeavor. Unlike a monastery, however, it in no way comprises a self-regulating social order, but instead, relies on third-party contract enforcement provided by a legal system. In order to make such complex contractual arrangements possible, a comparatively sophisticated legal system was needed, such as was certainly not available in the Dark Ages and perhaps not even in the Roman Empire. Presumably, once such a legal system *is* available, joint-stock companies and other sophisticated commercial arrangements are more efficient than monasteries, and whereas in medieval times monasteries were important in the diffusion of such technologies as water-wheels and clocks, in modern times corporations play this role. But without the monasteries, would sophisticated legal systems ever have emerged?

And this leads us to a question of great interest, though too large to be answered here. Locke and Jefferson were wrong: government is not based on the consent of the governed, but establishes authority, at least over some of its subjects, by force and fear. But might liberal governance nevertheless be rooted in consensual order by a more indirect path? Monasteries are a real world example of consensual, open-access societies. They are an alternative to the world; they “compete” with it; they offer an “exit” from it. The emergence and growth of monasticism was contemporaneous with the decline and disappearance of slavery in Europe; the rise of the Cistercian and mendicant orders was contemporaneous with the fading away of serfdom in the more advanced countries. Medieval monarchs found their power constrained by the Church, of which the monasteries were a bulwark. The evolution of political thought was guided by monkish scholars. Meanwhile, the canon law and bureaucratic organization of the Church served as a model for the emerging legal and bureaucratic traditions of the European states. Elections and orderly succession developed in the monasteries and the Church far in advance of their emergence and empowerment in the constitutions of secular states.

Finally, Plymouth plantation, though being Protestant and non-celibate, it was not a monastery, resembles one in that the Pilgrims fled from a corrupt world for the sake of worship, from which their new society derived its cohesion and robustness. If we cannot truly say that “governments derive their just powers from the consent of the governed,” might it be true that the ideal of consensual government, a quixotic ideal on the scale of a state or society yet a fruitful one rich in ameliorative and liberal tendencies, is ultimately derived from the centuries-long influence, practical and ideological, of consensual governance in monasteries and other religious communities?

Conclusion

Monasticism is an important historical phenomenon involving unusual economic arrangements. In aspiration and to some extent apparently in practice, the ordinary self-seeking behavior that economists have long assumed as a matter of course motivates people’s economic behavior is completely and deliberately abolished in the monk. The monastery is organized as a sort of socialist commune or miniature socialist republic specializing in worship. The puzzle is why monasticism has been so successful when other socialist experiments have repeatedly failed. The answer proposed here begins by showing that the standard explanations for why socialism fails—a lack of incentive-compatibility, and the problem of calculation—are serious but not insurmountable for small, voluntary communes. The real problem for socialist communes is *commitment*: people’s preferences and outside opportunities are variable, and this variability will result in high turnover of membership which will cause communes to dissolve. Monasteries solve the commitment problem by offering an environment conducive to the enjoyment of a specialized ‘good,’ worship, whose value to an individual increases with the accumulation of ‘spiritual capital,’ which in turn increases through learning-by-doing. This gives monks a reason to stay, and reduces turnover. The unique efficacy of worship in providing a basis for a socialistic communal way of life seems to reflect the unique place of worship in the human utility function, which allows it to crowd out all other desires. A model of this kind can explain why monasticism emerged spontaneously and has persisted for centuries and millennia.

While monasticism took shape as a spontaneous order, and formal ‘rules,’ like that of St. Benedict, were only introduced later to codify or modify traditional practices, monasteries were always based on a ‘social contract,’ unlike most social orders, which are based on accidents of birth and on coercion, even when, as in the case of modern liberal states, they claim to be based on consent. While the monastic social contract resembles those of Locke’s and Jefferson’s theories in being consensual, in its absolute, hierarchical character and its lack of individual rights and especially property rights, it resembles rather the authoritarian social contract of Hobbes. One conclusion that becomes evident in examining the contrast between monastic practice and social contract theory is that if social contracts are to be regarded as real or potential historical events, they must emerge like monastic rules, governing only the population of those who specifically consent to them. Also, the contrast confirms doubts about the possibility of pre-constitutional property rights.

The success of monasticism in medieval times, and its disproportionate contributions to civilization, may in most cases reflect little more than economies of scale and gains from cooperation, along with the surplus resulting from celibacy and freedom from childrearing costs; but it was the consensual, collectivist lifestyle of the monasteries that enabled them to achieve these gains at a time when they were difficult to achieve through private contract. Later history has shown that monasticism is not the only solution to problems of cooperation and institutional stability, but it is doubtful that civilization would ever have arrived at the institutional technologies that the West enjoys today if its development had not been accelerated by monasticism. While no activity other than worship seems to have enough of a place in the human utility function to provide a basis for collectivism as a complete way of life, *university faculties* may be another example of an institution based on a specialized consumption activity (studying arcane subjects), the enjoyment of which is enhanced by a form of consumption capital (knowledge and research skills) which is acquired through learning-by-doing. They bear some resemblance to monasteries in being places of pilgrimage supported in large part by charitable donations from the outside, within which motives other than profit are

dominant. More broadly, nonprofits and non-governmental organizations (NGOs) resemble monasteries in that members (employees/volunteers) forgo worldly opportunities for the sake of service to a moral ideal. Such examples suggest that the economics of monasticism may have as much contemporary as historical relevance.

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