PROGRESS: TOWARDS A VALUE ETHICS

being Chapter Ten of
A GENERAL THEORY OF VALUE
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> When it is said that we are too much occupied with the means of living to live, I answer that the chief worth of civilization is just that it makes the means of living more complex; that it calls for great and combined intellectual efforts, instead of simple, uncoordinated ones... Because more complex and intense intellectual efforts mean a fuller and richer life, they mean more life. Life is an end in itself, and the only question as to whether it is worth living is whether you have enough of it.
>
> Oliver Wendell Holmes, Jr.[1]

Any theory of value that calls itself "general" might be expected to generate at least a few recommendations in the realms of public policy and ethics. Ours does.

This chapter is organized into two parts. The first part discusses how economic growth and development are converted into economic *progress*. I try to show that economic progress, driven largely by greater concern for justice on the one hand and higher standards of personal satisfaction on the other, is characterized by increasing social and material complexity-and-organization, one of the signs of which is increase in prices and wages over a broad front. This increase is not the result of "too much money chasing too few goods," which is what *inflation (*most basically formulated) consists in. It is rather, I argue, a consequence of positive cultural and material *evolution*, which should be understood in growing-complexity terms and let be if it is not to mislead monetary policy. Some of the formulae we developed in Chapter Eight are used again in explanation.

The second part of this chapter addresses several themes in ethics and moral philosophy. Foundational elements of our theory of value return with implications unfurled—complexity

and organization, needs and tokens, exchange and fairness... Ther term "economic" expands to refer also to the psychological economy, and thus to include cultural and "purely social" phenomena.

Six recommendations logically follow. Many of these recommendations will be familiar to the reader of contemporary American politics (for example, improving education) although they are arrived at from a slightly different direction, i.e., that of the mandate to increase Ω. But a few of my recommendations, I venture, will not be so familiar. The treatment of all six is largely philosophical, especially the last, which is in explicit search of what one might call *value ethics*. Only in the Coda—where I elaborate what is in effect my seventh recommendation—do I offer ideas about implementation.

Part I. Economic growth, development, and progress.

Economic *growth*, economic *development*, and economic *progress*: what is the difference between these terms? Historian Rondo Cameron provides us with some useful definitions:[2] Economic *growth* properly refers to the net increase in a country's (or region's, or city's) total output of goods and services. This is sometimes measured in terms of the actual quantity of goods and services produced per unit time (usually per quarter or per annum), but is usually measured in terms of the total amount of money spent purchasing them—the Gross Domestic Product (GDP)—corrected for inflation. This correction is done by taking a standardized subset of well-defined goods and services, called a "market basket," and comparing its total price to its price in some previous, reference year.

Economic *development* is usually found in tandem with economic growth. Economic development refers to any substantial structural or organizational change in the dominant way that an economy produces wealth for its citizens. Such shifts could be from a local subsistence economy to one that includes markets and trade, from agriculture to manufacturing, from manufacturing to services, or from (labor) services to the processing and transmission of digitized information—a transformation which is occurring now in the U.S., Japan, and Western Europe.

Economic growth without economic development is purely *quantitative* growth—the same jobs, the same products, just more of them. Economic development is both quantitative and qualitative: it means more *and new kinds* of jobs, more *and new kinds* of products, as well as new kinds of institutions, laws, knowledge, modes of finance, and so forth. An economy that promoted polluting industries *and* industries that cleaned up their effluvia, or one in which a

spreading disease is countered by building more hospitals rather than eradicating the source of the disease, might register positive economic growth by measures of GDP or total physical output, and even positive economic development by measures of the rate of establishment of new jobs, firms, government agencies and the like, but these would not be evidence of economic *progress*.[3]

Economic *progress* is the most value-laden of the three terms. Whether or not we can conclude that economic *progress* has been made in a given region and time depends on the changes in several aggregate measures. It depends, for example, on increases in real per capita income or wealth; it depends on closer approaches to standards of fair income distribution, on higher rates of literacy, on longer life-expectancy, on lower crime rates (achieved without involuntary losses of individual freedom), on greater reported happiness or optimism, on less environmental destruction, and so forth.[4] Economic progress is moral progress but without the latter term's religious and personal focus.

N̲ow, it's easy to find ringing descriptions of economic progress, even point-by-point specifications of what it would consist in. They are the stuff of politicians' speeches, the grist of journalistic mills. The picture of economic progress given by our theory of value, however, can be formulated in just two statements. Economic *progress* is being made in a given region only if, when, and to the extent that:

1. People of all classes, ages, genders, and ethnic backgrounds—and the animals and plants of all species that do not need to harm humans to survive—are increasing in number, variety, and individual lifespan.

2. The six basic needs of more people are being met to a greater degree than was previously the case, and at the expense of fewer other people and living creatures than was previously the case.

Albeit with a bias towards human life, both of these statements are about increasing life's *plenitude* (which, as the reader will recall from Chapter Six, is the product of life's length and fullness[5]); and both statements, as conditions to be met, demand continual increase in the complexity-and-organization of goods, minds, technologies, laws, and markets. To pursue them seriously, I suggest, is to produce—as though automatically—a world with less envy, greed, fear, hostility, ignorance, ugliness, and crime; it is to produce a world that is safer and yet more challenging, interesting, and beautiful.[6] This is progress, and it depends on all "walks of life"—on all

languages, all institutions, all businesses, all fields of knowledge and action—ascending together to higher levels of complexity-and-organization.

So, at least, says our theory. A rising ceiling of complexity-and-organization has been a defining feature of *biological* growth and development for millions of years, just as a rising ceiling of social and artifactual complexity-and-organization has been the hallmark of economic growth and development for at least a hundred centuries. The "driver" in both cases is the quest by the living for more life, for greater plenitude.[7] But a question remains: if increasing complexity-and-organization characterizes not just economic growth and economic development, but also economic *progress*, by what extra rule or consideration does the Ω of progress distinguish itself from the Ωs of growth and development? On what philosophical grounds can we identify and exclude all pollute-and-clean, afflict-and-cure, dig-a-hole-and-fill-it-again industries, all war-making, nature-plundering, bureaucracy-creating, and highway-to-nowhere-building projects that can generate considerable economic growth, and even development, without achieving a jot of progress?

To answer the question we must turn to the "no-harm principle," a principle built in to our two statements and crucial to our understanding of justice.[8] For consider: all of the growth- or development-without-progress pursuits mentioned involve someone, somewhere, involuntarily being worse off than they were before. Such pursuits violate the principle that forbids actions that will predictably harm those who do not freely and informedly give their permission to be harmed beforehand. Without the no-harm principle, a mayor can justifiably ignore the literacy or living conditions of the poor in his town and recommend instead that law enforcement be enlarged and enhanced. Without the no-harm principle, colonial exploitation is justified because it gives useful employ to soldiers, sailors, and clerks, as well as enhances life back home with cheap raw materials and diverting curios. Neglected from the mayor's accounting is the increased misery of the poor (although policemen, judges, and jail wardens will surely prosper); neglected from the colonizer's accounting is the destructive effect of his actions on the land and dignity of native peoples.[9]

Says the no-harm principle: if there must be harm at all, the free and informed consent of the to-be-harmed must first be obtained. This is a problem. But it is also a saving grace. For such consent can rarely be obtained without creating new and complex token economies designed to persuade people that the challenges they will face and the sacrifices they will have to make will be worthwhile.[10] Economic growth is needed to satisfy the lower needs of a growing population. Economic development, on top of that, is spurred by the spreading taste for variety,

luxury, and freedom. *But it is precisely the evolution of consent-obtaining practices and harm-minimizing technologies, on top of these, that converts economic growth and development into economic progress.* The "lengths" one must go to in order to win consent and minimize harm are "good lengths"—Ω-producing lengths. They are time and money well spent. Indeed, we might begin to suspect that the no-harm principle—built so deeply into post-Enlightenment democracy and law—is a manifestation of a deeper value-distributional principle, a principle that, if it were universally applied, would increase the plenitude of life on earth in part *because* it is "hard" to apply: difficult because worthwhile, worthwhile because difficult.[11] We might also realize that many grand projects, like building the international space station or colonizing the moon or beautifying the entire environment, might seem like make-work, highway-to-nowhere projects. But they are not—not if the sacrifices that would have to be made are seen as worthwhile by those who would have to make them. Indeed, as life-enhancing as their *results* would be, the benefit of such grand projects need be nothing more than their effects on the people caught up in them. It doesn't really matter *what* a society "does for a living," as long as it's *more living* that it actually produces: the dreaming, the science, the engineering, the conversation...not to mention the jobs, the pride, the money.[12]

To conclude: economic progress is economic development that follows the no-harm principle, or, more realistically, that creates the conditions under which the no-harm principle can be more closely realized. (Call that the "less-harm principle.") On this account, the broad human happiness that comes with economic progress is an expression of plenitude's increase, of positive global evolution, of the continuing growth of Ω everywhere.[13]

No, if there is any single obstacle to economic progress it is the perennial promise that simplicity is salvific and that disorganization is the same as freedom. I shall have more to say about the life-destroying promotion of simplicity-and-disorganization later in this chapter.

H aving opened many more doors than I can hope to close, we now pass through one of them to explore a relatively limited topic: how economic growth, development, and progress are all reflected in the persistent historical upward-trend of market prices and wages, this when prices themselves are explained, as we have explained them in Chapter Eight, as the reflection of changing degrees of complexity and of organization among buyers, sellers, and goods in the marketplace. Because my remarks do not provide anything like a complete view of development economics but merely a few observations about the general price level and inflation, I shall divide them into three, limited, "suites." Within each suite I hope to demonstrate how the ideas

discussed earlier this book can enrich the abstract treatment given to the subject of price levels in economics texts. If also, in more expert hands than mine, elements of the discussion that follows contributed somewhere to bringing about actual economic progress, then, of course, so much the better.

Suite 1: Reasons for increases in the general price level

In Chapter Three, David Warsh and Frederick Pryor (via yours truly) presented evidence of the long-term increase of both market complexity (as measured by the total number and diversity of firms, jobs, and goods), and of absolute prices for a standard market basket. Can we make further sense of their findings now, with our models of the market from Chapter Eight in hand? Will this exercise shed any light on when growth becomes development becomes progress?

Well, according to Warsh in particular, the broad increase in price (and wage) levels as measured over decades and centuries can be ascribed to two causes, the first given due weight by economists, the second not—or not as much:

The first cause is *inflation.* Inflation happens when the state or sovereign prints (or mints) money and puts it into circulation, this in order to stimulate the market, to pay off state debt, or to finance wars. (In modern times, lowering interest rates to commercial banks, or lowering the reserve deposit ratio—the amount of cash that a bank must have on hand relative to its outstanding loans—serves the same purpose as printing money.) In either case, increasing the money supply without concomitantly increasing the total physical output of actual goods and services does nothing but create a surfeit of circulating currency. This devalues the currency *unit*, eventually making all prices and wages numerically higher and no one better off except those who can pay back old debts with new, inflation-devalued currency. People on relatively fixed incomes, like pensioners or contract laborers, suffer the most. Landlords and others who can fluidly pass along incremental price increases suffer the least.[14]

The second cause of general price and wage increases is the increasing complexity (and organization) of the cost webs that go to make up most categories of goods. Rather than inflation, which it only resembles, let us call it (economic) *evolution.* When more people, more firms, and more machines carry out finer and more specialized tasks that are connected together in longer and longer chains in order to produce more complex-and-organized products for more more-discriminating consumers, a certain amount of new money—not to mention other forms of paperwork—must be injected at every new market juncture between firms and between firms

and consumers. This is money to pay for each other's specialized outputs, money to pay for new machinery, to pay workers, to pay for their training, to pay for transportation, insurance, accounting services, advertising, and so forth—all in acts of choiceful free exchange that require enough freedom tokens—"money-units"—to avail all parties of the freedoms offered. Profits must be made at every new market juncture too, and these profits, propagated down the "supply chain," add up to higher prices to the consumer-buyer in absolute terms.[15] Consumers, as workers, in turn demand more money in the form of higher wages for their more specialized skills, or, as investors, in the form of higher interest and dividends for the use of their savings. To avoid inflation and yet fund economic growth (and, hopefully, progress), the total money supply[16] must increase to match and essentially finance some aggregated measure of general economic activity and complexity that is *not* dollar-denominated—a measure derived from, say, the total number of hours worked, the number of buy-sell transactions executed, the total (physical) output of goods and services, the number of job-, good-, and firm-classifications, population growth, (business) miles travelled, civil law suits resolved, acres of nature protected, phone calls made, stamps bought, and e-mail messages sent, and so forth.

Adam Smith in *Wealth of Nations* addressed this idea of economic evolution in his treatment of the "extent of the market" and "the division of labor." These he saw as inextricably linked, advancing together and irreversibly.[17] This is not to say that certain industries, jobs, and goods do not take the opposite path, becoming simpler and cheaper, or that some industries, jobs, and goods do not disappear off the market entirely, having become obsolete or too expensive. But historically and on the whole, when economies, populations, and industries are thriving, they gain in complexity-and-organization too, even if only, at a minimum, by the amount needed to manage increased population and population densities, longer trade routes, more exchange points, and a larger variety of currencies, assurances, and tokens of legitimacy. For example, increasing population density alone all-but-irreversibly requires greater spatiotemporal *organization* (*R*) of the otherwise chaotic activities of thousands upon thousands of people in frictional contact with one another. This complexity-balancing degree of organization is achieved with laws and proclamations, with permissions and plans, and with such public time- and space-keeping technologies as bell-towers, clocks, time-tables, public squares, address systems, street signs, and maps. Indeed, when combined with the inculcated virtues of literacy, punctuality, and personal reliability, inventions such as wristwatches, telephones, newspapers, flyers, television, radio, universal postal service, and the Internet continue to do what communication technologies have done for thousands of years. This is to obviate some but coordinate many more face-to-face

meetings than previously possible—meetings between people who would not otherwise know of each other's existence or location and yet whose needs and resources were complementary. Thus is *potential complexity* (C_{pot}) increased, as well *actual complexity* (*C*), as well as the degree of social *organization* (*R*).

Token economies intensify with population density, too. Critical to economic progress is token exchange that replaces relations based on power and violence with relations based on legitimate authority, all this over wider and wider ranges. I mean tokens of legitimacy—such as professional licenses, patents, and property rights—that have currency at the scale of the whole human settlement, not just in local circles. Without these kinds of tokens in circulation, freedom remains limited and money hardly more than a bribe. The development economist Hernando de Soto has taken this observation the farthest. The absence, he argues, of a universal, efficient, and reliable system for granting and transferring rights to such basic assets as buildings and land is the single largest barrier preventing developing- and formerly-communist countries from establishing successful capitalist economies.[18] We can agree. But the same might be said for tokens that belong to all the strata. All have an integrative, organizing function when well-founded, universally recognized, and traded on the "least force" principle discussed in Chapter Five. Rights to real estate are just one kind of token. Money legally earned is another.

With economic growth, markets increase in *size*: more people making more goods (and providing more services) that more people want more of. With economic development, markets increase in *sophistication*. Goods and jobs diversify in type, many becoming quite abstract, purely social, purely coordinative. With economic progress, development continues, but demand grows in a different way: A larger and larger proportion of the population begins to demand not so much higher-*value* goods (for what could be of higher value than subsistence goods to a disorganized, shelterless, half-starved mob?), nor even *more* goods in quantity, but goods that have value at all: *different* goods, *better* goods. Recall the law of diminishing marginal utility: the value of a given good generally lessens as we become more satisfied in the need which that good satisfies. This is why the front line between economic development and economic progress is so often marked by the conversion of luxury goods affordable by a few into quotidian goods affordable by many, if not all. As Rondo Cameron points out, economic development in Europe from the late Middle Ages until the 19th century was driven largely by the effective demand (by the rich) for spices, tropical fruits and vegetables, sugar, and tobacco. That these goods are now staples that even the poor can afford represents economic progress. Centuries before that, the

bulk of trade centered on dyes, metals, gemstones, porcelain, silks, and linens...luxury items all of which required not just shipping but elaborate workmanship before or after. Today these things pour out of factories so voluminously that the supply of them can hardly be stopped.

Things native and common were never good enough for the rich. Nor were they good enough for those who were growing rich by applying themselves to satisfying the fancies of the richer-yet. The process continues to this day, and it's interesting to see how. Today, prestige still matters, as does supreme physical comfort, but, in developed democracies at least, it is the production and consumption of "freedom goods" that has become the dominant occupation of a growing segment of the population. By freedom goods I mean goods and services that deliver more space, more time, more privacy, more access to information, greater physical mobility, easier communications, more leisure, wider choices of jobs, investment vehicles, mates, clothes, cuisines, recreational vehicles (boats, snowmobiles), and other consumer goods. By "freedom goods" I also mean goods and services that promote or justify or depend on greater social tolerance and behavioral permissiveness, weaker commitments to particular places and particular people, safer gambling and risk-taking, and, in general, less guilt. Also classifiable as freedom goods are movies, TV shows, sports events, video-games, websites, and other forms of entertainment that deliver wild or transgressive "experiences" that are actually safe and legal.[19] All of these are good goods...*if* the freedom they provide is well-founded.

But not everyone is after more freedom. In countries experiencing economic progress, the number of people striving for the more perfect satisfaction of their lower needs increases too. These people can vary in type and motivation from happy connoisseurs trying to get the most out of life to sad obsessives who cannot get good-enough of anything. Both types demand ever greater sophistication in the goods that will satisfy them, be these goods material or psychological. This is to the greater good—or can be. Carried out within the bounds of fairness and the no-harm principle, catering to the desires of connoisseurs and obsessives is a worthwhile difficulty. It raises the wages and prices paid to produce the requisite goods; it fuels the development of new technologies; it encourages trade; it creates greater complexity-and-organization in the consciousness of both producers and consumers. Such price and wage increases are not, properly speaking, inflationary: no one is paying more (or being paid more) for the same thing. People are paying more (and being paid more) for a *better* thing. This is economic evolution.

Over and above rounds of currency inflation, then, prices and wages rise as economies evolve through growth, development, and progress. Capital accumulates both in the form of loanable amounts of money and in the form of emplaced machinery, infrastructure, know-how, and know-who. Supply chains lengthen; networks become denser. Against this ever-enriching, ever-complexifying background, every producer-seller either tries to increase his prices more slowly than his competitors do (for this is how he plans to retain or increase his market *share* even as prices in general follow an upward trend), or he tries to increase his market *power*, that is, his ability to bring products to market that buyers will pay for at the upper range of their valuations for that category of product. Rarely can producer-sellers *lower* their prices permanently without special subsidies or tax breaks. But when they *can* lower prices (without subsidies or tax breaks) it is usually for one or more of the following reasons:

1. The discovery of, and/or newly -legal access to, less-expensive-to-exploit natural resources, such as new forest lands and fishing areas, new mineral deposits, cheaper sources of electricity, and so on.

2. The invention and adoption of more efficient technologies of production, delivery, communication, search, or transaction—technologies that together or singly reduce sellers' or buyers' costs, K_s or K_b.[20]

3. The trimming of the profit margins and financial floats considered "normal" for the industry by minimizing exposure to unpredictable changes in buyer tastes and supplier circumstances. This is accomplished by operating in several markets at once, by using several suppliers, by "aiming for the middle" in consumer taste, diversifying product lines, and/or growing in size.

4. Related to 3: The acquisition of, or long-term contracting with, any supplier or customer that has market power $r^\mu > 1$ or that has lower-than-average production costs.[21]

5. The weakening of labor's bargaining power (from ideological weakness, from competition with foreign labor, or whatever else), leading to lower labor costs.

6. The discovery that lower product-quality is undetectable by most buyers, or still found acceptable (cf. "Gresham's Law extended" in Chapter Nine).

7. Related to 6: The cultural transformation of a superior into an inferior good; in particular, the transformation of a rare and not-well-understood good into a common good of little mystery—a commodity whose composition and capacities are unremarkable (e.g. nylon stockings, computers).

Reasons 1, 2, 4, 5 and 6 rely on reducing *costs* in one way or another. Reduced costs mean reducible prices, all else being equal. Reason 3 is a little different since it's about reducing profit margins. The seventh and last reason works on a quite different principle: it effectively erodes the seller's market power, r^μ—or rather, it trades market power for market share. When a good's traditionally high price no longer signals that it has rare and invisible qualities (especially qualities that increase the chances of success at some critical enterprise), or when owning it no longer indicates membership of some elite group, then its price, P, will descend toward actual production costs, K_s.[22] Add mass production and the process is a familiar one: it is called "commodification."

Because they can point to these seven reasons for why absolute prices can sink, and because they can point to many actual examples in economic history, economists have been skeptical of Warsh's proposition that the tide that all-but-inexorably raises numerical prices and wages consists in the increased economic complexity entailed by development and progress themselves. The explanation preferred by economists is *inflation* pure and simple. Certainly, inflation is easier to see and measure: here is a government debasing its currency; there is one lowering its interest rates too far or too fast; here is a country with unemployment gone too low; and there is one whose trade unions have become too powerful, driving up wages, or that has permitted too many companies to become monopolies. And so on.

Economists are also quick to emphasize that the prices of various product categories, and the wages of different job categories *relative to each other* or to a median, have varied up *and* down over historical time. For example, although a loaf of bread now costs around $2.00, which was once a respectable day's wage, bread is now much cheaper both relative to other goods and to the median wage. But finding an affordable plasterer now is next to impossible. Products and skills come and go. Only changes in relative prices and wages give us useful information about an economy, say economists. Absolute prices are arbitrary; they are "merely numbers" that depend on the choice of unit.[23]

Now let us reply. Relative prices are *ratios* of the form $\frac{price\ of\ A}{price\ of\ B}$. $\frac{\$2000}{\$1000} = \frac{\$200}{\$100} = \frac{\$20}{\$10} = \frac{\$2}{\$1} = 2$, which is denomination-irrelevant. $\frac{2000\ pesos}{1000\ pesos}$ is also equal to "2". This "2," mathematicians would say, is dimensionless. But the use of ratios neutralizes at the outset the very point that Warsh and we are interested in, i.e., the fact that more actual money in circulation—in total and per capita—might be telling us something general about the evolution of economies, i.e., about the

overall increase in their actual complexity (C), potential complexity (C_{pot}), organization (R), and complexity-and-organization (Ω) in terms of people and goods and their means of (re)production. Too often overlooked is that (setting aside a few agricultural products) no present day "market-basket" used to quantify inflation is qualitatively the same as any previous-day market-basket with nominally the same goods in it, all the more so as the time period between them grows. The goods in more recent market baskets are likely to be *better* in almost every way, every one of them embodying more science and more intelligence if not more direct human labor. The basket would cost more even if the relative prices between goods in that basket stayed the same. A case in point: government inflation statistics, based on the monthly CPI (Consumer Price Index), assume that as the years go by people purchase, on average, the same model and size of car: to wit, a standard, mid-size vehicle with cloth seats and an AM radio. But few people actually buy such cars any more. Larger and better-equipped vehicles are becoming the norm, and the actual prices paid for them have outpaced the CPI. (In 1998, the average price paid for a car rose 4.2%, and in 1999 3.6%, relative to the year before. The overall CPI rose 1.6% and 2.7% in those same years.) People were clearly spending relatively more of their income on cars than they used to, but not for the same *kind* of car: it was for a more complex-and-organized product by far, yielding a richer and safer driving experience. The same is true of medical care. Now imagine this to be equally true for *all* the goods in the CPI market basket. Because *relative* prices cannot *all* go up, the CPI itself goes up, all components more or less equally: more money for better stuff.[24]

The fact that we can at any time divide (or multiply) all extant prices by a number—say 100—and wind up with the same set of relative prices (which, as I say, is offered by economists as "proof" that the numerical magnitude of prices is arbitrary) is an abstract and purely mathematical fact about numbers, not about goods.[25] (For a more technical discussion of this point, see Note 26). What *is* interesting is that actual prices (and wages) in developing economies have risen steadily and consistently in real figures, and have for hundreds of years.

Suite 2: Using our market model to describe general price level changes

Most of what I have so far offered on economic growth and development could have been written by taking Warsh, Pryor, Böhm-Bawerk,[26] and others at their word, and knowing nothing of the formulae developed in the last few chapters. After all, "technological progress,"

"market power," "production costs," and "consumer valuation" all have quite conventional interpretations, and we have not strayed very far from them. To earn their keep as it were, our equations ought to let us see *deeper* into the story, further behind the scenes. They do.
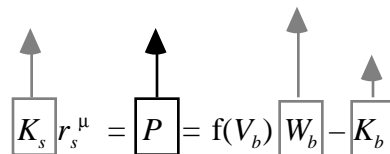
Let me write out Equation 8.5 again

$$K_s r_s^{\mu} = P = f(V_b)W_b - K_b$$

As the reader will recall from Chapter Eight, K_s is the producer-seller s's cost of production and marketing, r_s^{μ} is the producer-seller s's market power, $f(V_b)$ is a function of consumer-buyer b's valuation of the good, W_b is buyer b's effective income, and K_s is the consumer-buyer b's cost of search and acquisition of the good. P is the transaction price agreed to by both parties. To speak about the general price level, i.e. about *all* prices (and wages) at once, we must think of seller s as the representative or average seller, of buyer b as the representative or average potential buyer, and of g as a market basket of goods representative of all the goods in the economy. Of course, a great deal of realism is lost by all this averaging and "representing," which is true of any macroeconomic formula. We will try recover some detail later. But some useful distinctions can already be made. To wit:

With *inflation*, K_s and W_b and K_b rise together and in proportion to each other so as to preserve the equality sign—but the equality is reached at a higher numerical value of P. After all, the typical buyer's income, W_b, is a wage (or return on investment) which counts as part of *some* producer-seller *some*where's cost of doing business, K_s. Raising the first automatically raises the second. Ditto with K_b which is money paid to someone for helping find and get to the seller and his goods. All that is happening is that both buyer and seller have more money...but of less buying power per dollar.

We could visualize *inflation* like this (where the dotted boxes are severally the cause, the solid box is the result, and the length of the arrows gives a rough indication of size and direction of movement):

With economic *evolution*, by contrast, general price and wage increase looks like this:

$$K_s \boxed{r_s^{\,\mu}} = \boxed{P} = \boxed{\mathrm{f}(V_b)}\, W_b - K_b$$

Since both $r_s^{\,\mu}$, the producer's market power, and $\mathrm{f}(V_b)$, the consumer-buyer's value function, represent the more complex expressions that were discussed at some length in Chapter Eight, I will not go into all the sub-variables that affect their rise and fall. Suffice it to say that aggregate market power (r^μ) increases when more producers bring goods to market that more people find uniquely suited to them. Prices rise when, at the same time, consumers find these goods better and more valuable (V_b) for any of the reasons (discussed in Chapter Six) that "defeat" the law of diminishing marginal utility. Perceived shortages help to raise P too—as does easy credit, though neither are necessary.[27]

Complexity abounds.[28] One longs for the all-purpose effectiveness of simple "supply and demand" narratives. But, in theories as in economic life, progress only comes with embracing the new complexity, organizing it, mastering it, and abandoning, as one does so, as little of former complexities as possible. And so, at risk of exceeding the reader's patience, I should like to open r^μ up again. The yield in insight will be worth the cost in intellectual effort. Price-response to competition is a complexity-derived and complexity-described variable, just as consumer valuation is. Re-examining r^μ allows us to make some valuable connections—connections back to ideas about information, evolution, and "value in the largest view" described in Chapters One through Three, as well as forward, to some new ideas about economic progress.

Suite 3: The complexity-evolution argument more closely

This suite gets a little more technical. Some readers may wish to take in only those passages that are relatively clear of algebra. These ought to make sense by themselves. In all, I try to show how our formal model of the market predicts—or at least observes, accepts, and recommends—that maintaining profitability when markets are large and competitive requires that product *complexity* and product- and buyer-*substitutability* replace, as the most significant variables, the simple shortages and surpluses theorized by the law of supply and demand.[29] *As economies evolve*, I will argue, *so do quantities count less and qualities count more*.[30] This applies all the more to societies that are enjoying economic progress over and above economic development and growth.

It's one thing to argue that these claims are true, as I have done in various ways already. It's another to show that the mathematical models we have developed tell the same story. So: back to the "balance of market organization," r_s, and to its extension by μ to r_s^{μ}, "market power," as defined through Equation 8.3. This time we will want to distinguish N_K, the number attributes of the good considered relevant by potential buyers, and N_J, the number of category-relevant attributes actually belonging to and displayed by the goods. (Cf. Appendix Six for a more detailed account.) The greater is N_K the greater is the potential complexity of the average buyers' mind with respect to the number and kinds of qualities he is looking for in this category of good. The greater is N_J, the greater is potential complexity of the category of goods in the number and kinds of qualities its members possess *potentially*-valuably but that may or may not be cared about or even noticed. Properly, $N_K \leq N_J$, and rarely, as a matter of psychological fact, does the absolute magnitude of N_K get larger than around 10 bits.[31]

To save the reader from turning pages, here is Equation 8.3 once again:

$$r_s^{\mu} = \left[\frac{\beta(\log B_s + N_K)}{\gamma(\log G_{B_s} + N_J)} \right]^{\mu}$$

A study of the behavior of this expression would show that the larger is the number of buyers in the market (B_s) and the larger at the same time is the number of goods available that might satisfy them (G_{B_s}), the less sensitive is r_s^{μ} (the seller's market power) to any absolute changes in B_s and G_{B_s}.[32] This feature of our model reflects the practical fact that when both the number of potential buyers, B_s, and the number of goods, G_{B_s}, run into the thousands or tens of thousands (as they frequently do in developed marketplaces for everyday goods) it takes patient scientific study to establish what the numbers "B_s" and "G_B" actually *are*. Few sellers and even fewer buyers undertake the study with any scientific precision. Both rely instead on rough impressions of local conditions, i.e. to sampling. This is perfectly rational and quite good enough according to our model, given how insensitive r_s^{μ} is to inaccurate counts when large quantities are involved. But—and here is the crucial point for us—whereas the sensitivity of r_s^{μ}' to changes in B_s and G_B diminishes as B_s and G_{B_s} get larger, as I have just noted, its sensitivity to changes in N_K and N_J does not diminish by nearly as much. Conclusion: *seller's market power depends more and more on good- and buyer- complexity.* Our model suggests that as markets grow in size, so the difference in magnitude between N_K and N_J comes to matter more than the difference between B_s and G_B. Which is to say, *in large and mature markets, manipulating the*

actual, purported, and perceived complexities of goods is the chief arena in which the contestation over price is played out. I submit that this describes real market behavior rather well, especially in developed countries where shortages of anything are rare.

Other things being equal, the buyer's valuation, V_b, of a particular instance or brand of good is apt to depend to some degree on N_K and N_J too: an item that has more valued features in total than a competing item is likely to be the more highly valued; through f(V_b) this raises the price the consumer will be happy to offer (P_s in Equation 8.4). The size of N_J is also likely to affect K_s, given that product complexity and product cost-of-production go roughly hand in hand, while N_K involves the costs of education and advertising.

Am I forgetting about β, γ, and μ? No. When markets are large, the first two drop to a value less than unity and closer to their minima, while the third can go either way. Why?

Because the larger B_s or N_K becomes, the less likely is it that $\beta = 1$. And the larger G_{B_s} or N_J becomes, the less likely is it that $\gamma = 1$. Without some organizational effort to keep consumers similar in tastes and sensitivities, β can drop as far as 0.5 as people statistically "spread out," like oil on water, to become less substitutable for each other. γ can drop too, and for similar reasons, as the plethora of goods in a category "spread out" to embody a greater number of the possible permutations of their N_J fundamental attributes.

As for μ: when the size of a market increases absolutely but N_K and N_J do not increase and neither do search costs, the probability that any one buyer will find what she wants also increases. The total frequency of good-enough matches between specific buyers and specific goods rises, and this raises (or maintains) the magnitude of μ.

But against this trend, there are three reasons for μ to drop with market size:

First is the tendency for potential buyers to believe that when goods are evidently plentiful (i.e. when G_S is large) there will always be *one more* for themselves, regardless of how many other people want one too. Less anxiety on this score means lowered valuation of the good, and this lowers μ. (More about this in a moment.)

Second, the larger are markets (and assuming that the number of sellers grows more slowly than the number of goods on offer), the larger is the average sellers' business *volume.* This makes it easier for the average seller to insulate himself from the risk of all his buyers defaulting on payment, which in turn makes it possible for him to offer easier terms of credit to his customers, which in turn makes them less sensitive to price's effect on competition with other

buyers (and from other sellers), which in turn dampens the effect of μ. Here banks and credit card companies have been invaluable allies of both consumer-buyers and producer-sellers unwilling to face market conditions in the raw, and have encouraged both parties to put more weight on the average consumer-buyer's perspective (Equation 8.4) than on the producer-seller's (Equation 8.3)

Third, remember that μ is also proportional to the good's typical valuation: the higher is the average buyer's valuation—V_b and $f(V_b)$—the larger is μ. (Here the consumer-buyer's perspective invades the producer-seller's quite directly, as we noted earlier.) All other things being equal, highly valued items are more strenuously competed for when in short supply, making them rise sharply in price. Conversely, when they are in over-supply, they are more steeply discounted.

To move from this last set of observations to some larger conclusions about economic progress, we need to start with two conventional assumptions: (1) that economic growth and development involve increases in market size ($B + G$) for most categories of goods, and (2) that the latter phenomenon also marks the increasing prosperity and satisfaction levels of more consumer-buyers (if not vice versa).

Now, V_b is apt to grow smaller as consumers are on average more satisfied on account of previous consumption of the good. This is the law of diminishing marginal utility in action, and the per-unit *value* of a good usually works the same way, i.e., it diminishes as the rate of consumption increase. But recall from Chapter Six that not all goods suffer this fate. Among the exceptions to the law of diminishing marginal utility are goods that are (or involve) *goals that keep receding*. Repeatedly raising the standards of how perfect "perfect" must be, or raising the norm again and again of how much "enough" is, how fast "fast" is, how safe "safe" is, etc., can postpone the onset of value-diminishment for a long time. This led us to introduce the related idea of *re-scaling*, illustrated by Figure 6.11, and a different sort of perfectionism. To wit: when we focus our attention on the detailed qualities of goods and on the satisfaction we derive from them, even though that satisfaction may not be close to *ultimate*, we effectively redraw the graph that plots satisfaction against consumption. Under our scrutiny, an objectively small range on the Y-axis (satisfaction) stretches vertically, as though a magnifying glass were applied. In this way, the experience of happiness—which is (positive) *change* in satisfaction—is revived.

Now, making goals recede and re-scaling satisfaction are both N_K-increasing strategies: they increase the perceived complexity of the good, which, if found lacking, encourages the production of higher-quality goods with higher N_J. This is an important effect in its own right. It tends to decrease sensitivity-to-competition, μ, inasmuch multiplying the number of a category-of-goods' attributes and putting them under scrutiny makes perfect matches between what people want and what is actually available *less* likely. But the recovery of value through increased attention to more complex goods can also cause, and then be the cause of, *greater* sensitivity to competition when consumer-buyers, skittering away from what is readily available and demanding better, use quality-discriminations as a signal of social position among themselves and thus force down the prices of what is more common.

How do producer-sellers respond to this? By "running after" potential buyers to divine and then provide what they want, by inventing new things for them to notice and value, and/or by coaxing them into wanting what they (the producer-sellers) have already produced. Far from decadent or empty or "materialistic," these pursuits engender new and higher levels of complexity-and-organization, Ω, and its psychological correlate, satisfaction, *S*, in both producers and consumers.[33]

Fortunately, such are the energies released and the intelligence demanded by the endless search for profit of competing producers facing increasingly well-off and fussy consumers that, as a matter of prudence, as a matter of ensuring long-term viability, the system must be tempered by considerations of justice: Property rights must be clearly defined and tracked; fairness-in-exchange must be watched over; society's have-nots and "have-lesses" must have credible reason to believe that their condition is either temporary, or voluntary, or no one's fault; and the physical environment, with its natural resources, beauty, and ecological balance, must be preserved for the uses and pleasures of future human generations as well as for the sake of all the creatures that live in it. I say it is "fortunate" that we must face all these issues because they are not "complications" that get in the way of wealth creation. On the contrary. They are higher complexities that, once met by higher levels of organization, make for better and longer lives in the long run for all, including those enterprising few whose material wealth will increase the most. The twin drivers of economic progress are laid bare: luxury and justice.

Now what, one might wonder, has allowed me to refer to "complexity-and-organization" in the previous paragraph and not just "complexity," the word I have mostly been using over the last few pages? Did I just slip it in? Are not $(\log B_s + N_K)$ and $(\log G_{B_s} + N_J)$ just potential complexities, examples of C_{pot}s? In short: whence the *organization, R,* the equal partner in the production of precious Ω?

The answer is: in β, the substitutability of the members of the set of potential buyers, one for another, and in γ, the substitutability of the members of the set of available goods, one for another. Recall that when all potential buyers are identical in their wants and preferences, $\beta = 1$; and that when they are randomly different, $\beta = 0.5$. Similarly, when all available goods (in a given category) are identical in features and properties, $\gamma = 1$; and when they are randomly different, $\gamma = 0.5$. In Equation 8.2, β and γ are treated as coefficients whose magnitudes are directly proportional to degree of organization, R (or, more accurately, to R/C_{pot}). When β or γ are equal to 1, then their R is equal to their C_{pot}. That is to say, buyers or goods are totally organized. It is as though all the buyers had been *commanded* as what to want and all the goods had been *forced* to be identical.[34] When β or γ are equal to 0.5, it's catch as catch can: buyers' preferences for, or the presence/absence of, a (stock of) good's attributes are as uncoordinated as they can be within the constraint that they define a certain category of goods at all.

The organization we are looking for, then, lies on the one hand in the success that sellers have in *not* letting β sink to 0.5 (more about which in a moment), and on the other, in the natural inclination among consumers to regard each other's preferences and sensitivities with such a mix of wanting-to-be-different and wanting-to-be-the-same that, once again, β does not go to 0.5 but hovers somewhere above that...ideally, at around 0.72 as this would yield Ω_{max} for any given value of C_{pot}.

As for the *J* goods in a category: unless they are living things or services, they do nothing to organize themselves but, rather, are organized by the direct actions of their producer-sellers. Once again, γ is prevented from sliding all the way down to 0.5, this time by the limitations of manufacturing machinery, by the aesthetic tastes of designers, by the demands of functionality, and lastly, by designers' attempting to match buyer's tastes and sensitivities. For all these reasons, γ is apt to lie somewhere between 0.5 and 1 too—even, possibly, around 0.72.

Now, keeping β and γ above 0.5 (remember, buyers and sellers have contrary motivations here) tends to put pressure on N_K and N_J, the number of buyer-preferences and the number of category-attributes respectively. All else being equal, sellers want N_K to be greater than N_J;

buyers want N_J to be greater than N_K. The resulting arm-wrestle tends to increase both variables, as each side tries to top the other. The product complexifies.

But what happens, we might wonder, when N_K and N_J get too large (i.e. much bigger than 10 bits)? What happens is this: the abstract equivalent of the biological population migration that leads to speciation. That is, from one category of goods there emerges two, with overlapping functions and attributes, but each having less than ten salient attributes in total. After a while, the two categories no longer interact with one another: each takes its own self-elaborating course in response to their own economic environments and internal dynamics of development and invention. They become wholly different product categories—wholly different "species." One has only to look at the number of breakfast foods, recreational watercraft, drugs, car models, dog breeds, or entries in the government's SIC/SOC (Standard Industrial Classification/Standard Occupational Classification)...as against the number of these that could be found on the market ten or fifty years ago in order to see how differentiation and growing attribute complexity drive "product migration" and "speciation." Thus do we circle back to Warsh's point.

Figure 10.1   Growing attribute complexity   (*N*) leading to category "migration" and "speciation" in order to keep *N* below a maximum value

To the extent that this dynamic pervades the market, one gets *qualitative* growth and development (inasmuch as N_K and N_J are proxies for quality) over and above *quantitative* growth and development. Ordinary people become like kings of old. Or at least, more of them do.

Far from describing only auctions or close bargaining at the bazaar, then, Equations 8.3 and 8.5 show how, when markets get larger and closer to ideal, *product complexity and product and buyer substitutability take over as the most relevant factors affecting price*, along with consumer-buyer valuations and income—this, rather than shortages and surpluses. We realize that putting these variables into play efficiently over large geographic distances has been one of the most significant achievements of the Internet. At the theoretical level, "quantity-demanded" (Q_D) and "quantity-supplied" (Q_S), those two stalwart variables of the law of supply and demand, stand revealed not only as the extreme generalizations they are (and didn't pretend *not* to be) but also as temptations into wrongly believing that it is in the nature of economic models to be crudely *quanti*tative, i.e., to be able to count only the how-many and how-much of things rather than the how-well and how-swell of them too.

Does increasing complexity-and-organization describe the happy fate of all categories of goods in a growing economy? Unfortunately not. Many suffer; many diminish in complexity-and-organization over time, losing their capacity to satisfy with nuances and losing, too, their ability to command high prices. Rather than differentiate and speciate, one sees them collapse into catch-all, multipurpose categories, consisting of goods that do nothing really well, that are as generic as pop music, as adaptable as metal sheds, where one size fits all. As I have suggested throughout these pages (with what I hope is increasing persuasiveness), this diminishment has been the fate of fine architecture and of several other goods and experiences that were once highly elaborated, appreciated, and valued, and that now lie simplified-to-death ("rationalized") by the side of the road to economic... shall we call it *progress*? (And note: everything I have said about these categories of goods can be said about the people involved in producing and consuming them: their number, their sensitivities, their skills, their desires, their states of mind, their lives...reduced in plenitude.)

Economic progress stands over and above economic growth and development to the extent that, when, and wherever growth and development are being achieved *and* the no-harm or less-harm principle is in operation. That is why, with economic *progress,* the old is rarely thrown away. If at all possible, *the old is adapted and built upon, preserved* and *improved.* This is the path to true riches, as Ruskin argued. Periodic extinctions are the way of nature, to be sure, and Schumpeter's "creative destruction" has its Darwinian (not to say Faustian) appeal. But let us not be blind to the number of times we end up with destruction only, with wastelands and brownfields, with ruined and shortened and impoverished lives, while elsewhere and for someone else something good is happening as a result. Economic growth and development can demand that involuntary prices be paid. Economic progress—true progress—does not.

Part II. Towards a Value Ethics

Although it ends in a Coda specifically about architecture, this book has larger purposes and its theory of value has more general application. Indeed, in addition to offering what I hope have been useful insights into the workings of minds and economies, the theory of value offered in this book might have something fundamental to offer in the matter of reducing the poverty, injustice, crime, hatred, and meaninglessness in the world.

That "something fundamental," condensed into an aphorism, is this: Not the love of money, but

the love of simplicity-and-disorganization is the root of all evil.

Readers who have not made their way through earlier chapters might find this claim somewhat sudden and not very profound. Moreover, inasmuch as it is itself a simplification that could easily become "disorganizing," some might think that it exemplifies the very property it condemns.

These are both significant worries. Let me address them before going on.

As to its profundity: each term in "*the love of simplicity-and-disorganization is the root of all evil"* stands at the head of fast-branching tree of associations and definitions. *Simplicity-and-disorganization* is the opposite of *complexity-and-organization*, Ω, which is a measure of lifefulness that we have spent hundreds of pages investigating. Simplicity-and-disorganization is negative-Ω, and to promote its increase is to be anti-life. The aphorism's obvious converse is: *the love of complexity-and-organization is the source of all goodness*. Such insights as have been stumbled upon in our pursuit of understanding *positive* value, can therefore be brought to bear on its converse.

As to its exemplifying what it condemns: this is a problem shared by all aphorisms, not just ones that criticize simplicity.[35] With pithiness as their *sine qua non*, *all* aphorisms—all maxims, mottos, and dicta—are too simple by far to be applied unthinkingly. (And as though to make matters worse, many have equally pithy "duals" that recommend the opposite. For example: "Look before you leap," and "He who hesitates is lost.") But ours at least has the advantage of being connected back into a larger theory, term by term. Ours is no apothegm uttered by a sage. Nor is it an insight tossed off by some "brilliant" literary character. Indeed, it must be admitted that from a literary point of view, "*the love of simplicity-and-disorganization is the root of all evil*" is rather clunky. That stumble in the middle—"simplicity-and-disorganization" lodged where "money" ought to be—gives us warning that unraveling *this* aphorism might be a drawn-out affair. Which it is.

One might also have a third worry.

Assume for the moment that the aphorism is profound, consistent, and true. (I have more work to do to prove that it *is*, of course). Would it not then be a new *recipe* for evil, and better left unexplained? To a person who *wanted* to do harm in less obvious ways than killing,

cheating, lying, dishonoring, or "loving money" too much...would our aphorism not be of aid? Almost regardless of content and context, such a person could come into some healthily complex-and-organized situation and recommend greater simplicity (through amplifying certain priorities or exaggerating certain preferences over others) and at the same time recommend less organization (through applying fewer rules and allowing greater freedom with the remaining options) and so do a great deal of harm without anyone understanding why, exactly, things were getting worse. Evil here can have a smiling face. Why? Because, although each recommendation (i.e. towards greater simplicity, towards less organization) *could* have positive effects *if* the system was too far or to the left or right of the ridge of Ω to start with, and *if* it was compensated for by a more substantial change in the other measure in the opposite direction, these two "ifs" are easy to overlook. Certainly, implementing the recommendations for more simplicity and less organization *together,* or in close succession, will diminish the life of the system no matter where it is located on the Ω surface. That is to say: lessening complexity-and-organization is always a bad idea. Less complexity-and-organization is what converts chess into checkers, songs into chants, diplomacy into thuggery...forms, all, of de-evolution. Evil here can have a smiling face because it promises relief from ambiguity on the one hand and more "freedom" on the other, both of which are attractive. But it does so by freezing out options and/or randomizing the rest; it does so by making the world smaller and wilder instead of larger and richer—which is to say, by making the world more like it *was*, evolutionarily speaking, than like it needs to become.[36]

     If our aphorism illuminates the path of evil for some, then—a path that leads society into the heart of darkness: poor and lawless, run by children with guns—then perhaps we could turn to a second aphorism for inoculation: "Forewarned is fore-armed." Without the first, though, we might not see evil's "root" at all. This is the larger worry.[37]

     Note also, before we go on, that our aphorism adds one new element to my previous assertions about Ω, which were always about positive and negative value rather than Good and Evil as such. That new element is the "love of," or preference, term that it borrows from its Biblical model.[38] Not simplicity-and-disorganization, but the *love of* (which here means strong preference for) more simplicity-and-disorganization is the root of all evil. Not complexity-and-organization, but the *love of* (preference for) more of it is the source of all goodness.[39] After all, one can always be mistaken about where positive value lies—mistaken, or misled. No blame accrues in these cases. One might also choose a path of more simplicity-and-disorganization because it is the only way to reach greater complexity-and-organization soon after. These

maneuvers are justified if they are tactical, rare, short-lived, and embarked upon with the consent of those to be affected. What concerns us, and *what our aphorism warns against, is developing persistent preferences for actions and ideas that reduce* Ω. It is the attachment to these preferences (and to their attendant justifications) that converts the negative value that ensues—bad enough—into "evil" in the more religious sense.[40]

Let me expand now upon some of the political and economic implications of what we have just covered. Since our subject matter—The World and Its Problems—is so vast, I ask the reader to forgive me in advance for the lack of completeness in my treatment.

The problem of uneven innate limits to human capability.

Above and beyond our bodies' inherent complexity-and-organization, people have varying mental abilities for producing, appreciating, "processing," and otherwise dealing with the level of complexity-and-organization in the world around them. This ability is both inherited (by nature) and inculcated (through nurture). But, as I argued in Chapter Two, we need not take a position on whether nature or nurture is actually the dominant factor in order to recommend that nurture should always be treated as though it were the stronger of the two.

As we also saw in Chapters One and Two, the course of evolution involves organisms, institutions, and minds alike staggering up the ridge of Mount Omega, multiplying in number and interactivity, and thus increasing the complexity-and-organization of their own environments. It's a self-reinforcing process. For human beings, this means that people can easily find themselves in legal, social, and physical environments whose degree of complexity-and-organization exceeds their ability to cope with or flourish in them. Some cannot keep up.[41] As unfortunate as this might be, there is nothing intrinsically—morally—wrong with not being able to keep up. Morality enters the picture only at the moment when we must decide what to do about it.

Logically, there are only two options. Either (1) we renew our efforts to increase their (our) capacity to deal with higher Ω, or (2) we design environments for them (us) that are lower in Ω. Both strategies are effective. Our moral obligation, though, is to prefer the first option over the second, using the second only when we are *sure* that innate limits of the first have been reached. And even then, with option 2 taken, option 1 should always be open *in case we were wrong* and those limits had not been reached. For example, it is perfectly moral to create simplified and protected environments for children, for the retarded, for the very aged, or the physically or mentally ill. While the arenas in which such people pursue their happiness might

legitimately be smaller, morally, *within* those smaller arenas, all basic needs ought to have room for expression as well as avenues for satisfaction. All moral dicta should continue to apply (e.g. "use minimum force," "persuade rather than coerce," "do no harm," etc.), and many alternative opportunities to *learn* how to handle higher levels of Ω should always be at hand (i.e., option 1 should remain open). To follow this course is not to love (relative) simplicity-and-disorganization, although such may be the result of our paternalism. Quite to the contrary: it is to love complexity-and-organization to the greatest degree possible under the circumstances...and then always suspecting those circumstances of crimping Ω too much.

Now, it seems perfectly moral to allow rational adults to choose their own "operating level" of Ω. This is a level that might vary from day to night, week to weekend, workplace to golf course, and so on. Indeed, in a free and democratic society, a person who is capable of handling more but who chooses to live with less complexity-and-organization than you or I might choose, would seem to lie beyond moral reproach and certainly beyond legal censure. "Live and let live" is the dictum. In this light, condemning the preference for less Ω (as our aphorism does) looks strangely intolerant.

Might it yet be right?

Of people who choose not to apply themselves or to develop their potential, we are wont to say "it's a pity," "what a waste"—no big deal; *their* problem. We note with some satisfaction that few of them become wealthy (if they aren't already), or as wealthy as they *could* be. For the most part, people draw compensation *from* society in proportion to their actual (rather than potential) contributions *to* it, and this appeals to our sense of justice.[42] But in fact there are ethical problems with steadily preferring less Ω, as our aphorism warns, and these problems begin on several fronts.

The first comes when a person's choosing to handle less Ω than he or she is capable of handling—let us call it *slacking* for lack of a better word—is emulated by others.[43] Slacking might even become seen as a *virtue* of sorts, complete with its own narratives of justification. After all, the maxims "Let it be" and "What, me worry?" have a certain appeal, yielding, as they do, a tiny burst of freedom, a moment of aristocratic *sang-froid*, every time they are applied. Then, too, one can always find reasons why self-application and self-development, aside from being overly earnest, would only further the agendas of others. "Why would *they* [i.e. my parents, teachers, bosses, politicians...] be urging me to 'grow up' or 'accept challenges' and blah

blah blah if it was not in *their* interest?" And for thoughtful individuals there are several quietist New Age philosophies that argue (usually along Buddhistic lines) that since striving is the basic cause of suffering, one should not strive.

Whatever the justification, slacking eventually forces the environment to dumb down to suit—to dumb down not just by design (as when special provisions are made by someone who cares for the slacker) but automatically, self-reinforcingly. For when other people largely constitute a person's environment and slacking begins to take hold, a descending spiral can form that is hard to stop.[44] Here, in round after round of adjustment to each other, people become less and less capable of handling complexity-and-organization, less and less capable of living life as richly as they could, and less and less capable of learning their way back up the slope of Ω. In the name of simplicity and efficiency, work is "rationalized." In the name of autonomy, circles of influence and concern contract. In the name of tradition, accommodating to and assimilating the new (or the foreign) becomes optional. In the name of progressivism and freedom, the past is erased. When ignorance charms, innocence attracts, and opinions rule, human capital dwindles.

Luckily, slacking is not the norm in the developed countries. Through specific cultural beliefs and practices, most of these successfully instill the virtues of ambition, work, education, truthfulness, and patience in their people. The young are persuaded that "the world is their oyster," that their country needs them, that they should set an example, that great and adult pleasures await them if they make the right sacrifices, that their freedom must be won through gaining others' respect, that authority based on knowledge is better than power based on violence, that work is noble, that they will have only themselves to blame if they fail...and so on. And all the while, what Keynes called "animal spirits" keeps the pot boiling.

How alarming it is, then, when the love of simplicity-and-disorganization becomes a cultural norm. The process begins when the free emulation of slacking is replaced by its overt encouragement, this through the recognitions, compliments and exclusions made by quasi-legitimizing institutions such as clubs and political parties. How much more alarming it is when simplicity-and-disorganization is forced upon a population—a population that is fully capable (as individuals) of handling great complexity-and-organization—by the use of the authority or power of the state or a would-be revolutionary movement. Not only is this harmful, but the harm is coerced.

Does it happen? All too often. When people in sufficient number become anxious and fearful, unable to adjust to the increasing complexity-and-organization of their environment, the demand grows for a return to simpler and freer (or more orderly) times.[45] Without the wealth or

education to "drop out" to a life of graceful simplicity, and resentful of those who are capable of greater complexity (indeed, who thrive on it), ordinary people fall prey to the promises, slogans, and catch-all half-truths of political leaders who would make things "straightforward" again, who would clear away the thicket of laws, who "reveal" corruption and slyness where there is, in fact, only necessary complexity, who accuse merchants of robbery, artists of decadence, lawyers of lies, and the intelligentsia of confounding the Truth. Not the Sage but the Simple Man is held up as a model—usually a farmer, feeding the Nation. Not Wildeans, but Wild ones are admired—"men of iron" like boxers, soldiers, athletes, and cops, whose anarchic energies at the lower levels of the stratigraphy are barely contained and easily directed.

Finally, when enough people (and not necessarily a majority) are willing neither to learn nor be bound by such rules as would ensure orderly coexistence with varied others, the love of simplicity-and-disorganization takes a deadly turn: towards fascism *and* anarchy. This usually means rigid central control at the larger scale with chaos and confusion permitted at smaller ones; it means laws made stricter on the one hand but more arbitrary in prosecution on the other. Consider this extraordinary statement from a national leader: "A change in education is a further necessity: today we suffer from over-education. Only knowledge is prized. The know-it-alls are the enemies of action. What is needed is instinct and will!" The speaker, of course, is Adolf Hitler in 1934.[46] Or this statement: "Science is simply acting daringly. There's nothing mysterious about it.... You shouldn't care about any First Machine Building Ministry, Second Machine Building Ministry, or Qinghua University, but just act recklessly and it will be all right." The speaker is Mao Zedong. In May 1966, the *People's Daily* announced that Mao was "the source of our life." He deemed the Chinese people hardly more than children chained by history. As Jasper Becker writes:

> Mao's desire for chaos and misrule was part of his aim to crush the old order. But it was also the most effective way to ensure his dominance. By keeping his comrades, courtiers, and satraps permanently off balance, by setting "the people" upon them, dividing them among themselves, and having them periodically purged, humiliated, and killed, he made sure nobody could ever usurp his throne. This was Hitler's basic instinct too, and Stalin's, and every other tyrant who darkened the history of man. ...[47]

How dearly these people loved simplicity-and-disorganization! The late-19th century Swiss historian, Jacob Burckhardt, made the same point: "[I]n the denial of complexity," he

wrote, "lies the essence of tyranny."[48] I would only want to change Burckardt's "complexity" to "complexity-and-organization," Ω, which I believe is what Burckhardt meant, and what most people mean, when they speak of complexity as good.

Not just individuals but cities and states vary in their ability to handle complexity-and-organization. What does this mean?

Cities and states flourish by arranging and rearranging many of the roles that their citizens will fill and the rules that they will live by. These roles and rules can be more or less numerous, more or less integrated, more or less sensitive to change; and it is in a sense the business of cities and states to produce and manage roles and rules for the benefit of all. To do this, however, requires that a combination of roles and rules be designed that will offer the populace a *range* of degrees of complexity-and-organization to deal with, a range that allows all citizens to use their abilities fully—to "find their level"—while giving them grounds for believing that, with further experience and education, they can move to a higher, more richly-lived plateau. The same is true within corporations. Or ought to be. But to go back to public policy: It's no good encouraging high-tech economic development in a given region if it creates jobs that only a tiny fraction of its population can handle. Or rather, it's no good doing so without providing carefully incentived financial aid, education, and re-training.[49]

If I am right, then public policy—either directly, by enacting law, or indirectly, by the how it supports institutions and regulates markets—should be aimed not only at keeping labor markets large and efficient, not only at providing non-demeaning levels of life-support for the unemployed as well as a living wage those at the bottom of the income scale, and not only at encouraging and protecting institutions of learning and re-training. It must aim also at protecting—at the risk of seeming merely sentimental—certain skill-sets, sensibilities, and modes of production that are currently not marketable at a profit and might never be; and not just elite ones like the fine arts, basic science, live classical and jazz music, literary publishing, and so on, but also common ones, like small-audience games and sports, family-scale farming and business, skilled craft production, care of the young and the aged, home-making, and even just witnessing—appreciating—the work of others. In an age of mass automation and massive capital-accumulation, the alternative to husbanding these Ω-creating, Ω-preserving experiences and practices is to promote, by default, the spread of anomie and resentment. This in turn leads conflict not just between the rich and the poor or between the educated and the ignorant, but

between *some*bodies and nobodies, "nobodies" because there is no area of life in which *their* talents—*their* capacity for handling Ω—can find expression and general respect.

The above might seem like a left-leaning, liberal agenda, but it is not. It might seem like a right-leaning, conservative agenda, but it is not. Rather, it follows directly from our theory of value: plenitude *for* all *is* all. As much as can be achieved by minimally-regulated free markets, *should* be: there is no better system than markets for "allocating scarce resources to competing ends," as economists put it, and at the same time of indexing individual reward to individual effort, enterprise, and performance. But what cannot be achieved by markets must be achieved by other means, not passed over as irrelevant, or worse: not deserving to exist.

In the same way that individuals must attune their tastes, capacities, and abilities to the demands of the environment and its increasing complexity-and-organization, so too must countries. A country's intelligence is embodied not just in its people as such, but also in its technologies, its laws, its physical structures, and its political and economic practices. Taken together, a country's technologies, laws, physical structures and political and economic practices bestow upon it sort of *fitness* at a larger scale, a capacity to deal with the increasing complexity-and-organization generated both within itself, among its own citizens, and in its having to act as one among a family of nations on earth.

Again, issues of "match" come to the fore, not just between countries acting autonomously, contending with each other for this or that natural resource or territory as they have done for the greater part of human history, but between countries and another, new species of organized entity: the transnational corporation. With increasing globalization, more and more countries are finding that life within their borders is being organized neither by government, nor by local cultures, nor by individuals, but by transnational corporations whose local actions depend on messages received in the night, as it were, from afar: from foreign CEOs in response to changing conditions in foreign markets. Like missionary religions of old, these corporations offer superior "medicines" to the local populace and establish non- and anti-traditional token economies, but without any commitment to staying in place or to the larger welfare. International investors move their money and their confidence among countries and companies with total indifference to the outcomes for the countries and companies involved. At the global scale, the discipline of the

Market is ruthless, the faith complete that all investment is deserved and all dis-investment is "educational." Nothing could be further from the truth. The no-harm principle demands the free consent of those possibly to-be-harmed, and this consent is rarely sought from the non-investing classes.

Globalization is also the context in which political separatism has new appeal, i.e., the breakup of states, countries, and nations, like the empires of old, into units that each have greater cultural and ethnic homogeneity. People want self-determination as *peoples.* This simplifies life in a society running out of the institutional means to cope with cultural heterogeneity, with technological change, or with uncontrollable flows of monetary capital. And so: the break-up of the Soviet Union, the break-up and "ethnic cleansing" of Yugoslavia, the struggle of the Palestinians to separate themselves from Israel, Indonesians turning upon the Chinese among them, Hutus upon Tutsis, etc., etc., all echoing the nation-building movements by "purification" (read: forced relocation and/or genocide) that happened earlier in the 20th century in India, Germany and Eastern Europe, China, and South Africa. The quest? Again: simplification. Precipitating problems? Inequality, poverty, injustice, frustration reaching some threshold level. Or simple tribal revenge. But deeper than and often prior to any of these factors is the inability of these countries to deal with the burgeoning complexity-and-organization of life within themselves and around them—an inability made manifest by technologies, laws, physical structures, and political and economic practices that cannot enlarge and adapt to the new circumstances by growing in their own complexity-and-organization so as to provide more freedom *and* more interdependence, more fairness *and* more competition, more tradition *and* a more vital future for all.

As the 21st century began, religious fundamentalism stood forth as the chief form of resistance to adaptation to complexity. The destruction of the World Trade Center on September 11, 2001 by the suicidal followers of Osama bin Laden was but a vivid demonstration of how a coercively purifying and simplifying world-view, bent upon proliferating itself and able, occasionally, to master fragments of the enemy's high technology and complex, trust-based social protocols, can cause devastating loss of life (not to mention demoralization and violent response). Singleness-of-purpose-unto-death is friend to soldier and terrorist alike: the collapse of the stratigraphy to a single demand. Novelist Don DeLillo here captures the complexity dimension involved:

> We [Americans] are rich, privileged, and strong, but they are willing to die. This
> is the edge they have, the fire of aggrieved belief. We live in a wide world,

routinely filled with exchange of every sort, an open circuit of work, talk, family, and expressible feeling. The terrorist, planted in a Florida town, pushing his supermarket cart, nodding to his neighbor, lives in a far narrower format. This is his edge, his strength. Plots reduce the world. He builds a plot around his anger and our indifference. He lives a certain kind of apartness, hard and tight. ...The terrorist shares a secret and a self. At a certain point he and his brothers may begin to feel less motivated by politics and personal hatred than by brotherhood itself. They share the codes and protocols of their mission here and something deeper as well, a vision of judgment and devastation...heaven and hell... submission to God...and the blood to come.[50]

Words do not suffice.

Having surveyed some of the world's larger problems, and having offered all-too-brief interpretations of them in terms of our theory of value, the time has come to make some recommendations. Here are six (the Coda represents a seventh) that seem to me to be amenable to institution in law, or if not in law, then in revised customs and ideals.

1. Education

Nothing anyone could prescribe in a few paragraphs will suffice as a remedy for society's ills. But surely prominent among remedies, as many have noted, must be *education.* What we can add to the formula is this: education, yes, together with a concerted effort at a popular-culture level everywhere, to validate, accept, and welcome (rather than dread) greater complexity (or better, greater complexity-and-organization) in life.

Not just any education will do here, but only a "liberal" education, by which I mean an education that from first grade to Ph.D. pursues the truth of all things natural and human to the very limits of the complexity that students and their teachers can manage. This entails a dedication to lifelong learning by every citizen as well as a level of institutional and cultural support for teaching, learning, and research, the likes of which no modern country has yet contemplated.[51]

In higher education, catholicity of interests must prevail, and every form of interdisciplinarity must be encouraged. "Keeping the flame" in the halls of academe is not enough. The flame must be fed, fanned, and spread. The liberal tradition of tolerance for all

views (except those that would close down others in order to make the world simple again) must be maintained until science, or logic, or experience, proves some or all of them wrong. And even then, the "wrong views" must be kept alive via the discipline of history just in case they are not wrong. This is good long-term evolutionary strategy.

As the population of the earth increases, as the natural resources we know how to exploit come closer to depletion, and as global communications and commerce throw more people and more peoples together, so does the complexity of life on earth increase for everyone. But "sustainability"—that catch-all term—involves far more than minimizing the consumption and waste of natural resources. The sustainability of human life on earth involves each one of us keeping up with the complexity we are collectively creating. Institutions of education are gymnasia of the mind, the incubators of new institutions and technologies, as well as places of knowledge-transmission, safe questioning, and discovery. They are the places where mental acuity regardless of subject matter is itself most devotedly cultivated. They are where we learn just how complex-and-organized the world was, is now, and needs to be in the future.

One of the roles of design is to mask complexity. It is to put as simple a front on, or as intuitive an "interface" as possible between, the average person and such highly-evolved and complex products as cars, cameras, computers, or factory machinery. The innards of such products are made and attended to by specialists—specialists, moreover, using tools whose innards *they* may not understand. And so on. Since very few people, proportionally, need possess the cognitive capacity—i.e. mental complexity-and-organization, i.e. the intense education—to design (or fix) the marvelous devices that make life simpler for the majority, it is reasonable to argue and that educating *all* people to understand complex technological products is unnecessary. After all, for the majority, and experientally, the blessings of technology might make life *simpler* in the future, not more complex as I have been arguing it will and must become. (I set aside for now the question of life's degree of organization.)

Here is a reply. It has been noted since Adam Smith that the kind of job-rationalization that began with the industrial revolution and that continues today with digital automation, can have the unfortunate effect of reducing the skill-sets and the lives of ordinary workers. What's newer is the idea that consumers could suffer the same fate. The coming about of a push-button, mouse-clicked, time-saving, effort-free world *without compensatingly complex cultural pursuits*, would engender a population made dangerous to itself by boredom. As Tibor Scitovsky pointed out in *The Joyless Economy*, if the aim is the good life for all, then the education required to

enjoy the finer points of life is as necessary as the education required to engineer new technological marvels. A renewed and more urgent comittment to both kinds of education are what this short excursus on education recommends.

The importance of educational institutions can only increase as time goes by. They should proliferate and speciate.[52] The arrival of affordable, universal, broadband connection to the Internet in the first half of the 21st century will help us meet the challenge. Online schools and colleges might finally begin to match the richness of experience long offered by conventional classrooms and campuses, and exceed that offered by many of the weaker ones today.

A few remarks on pedagogy itself. Faced with the task of climbing yet higher on Mount Omega, the appeal of turning back and going down can be strong—it is the appeal of less complexity and less organization. It must be resisted. Better: it must seem uncool. But there is a catch, a hazard. The complexity and organization of the world cannot be presented all at once to those who are unprepared to see it, at least not without generating incomprehension, or worse, rejection: rejection of the general proposition that the world is very complex (and very organized), rejection of the people who convey that proposition, and rejection of the facts that prove it. In the context of education, avoiding these rejections means perfecting the art of revealing the complexity-and-organization of the world step by step—not too quickly and not too slowly. Periodic reassurances are required, together with rest stops, strategy sessions, pride in how far one has come, and fantasies of a satisfying conclusion. All good teachers know this. Not for nothing does the word "education" derive from the Latin *educere*, meaning "to lead *out*," and presumably *up*, from the cave of simple understandings.

Unfortunately, courage is often based on simple understandings, or at least on the belief that the task ahead is more easily doable than it really is. Consider: about to set out on a dangerous mission with this troops, what military commander dwells on all the things that could go wrong? Taking that hill, he insists, will be a *snap*; his men are unstoppable! In the classroom the teacher cries out: "See how simple that is, once you understand it? That's how this whole subject goes." Both commander and teacher know better, of course. Both are preparing their student's to handle greater complexity when eventually they face it alone. There is wisdom in underestimating the difficulty of large projects, then: it is when believing them to be simple gives people enough courage to embark upon them in the first place, and enough optimism to continue. But the teacher's tolerance for simplicity-and-disorganization is temporary and tonic, not permanent

and anasthetic. The student soon learns this, of course, and learns to see his teacher's reassurances as necessary for beginners, a tactic that helps the students we all are to face the greater complexity-and-organization of the world to come.

2. Welcoming the "complications" of the no-harm principle

Earlier in this chapter I argued that the key to economic progress over and above economic development, and of economic development over and above economic growth, was increasing application of the no-harm (or less-harm) principle. To go-go land-developers and entrepreneurs and to their allies and political kin, the no-harm principle appears as a "complicating factor," a stumbling block to progress, a haven for ninnies. But rather than characterize the problem as one of power and its democratic control, with our theory we can see, I think more deeply, that the application of the no-harm principle *through being, indeed, "complicating"* provides the very increase in complexity-and-organization of laws and social arrangements and physical facilities needed by all parties to increase their wealth—including, in the long run, the wealth of the parties who typically object to the no-harm principle. Remove the distaste for complexity, come to see it as essential to life, learn to cope with it by "adding" organization...and Ω is increased. Not only is value created, but the foundations for future development are soundly laid.

This point was made at length at a theoretical level in the first half of this chapter, and so I will not elaborate further upon it here. At a practical level, suffice it to say that teaching people to welcome the complications of the no-harm principle presents an interesting challenge, one that may or may not be met directly by teaching a theory of value like the one developed in this book. After all, not hurting others when it is at all avoidable, dealing fairly at all times (if not *perfectly* fairly), seeking consensus before acting, and so forth...all these are virtues that have been a part of what it means to be *civilized*—of what it means to be a good person—since at least the Enlightenment.[53] What is newer, perhaps, is the idea that the production of wealth in the most materialistic sense has depended on the prevalence of these virtues too, and on patience with the fact that more often than not they *slow things down*. Efficiency is an idea as dangerous as it is powerful. The quote that opens this chapter from Oliver Wendell Holmes Jr. captures the idea rather well.

If the "law and economics" movement growing in academia today is witness to the fecundity of the idea that the pursuit of social and environmental justice is not just morally but economically and materially good for us too, and vice versa, then so too is the growing awareness among social scientists that culture matters critically to national prosperity. Economists have been reluctant to accept this connection, preferring to emphasize finance, trade, and business-managerial strategies. The coming reconciliation between the two approaches, I hope, might be helped by casting culture itself into economic terms. This is what I tried to do with the idea of the psychological economy, introduced in Chapter Four.

3. Dealing with addiction

At the end of Chapter Six we considered a general model of addiction that, to the best of my knowledge, is new. There I hypothesized a neurological distinction between *satisfaction*-measurement circuits and *pleasure*-measurement circuits in the brain, the latter being the time-rate-of-change of the former. In the normal brain, the importance of the two measurements combine in some sort of balance. That is, both S and dS/dT are attended to. In the addicted brain by contrast, pleasure-measurement (dS/dT), which is the more volatile factor, dominates. If this hypothesis turns out to be true, I suggested, then pharmacological and counseling solutions of a certain kind would be called for and I briefly discussed how these might go.

Here we ask: to what extent can our larger problems—war, crime, poverty, injustice, loss of meaning, etc.—be explained as a consequence of addictions, or, if not as a consequence of addictions in the clinical sense (as to alcohol or heroin), then of habitual pleasure-seeking at the expense of satisfaction-seeking and of addictive/obsessive behaviors generally?

Well, when it comes to the pleasures offered by drugs, linkages can easily made, of course: drug addiction, poverty, and crime, form a triangle of mutual exacerbation in many American cities; wars large and small have been fought over drug supply, be it of opium or cocaine; and since time immemorial armies have been raised, kept happy, made brave by alcohol. These linkages do not begin to be explanations, however, at least not of the sort we after. It is addiction itself we need to explain and solve when it is a problem.

I propose that we see addictions and addictive behavior *as a form of non-coping with environing complexity-and-organization.* Problems of addiction are therefore of a piece with the problem of "negative value production" at a social level generally. But more than that, they are

of a piece with our discussion of evil in this chapter. Why? Because many addictions cause precisely the sort of strong and persistent preferences that we erroneously call "love" for states of less complexity-and-organization than those of which we are capable.

"Satisfaction" is the feeling of one's own complexity-and-organization being sustained, of new Ω becoming part of oneself at least the rate that it is dissipating through forgetfulness or noise.[54] Happiness or sadness, and pleasure or displeasure, are how we register Ω's increase or decrease. So that when, for one reason or another (including chemical numbing of the S-measuring circuit), *one can no longer feel satisfaction*, it's as though a sustaining wind had stopped blowing: one can no longer enjoy what one *knows*, what one *is*, or what one *has*; one can no longer lay eyes on things and possess them through *understanding*. In the classroom for example, when the subject has become too complex to follow, students start tapping their pencils, looking around, or falling asleep less in boredom than in self-defence. No one likes to feel stupid. Like kites with the wind gone, their S slowly sinks. What will give S a lift, and a swift one? Ah yes: drama, video, jokes, stories, mime, scatological remarks...one after the other. This is like "pumping" a kite to keep it up, a strategy bound to fail if a real wind doesn't blow soon—the wind of real complexity-and-organization blowing in steadily from the world itself. In the same way, dependence on television and its powerful, colorful stimuli can reduce one's capacity for detecting the subtler but more complex-and-organized features of the natural and built environment.

Unfortunately, satisfaction can also be had by simplifying and/or disorganizing the *world* to match one's reduced abilities, as we discussed a few pages ago. Here, in the context of a discussion of addiction, one might ask: what is drunkenness but an auto-induced state of internal simplicity-and-disorganization, a time of justifiably not-keeping-up, of not being fully civilized, of relief from fear? And what is alcoholism but a setting of this "solution" into stone, a chronic maladaptation to the stress of trying to keep up?[55] Declaring the world meaningless or "all wrong" in its present form is the first sign of non-coping. Taking to drink (or other drugs) is the next. Withdrawal, depression, anger are natural responses, as is seeking out the company of those who agree. Disappointed teenagers are prime candidates for taking this course, especially when the pleasure delivered by the drug is powerful, reliable, and community-making.

Set hard drugs aside. Why should we be especially wary of men who turn frequently to drunken singing-in-unison and of subcultures that respect this behavior? Because these individuals would just as soon bring a world into being that permanently matches their quarter-witted state as they would face the complexity of the world as it has become. At least the victims of opium and heroin go to sleep.[56]

Again, dependence on television has similar effects. With a hundred channels to surf, each more mindlessly entertaining than the next, who wants to go outside and watch the birds feed?

The prevention of addiction, if not its cure, must involve a recovery of the arts of appreciation, of taking stock and taking satisfaction in what *is*. *S* over *dS/dT*. How marvellous is Nature on the one hand, and how marvelous is it on the other that we do not live in a "state of nature." Art, music, mathematics, science, language, law, the entire economic system...these are not anything you or I have made. They were laid out on our doorstep as gifts, as it were, on the day we were born. So was the city, stretching away into the distance, humming, honking, blinking, its millions of people going about their day. So much has been done and is given to us. Children whose eyes have been opened to the beneficence of the world—both children of privilege who would otherwise take it for granted and children of underprivilege who have experienced neglect and abuse—...children whose eyes have been opened to the gift that is their planet, their civilization, their language, their town, their talents, their parents..will not turn to drugs. And not so much to television either.[57]

I would suggest that such "eye opening" is best carried out not just in the classroom or in the home, but in regularly seeing adults at work in a wide variety of settings. School visits to museums, public libraries, and planetariums are a good thing, to be sure, and common around the nation's schools. Along with these however, should be visits to farms, bakeries, law offices, metalshops, artist's studios, stockbrokers' offices, laboratories, sawmills, university classrooms, restaurant kitchens, airport hangars...undertaken systematically throughout all of the elementary and high school years. A city *is* a school, as Jane Jacobs has long argued. Any "education" issuing from a television screen should be held to an absolute minimum.[58]

After that, and regardless of maturity and native ability, every citizen must be offered a role to play and rules to follow that match their ability to process complexity-and-organization. They must be offered a decent minimum of shelter, respect, public amenities, and even cash—economic freedom—*just for being law-abiding citizens,* and then offered every encouragement and every opportunity to grow into roles that follow more complex-and-organized rules. It makes little difference whether free markets, or governments, or both in cooperation, bring about these conditions—as long as they *do,* and do so without coercion.[59] As I argued in chapters Four and Five, survival, security, legitimacy, approval, confidence, and freedom are pan-human needs. To live in a world where *all* of these needs can be satisfied to a sufficient

degree by a reasonable effort is a human right—a right for geniuses and fools alike, at whatever absolute "altitude" of complexity-and-organization they actually come to occupy. Not just drug addiction would bow before this remedy, but also crime, even if a measure of injustice were inevitably to remain.

Certainly, the decriminalization of all drugs—even chemically addictive ones—that offer relief from stress would go a long way towards allowing us to help rather than hurt further those who find their lives intolerable without them.

4. Supporting the token economy

When it comes to building social capital, it is best that the obligations that bind us, and the permissions that free us, have the character of gifts in so-called gift economies. That is to say, they should have specificity to source and use, a richness of form and meaning, a history of their own, and a capacity to bestow pleasure and honor to their giver as well as to their receiver. As we saw in Chapter Nine, the freedom token we call *money* does not function very well in these ways, "strings" notwithstanding. And that is why its overuse as the measure of value is so destructive. Fast, anonymous, option-making, and history-erasing, money is the currency of freedom—but properly, only of freedom, and as only one of freedom's currencies.

It follows from this that *authority*, which is conveyed by tokens of legitimacy, should never be won by the having of or manipulation of money. Nor should health, power, or personal attention be subject to being bought or sold, at least not directly. Rather, these goods are to be earned by the production and exchange of the psychological goods we have been calling tokens: tokens of freedom *other* than money (like permissions and invitations), tokens of confidence, tokens of approval, tokens of legitimacy, tokens of security, and tokens, if needs be, of survival. The idea here is to demonize neither money nor the market system that depends on it, but to point out the need for greater social complexity-and-organization through exchange—which the monetization of value often undermines by its very efficiency.

The implications of this view are several. In the American context they range from the obvious, such as the need for electoral reform ("taking the money out of politics" is how it is usually phrased), to the less obvious, such as directing Federal and state aid not only to *individuals*

but to *occasions* at which trade in non-money tokens is intensified: christenings, weddings, graduations, funerals, civic ceremonies, certain sports events, even block parties and Internet chat rooms. Since the need for electoral reform in America has been well argued for decades now, let us look at this second suggestion for a moment.

One might imagine that only the poor need their token economy boosted, the wealthy being able keep it going with gin and favors, the middle class with beer and *bonhomie*. Not so. As we begin the 21st century, the social life of the middle class in America is perhaps the greater wasteland: mown down by television, air conditioning, and personal appliances from Walkmen and washing machines to cars and telephones; drained by constant commuting, eating-out, and movie-going; voided by standards of live-and-let-live politeness that are really masks over the fear of, and indifference to, the Other; stressed by the vanishing loyalty at the workplace (between workers and between firms and their employees), and silenced by guilt at always wanting something else, some*where* else, some*one* else in order to be happy. Shopping at malls is a narrow freedom. Remarriage is no cure for familial estrangement. With the decline in membership of clubs like Kiwanis or Rotary or Boy Scouts, networking opportunities for the working poor and lower middle class are increasingly centered around events sponsored by neighborhood schools and churches—events involving children. As both parents work longer hours, however, the time spent in these activities is becoming shorter.

Ultimately, what I am suggesting, following sociologist Robert Putnam's lead, is active help from government for not only school-centered community activities, but also help—in the form, say, of tax write-offs—to encourage low- and middle income earners to form token-trading, trust-building, business-promoting social associations, no matter their "mission." Bowling is fine,[60] But so are weddings, street-cleanup parties, bingo nights, playground construction and community garden establishment, baby-sitting coops, and so forth. In chronically distressed neighborhoods, support of the local *token* economy is the surest way to reduce crime, as research is beginning to show.[61]

In Chapters Six and Nine we thought about what consumers produce even as they consume. The answer was: their happiness, and no less importantly, the public display of that happiness. One would not want to coerce people into displaying their happiness or cajole them into making false displays of it (although there are many who do the latter quite profitably), but it does suggest that it would be a good idea to encourage and design situations in which people's happiness can be "infectious," this through the creation of what Elizabeth Anderson calls *shared*

goods. Laughing in a theater full of people begets more laughter; laughing alone in front of the TV does not. Theater performances are shared goods, as are live sporting events. Likewise, city sidewalks and urban parks, fairs, exhibitions, college classes and museums are shared goods because so much of the pleasure they provide depends of being around other people who are enjoying themselves (and enjoying your enjoyment) too. Some may think that America suffers no lack of shared goods. Do we not have Disneyland and baseball? But the U.S. has a relative dearth of everyday public spaces where people can see each other doing something other than shopping in air-conditioning. We are too busy having private experiences—driving in our cars, using the Internet, at the movies, listening to Walkmen, watching TV.[62]

One way to mitigate the passivity and privacy of the American consumer life-style is to become the first country where people are *paid* for their attention—paid to read, learn, listen, look appreciatively and even critically at what others have produced, especially in non-mediated communal venues. Audiences have value, especially live audiences. Participation in public political life might be financially rewarded too (although carefully, of course, so that votes themselves cannot be purchased). This is not so crazy an idea. In the marketplace, attention is already being recompensed, if indirectly. At shopping malls and on TV, free entertainment is provided in return for accepting exposure to advertising. At the time of writing, a company called Free PC would give you a free computer and Internet connection in return for your agreement to have a continuously-running advertising banner on screen and your personal data and shopping habits examined. Websites have started paying people for shopping through them. "Plants" are hired to spark laughter at comedy clubs, to lead behavior at theme parks, to be especially responsive at television "infomercial" and talk-show tapings.

The time may come when arrangements like these are considered normal. One hopes, though, that it would not happen at the expense of non-money economy. Concerned, we would be careful that the currency used to "pay" people to give us their attention consists of tokens other than money. Many industries already work this way. After all, we go back to a restaurant in good part because of how well we were treated by the maitre'd and wait-staff—i.e. for what tokens we received and were able to give when last we were there. We go back to a doctor or architect for much the same reason, even if we have to sacrifice some quality of professional knowledge or skill, objectively defined. Any business that relies on "connections" to get clients or on friendliness to keep customers is as much involved in the token economy as in the regular economy trading material goods or labor services for money. Active "networking" is emerging as the preeminent way to get jobs (rather than responding to ads or broadcasting resumes), with

attendance at conferences and "retreats" an every more important part of doing business. People who provide personal attention to the relatively wealthy, such as masseurs, personal trainers, therapists, financial counselors, chauffeurs, concierges, and maids, constitute one of the most rapidly growing occupational categories in the American economy; and it's not just money that passes hands in the relationships that form.[63]

In sum: the idea is to recognize the token economy as the powerful economic system that it is, and then to explore ways to endorse, support, and enrich it institutionally for those social groups who would benefit from it the most.

5. Extending rights to animals.

Do animals have the right to live full lives, free of avoidable pain? Do old trees have the right not to be chopped down just because they stand in the way of a developer's plans? Should a species need to be on the official endangered-species list before we stop destroying its habitat? To say Yes to the first two questions and No to the third is to want to be "pro-life" to the maximum degree consistent with our own human flourishing.   It extends the no-harm principle as far as it can be extended, and in so doing enlarges what philosopher Robert Kane calls "the moral sphere," not just to our own benefit but to life's benefit as a whole.[64]

A word about rights in this context. To have a *right* to do or have something is more fundamental than to have the approval to do or have it. Tokens of approval might convey fondness to another person through showing support for their flourishing in their own way. But awarding and refusing *rights* operates at the next more-basic stratum—the stratum of legitimacy. And as we saw in Chapter Five, offering and withholding tokens that operate at the stratum of approval or higher is largely a voluntary affair, subject only to the force of persuasion. As a form of legitimacy, rights begin to involve forces of coercion. The protections afforded by rights are thus stronger than those afforded by facing the risk of social disapproval. The conferral of *rights* upon a person or animal makes our respect for that being's persisting and flourishing less a matter of choice than a matter of risking legal (and ultimately violent) action against us should we refuse to offer it.

Now let's look at animals' rights. Animals already have the right not to be egregiously mistreated. All 50 states in the U.S. have anti-cruelty statutes on their books, as do most

countries. But an inspection of the language of such laws, and of their application, reveals that anti-cruelty statutes protect animals from only the pain and suffering we might inflict upon them *for no good reason.* The terror, pain, and death that industrialized agriculture visits upon cattle, sheep, swine, and poultry—at the rate of tens of millions of instances a day—falls outside the purview anti-cruelty laws because it is suffering inflicted for a "good reason," that reason being to supply meat to human consumers and to generate profits doing so. The same sort of justification is used to justify the suffering of animals used for medical research and recreational hunting. In order for cruelty to be *cruelty* in the eyes of the law it must be out-and-out sadism.[65] Nothing less qualifies as cruelty, even though no animal would choose of its own accord (i.e. "consent") to undergo the suffering we cause them in the process of turning them into food, clothing, laboratory data, or trophies,[66]

　　This is not the place to report on the growing animal rights movement, nor to engage in its every argument. From our neo-utilitarian theory of value, however, which says that positive moral and economic value consists in the production of more pleasure and less pain, more life and less death, I think this much follows: as sentient beings, all animals in the wild and all of the animals we domesticate should be granted the right to as long and happy a life as would be likely for them without human intervention. That is, *every animal has a right to a life of such plenitude as would be yielded by its living in an environment unmodified by human technologies, works, or ambitions.*[67] What plenitude animals experience beyond this, through our protection, love, or cultivation of them, is not their *right* to enjoy: it is their good fortune. On the other hand, what plenitude animals are deprived of because of human use, fear of, or disregard for them, *is* their right to enjoy, and human beings are in violation of that right.[68]

　　The specific right that proponents like legal theorist Gary B. Francioni want us to grant to animals is not the right to vote, or bear arms, or own property. Granting these would be absurd. Nor is it the right to be regarded equal to humans in intrinsic value in situations where the life of a human is set clearly against the life of an animal, as in the classic "Who would you save from a burning house, a child or a dog?" (The answer is clearly the child.) The right that Francioni and others want to grant animals is a single right, stated in the negative: the right *not* to be treated as property. In Chapter Seven we explored how the logic of exchange becomes complicated when the good traded is a living thing—such as a person (e.g., a slave), an animal (e.g., a farm animal or pet), a plant, or perhaps even a great work of art. In such situations, not just the valuations of the exchang*ing* parties count, but also the valuations of the exchang*ed*

party. The question of where, and in whose possession, *it* will be happiest enters the moral equation. Indeed, maximizing this happiness might dominate the entire transaction. When the exchanged creature or object itself has the *right* not to be treated as property, its interests in the exchange cannot *legally* be ignored.

Granting animals the right not to be treated as property would change the world as we know it. At first it would be impoverished in certain ways. Vanished would be most animal agriculture—the beef, pork, chicken, fish, and shrimping industries, the abattoirs, the butchers, the packers, the truckers, the traders in pork bellies. Gone: hunting. Gone: fishing. But eventually the world would become a richer place for everyone. Health would improve. All forms of vegetable farming and *their* associated industries would thrive. Given human creativity and the pressures of the marketplace, research in industrial protein manufacture based on animal DNA would soon produce meats that are as satisfying as "the real thing" if not more so. These meats might or might not be as expensive as animal flesh is now, but the profit in morality, and, I believe, in economic progress, would be immeasurable, just as was the case when slavery was abolished, the plantation system in the South declined, and technology eventually stepped in. When animals are granted the right not to be treated as property, no animal would be born only to be shackled for hard labor, tormented for our entertainment, or killed for our gustatory pleasure. Domesticated animals would be reared and cared for not unlike domestic pets, or even human children, with similar laws protecting them. Farm animals would live lives that they would choose for themselves, long and lazy, even though we might intervene in their breeding behavior and make off with most of their milk and eggs.[69] All other animals would be allowed to flourish in the wild among each other, their habitat protected by an industry devoted to doing so.

This is a world worth wanting.

It is unlikely to materialize in less than a hundred years.

6 *Towards a value ethics: optimizing concern and influence.*

The ethical theory around which this book revolves is *utilitarianism.* My sixth and final recommendation for increasing the plenitude of life on earth is aimed at offering a few ways that utilitarianism might better describe our actions as well as prescribe some new actions—ones that would yield greater value. I will also try to outline the elements of what someday might be called not utilitarianism, but *value ethics*.

First, a quick review of classical utilitarianism.

Founded by Jeremy Bentham and elaborated upon by John Stuart Mill, Henry Sidgwick and many others since, utilitarianism, in its essence, can be laid out in two foundational claims: (1) that the (ethical or moral) value of an act is best judged by the degree of satisfaction, pleasure, or happiness—i.e. by the *utility*—it engenders in *all* of the people affected by that act, with no one discounted or privileged, and (2) that everyone should act to the best of their abilities so as to maximize this total amount of utility.[70]

Like every other universalizing ethical theory, utilitarianism is not without its problems. There are times when it recommends actions that run counter to our moral intuitions. For example, utilitarianism would seem to recommend that dis-utility be suffered by a minority if it is outweighed by the utility of the majority and no better arrangement can be found for yielding higher utility. Utilitarianism would also seem to condone lying, stealing, scapegoating, and breaking the law whenever it can be shown that greater total utility could not be achieved any other way. And utilitarianism tends to vacillate when it comes to deciding *whose* utility should count: my countrymen's (or your's)? All people's? Animals'? Future generations'?

Remedies for such difficulties—short of abandoning the whole utilitarian approach—have been many. Some philosophers have proposed "rule utilitarianism," a version which says that it is not any *single* act that must be judged for its yield of total utility but the *rule* that recommends that act under the circumstances. A rule utilitarian could thus forbid lying and lawbreaking on the grounds that lying and lawbreaking on the whole, or in the long run, reduce total utility. Others have taken this a step further, and recommend "practice utilitarianism." Here, whole social practices—such as hunting, stock-trading, marrying, or, presumably, calculating utility—are judged for their yield of total utility. For the practice utilitarian, individual acts are not the focus, nor are particular rules. Indeed, each might be judged by different ethical principles entirely.

The no-harm principle we discussed earlier is also a modification of act-, rule-, or practice utilitarianism. Should we maximize total utility? Yes, it says—but *without reducing it for anyone*. J. S. Mill made the no-harm principle an integral part of his utilitarianism; Vilfredo Pareto gave it expression in economics with his notion of Pareto Optimality.

Now, many of utilitarianism's problems—and I have not presented them all—follow from one of its proudest and yet oddest recommendations, namely, *impartiality*. This is the feature upon which I would now like to focus.

"Impartiality" means that in judging the total utility of an action (or rule or practice), an individual's own utility should not, *a priori*, count for more than anyone else's. Nor should the utility of one's family or friends count for more (or less) than that of strangers. Rather, the utility of everyone affected by an action should be weighted equally, without regard to their social propinquity or future usefulness to the individual acting.

Impartiality, I say, is one of utilitarianism's *oddest* features because it flies in the face of so much actual human behavior—behavior we would be hard-pressed to call unethical.[71] Could it possibly be wrong, in an emergency, to save one's own spouse or parent or child before saving a neighbor's, or to save one's own life before that of a stranger? Does charity not begin at home? Is loyalty a mistake? Our whole system of differentiated duties to each other is built upon the unequal treatment of different people and upon *a priori un*equal weightings of their happiness. And yet the appeal of complete impartiality remains strong, and that is why I call impartiality utilitarianism's proudest feature, too. For impartiality asks us to take God's view of life-as-a-whole. Like a judge applying the law equally to all, being perfectly impartial means giving no person's happiness (or sadness) greater intrinsic significance by virtue of "who" they are in society or how well they are known to the judge. What is good is absolutely good only if it is good from every point of view, and the absolutely good is what impartiality-of-consideration strives to make real.[72]

Impartiality, in short, is an *ideal*. If, before we acted (or made a new rule, or devised a new practice), says the utilitarian, we gave equal consideration to the effects upon *everyone's* future welfare, then surely the greatest total utility—the "greatest happiness for the greatest number"—would result.[73] Honest mistakes and unforeseeable circumstances aside, the greatest total utility would result because we had made it the dominant, conditional factor in deciding what to do in the first place.

Now, if it were *true* that considering everyone's future welfare equally led to the greatest total utility, then impartiality would deserve to be the high ideal that it is. But it might not be true as a matter of practical fact. The greatest total utility *might* be achieved by certain schemes of "partiality"—i.e., by certain schemes of *un*equal consideration and *un*equal weighting of the utilities of affected parties. It might be that everyone adopting a "me first" or "my group first" policy is a *better* way of achieving the greatest total utility than a policy of considering everyone's interest equally. Here is an example: if we refused to eat enough until every person on earth had enough to eat, we would quickly lose our health, which would be to no one's advantage.[74] Here, a rule that might be appropriate within a poor family for a short period of time is quite inappropriate

when extended to the larger community or perpetuated indefinitely. Similarly, if everyone cared equally for everyone else, how could anyone come to the end of exploring and deliberating the full effects of their action? Be it too much or too little, whatever action they took would certainly be *too late* and quite possibly the cause of more harm than good; and many would not act at all, discouraged by the possibly enormous consequences of their smallest decision.

The same problems plague attempts to achieve perfect fairness with every exchange. As I argued in Chapter Seven, most exchanges simply would not happen if *perfect* fairness were prerequisite to their going forward. 'Pretty fair' is not merely good enough here—it is optimal.

Now, a rule utilitarian could accept that the greatest happiness for the greatest number *might* be achieved by universalizing a rule that involved "partiality" of some sort, whether as favoritism, unfairness, self-interest, or self-sacrifice. She might even argue that such a rule could embody a *higher* impartiality because in the long run or over large populations of interacting agents, a rule of this kind would have the same positive consequence as theoretical impartiality-of-consideration at every occasion. A practice utilitarian could make the same concession for the general practice of a certain kind of partiality. Utilitarians are nothing if not pragmatic. So let us look more closely at the complexities opened up by the thought that universal non-equal consideration of others' utility, or happiness, might be best for all. We need not fear that going down this road will lead us to an Ayn Rand-ish greed-is-good philosophy. Nor should we fear that it would lead to a philosophy of universal martyrdom to the purposes of others (even if that were logically possible). There are patterns of partiality that lie between these extremes, and many complex, organized, and value-productive admixtures of them among people in any vital society. It is to charting these that we now turn.

Imagine that each person exists within two "circles," a *circle of concern*, and a *circle of influence.* Circles of concern and circles of influence might have some geographical reality, as when your friends also happen to be your neighbors. But what they delineate, more abstractly and more accurately, are sets of people. To wit: inside your circle of *concern* are the people upon whom your happiness depends, either by what they do or by your commitment to making their happiness a precondition of your own. Inside your circle of *influence*, conversely, are the people whose happiness typically depends upon what *you* do, or who have made *your* happiness preconditional to theirs.[75]

Ideally, the people in these two circles around each of us would be the *same* people. That is, ideally, we would have concern for those over whom we had influence and influence

over those for whom we had concern—only. But in real life, outside of small, closely-knit groups, membership of the two circles do not coincide so neatly.[76] Our influence might extend further than our concern; our concern might extend further than our influence. This reality is abstractly represented in Figure 10.2, where the overlapping circles of concern and influence of three hypothetical individuals P, Q, and R, are diagrammed.

Figure 10.2. Circles of concern and circles of influence.

From Figure 10.2 we see that P's concern, except for three individuals, extends to a different set of people than the set that falls under his influence. We see that Q's influence extends to far more people than he is concerned with (or for), while R is concerned with (or for) everyone she influences—and to seven more people besides.

P, Q, and R, are arbitrarily drawn: choose any other three individuals and the circles around them would look quite different. At the most basic level, it is the degree of cohesion and overlap between memberships of *different* people's circles of concern and influence that defines them—these 'different people', that is—as a functioning social group or community—be it a family, a tribe, a company, or a team.[77]

Our analysis, so far, has been an exercise in set theory. But it clarifies, already, one of the conditions that is presumed or required by the utilitarian ideal of impartiality. We realize that when a utilitarian asks us to consider the future happiness of everyone affected by our actions—i.e., *of all the people in our circle of influence*—she is asking us to make membership of our circle of influence, *ipso facto*, membership of our circle of concern too. The coincidence of these two circles is necessary for the realization of the ideal of impartiality, which rejects the natural tendency to give more weight to the happiness of those in one's circle of concern—after all, one's own happiness depends on them and theirs—and to give less weight to the utility of those who are only in one's circle of influence.

What we want to explore further, then, is what happens when our circles of concern and influence do *not* coincide—which, I submit, *they usually do not*. For illustration, look again at Figure 10.2. Imagine P a strong figure in his family circle: a father, say. At home, whatever he says, goes. He has influence. But at work, P spends his day in service, paying far more attention to his co-workers and customers than they pay to him. They are in his circle of concern, but he is not in theirs. Because of the tendency to pay more attention and give more significance to the

utility of those in one's circle of concern, and to discount or ignore the utility of those who are only in one's circle of influence, P is unlikely to be model of ethical behavior. He may well compensate for his invisibility at work with tyranny at home.[78]

Q, let us imagine, is an popular business leader: many fall under her sway; many are affected by her decisions. But her concern is only for the welfare of a small circle around her: her family, say, or a clique of investors and partners. It is only to them that she "listens." Under these circumstances too it is unlikely that the greatest happiness for the greatest number will eventuate—unless those in Q's circle of concern are *themselves* concerned for all of those in Q's circle of influence, or their interests fortuitously coincide.

P and Q seem morally compromised at the start. But the person of R in Figure 10.2 might strike us as being in an inherently better position, ethically speaking. After all, R takes into account not only the happiness of those upon whom her actions have an effect but the happiness of those upon whom her actions have no effect. How considerate of her. And yet this non-coincidence of circles of concern and influence can be morally problematic too. For example, think of a teacher, first in relation to her young pupils (for whom she has concern and over whom she has influence) and then in relation to her teacher-peers, her school principal, and even perfect strangers with whose happiness she is concerned (because they might judge her) but over whom she has little or no influence. All it takes to generate a problem is for someone in the latter circle (the principal, say) to imply or make a demand upon R that causes her to act to diminish the utility of those in the former circle (her pupils). Thus is a child unfairly punished (or rewarded) because their infraction (or accomplishment) was earlier witnessed by the principal or a fellow teacher, or was seen in public. Or consider the behavior of people who are forever concerned by what they read in the newspaper—which is to say, by events over which they have no control or influence—and who then act out their feelings on their family and friends in exaggerated trust or mistrust of them, in tiresomeness, or inattention to present duties.

From such examples one learns that the advice implied by the utilitarian formula is sound advice: Be concerned only with those and for those who are affected by your actions (or rules or practices), or, equivalently: Take actions (make rules, follow practices) that affect only those with whom and for whom you have concern.[79] In short: Make your circles of concern and influence coincide.

Unfortunately, this advice has its problems too. For it could be taken as recommending that one *shrink* one's circles of concern and influence until they *certainly* coincide—a trend that must end, if it runs its course, with circles of concern and influence that have a membership of

one, namely, one*self*. With everyone caring only for themselves and commanding only themselves, society more or less vanishes. Not good. But even before that point is reached, the utilitarian's advice runs counter to a mandate that comes from our ethics of value, which asks us to increase the size of our circles of concern and influence—to care about more people (and animals), to "reach" more people (and animals). Why does it ask us to do this? Because it is an important way that the potential complexity of our lives increases, and because it will produce more life as long as the complexity opened up is shaped and tempered by a concomitant increase in our degree of organization—i.e., an increase that keeps us on the ridge of Ω. We realize that moral perfectionism of the utilitarian kind, no less than moral perfectionism of any other kind, can easily lead us into living lives of less complexity-and-organization than we are capable of living, and thus to less plenitude for all. And when moral perfectionism becomes a form *of*—or worse, a pretext *for*—loving simplicity-and-disorganization in a persistent way...it turns, paradoxically, to evil, to the shrinking of plenitude.

No, although we must *try* to keep our circles of concern and influence identical in membership, increasing their size is our mandate. Since carrying out this mandate will very likely involve one circle growing faster than the other, one becoming misaligned with the other, and different people falling into each circle with respect to different needs at different times, the task of any future value-ethical system should be to devise acts, rules, and practices that manage this complexity without stifling the process of individual Ω expansion. It would be a system that did not seek to instate perfect impartiality, but rather, perfectly *im*perfect impartiality.

To see how our theory might contribute to this project, we have to go beyond simple set-theory. We will find that utilitarianism's ideal of impartiality is not only improbable but inadvisable, even with perfectly coincident circles of concern and influence.

Set theory is about groups, about membership/non-membership of groups, and about counting. We want now to add geometry, space, and the effects of time and distance.

Specifically, we are interested in the effects of *propinquity*, i.e., the different closeness we feel to others due to the frequency of our interaction with them or their physical nearness to us (which two factors often go together), and due to the nature of our interaction with them (e.g., what needs are involved). After all, if I sneeze loudly in a crowded room, it's more likely that those nearer to me will catch cold than those farther away. And so it makes perfect sense to offer apologies to those nearest, to throw an embarrassed glance at (a sample of) those who merely heard me sneeze, and not to feel obligated at all to apologize to everyone in the house. All else

being equal, I am concerned *more* for those I influence *more*. And indeed, there is hardly an action we can think of that does not affect those close to us more than those further away from us, a principle that is not so much undone as modified when technologies such as the telephone, radio, television, and Internet reconfigure what is means to be *spatially* close but not what it means to be "interaction-frequency close" or "need-depth-close" (i.e., how "low" a need on the stratigraphy is at stake in our interaction). When you call your sister who lives a thousand miles away on the phone every day, but don't know your neighbor from Adam, propinquity and geographical distance have become disassociated almost entirely.[80] You are closer to your sister. It's propinquity that matters.

Figure 10.3 plots what I think the everyday relationship is between *propinquity* (on the Y-axis) and *degrees of concern* and *influence* (sharing the X-axis). With the latter two coincident in membership, only one curve need be shown and it is a "normal" or bell-curve, trailing off to zero at the radius of "all humanity."

<u>Figure 10.3 Graphing *Propinquity* against *Degree of Concern* and *Degree of Influence.*</u>

Now, the *dashed* line in Figure 10.3 represents the utilitarian ideal of impartiality of *concern.* It too extends to "all humanity" (although some utilitarians would have it extend further, to "all sentient beings"). But what about the circle of *influence* in the ideal utilitarian scheme? No utilitarian could credibly claim that any action by anyone, other than God, could influence all humanity equally, let alone all sentient beings.[81] The actual degree of influence surrounding an ordinary individual remains represented by the bell-curve shown.

The consequences of this difference between concern and influence are clear for the impartial utilitarian. Outside of her circle of friends or colleagues, her degree of concern exceeds her degree of influence, while inside that circle the reverse is true—her degree of influence exceeds her degree of concern. Our utilitarian friend therefore finds herself in a morally problematic situation, one that is comparable to Q's (in our earlier discussion) with respect to herself and her family, and comparable to R's with respect to her neighbors, countrymen, and the rest of humanity. It follows that impartiality is actually not what a good utilitarian should want. What she should want, rather, is a weighting of her concern for others' utility that matched the actual *degree* of the influence of her actions upon them, which is hardly ever "equal."

With the tools we now have in hand, we can take a few more steps.

If the bell-curve of Figure 10.3 represents the normal, "everyman" or "everywoman" profile, we can start to wonder whether there are other archetypal profiles too, ones that are viable—indeed, that flourish—in real populations. I suggest there are several, and will give some of them names. Consider, for example, the Egoist: a person who might influence many, but who is concerned with only him- or herself. Charting only *degree of concern* for the moment and using Figure 10.3 and its fuller annotations as a reference, the Egoist's profile could be contrasted to the bell-curved Everyman (or "Everywoman") profile as shown in Figure 10.4:

Figure 10.4 The Egoist and the Everyman

Now consider the Altruist.   The Altruist is concerned for everyone's utility equally—including, properly, his or her own. We have met such a person already. S/he is our impartial utilitarian. How elevated the profile is represents how moved the Altruist is by others. (I say "moved" because we continue to look for the moment only at degree of *concern*. An Apathist, in this representational scheme, is an Altruist who cares for no one at all, including him- or herself: the level line rests at degree of concern = 0.)

The Martyr counts his or her own happiness not at all, or even negatively, and everyone else's equally and highly. The Martyr is represented by a profile that is inverse to the Egoist's, which makes him or her an egoist of sorts too.

Figure 10.5 The Altruist and the Martyr.

More complex profiles are recognizable. I shall point out only two more (and apologize in advance for gender stereotyping): the 'Great' Man and the Family Martyr. The 'Great' Man might *prefer* his wife, children, and parents happy, but he is not about to let their happiness, or the lack of it, distract him from attending to the main order of business, which is winning the approval of his friends, neighbors, and countrymen, and all the peoples of the world. (The dashed line in the diagram represents the Great Man whose concern would go out to "the environment" as well.)

The Family Martyr, by contrast, cares little for her own welfare or the welfare of anyone in the "outside world." She will suffer gladly, indeed will insist on doing so...but only for family.

Figure 10.6 The 'Great' Man and the Family Martyr

The reader is probably speculating by now as to how well *pairs* of such archetypes might get along in a marriage, say, or a business partnership. I think it safe to hypothesize that Egoists and Martyrs could do quite well together, as could Family Martyrs and 'Great' Men. Tensions might exist between them privately, but from the outside, and insofar as they act as a couple compensating for each other's moral weaknesses, each pair could effectively constitute one Altruist.[82]

As entertaining as these speculations can quickly become, my purpose in offering this analysis is more serious. It is to develop the basis for *value ethics,* and in the process to help ethics become, at least in part, an experimental science. To begin to do this, however, one more fundamental complexity must be faced:

Having graphed degree of *concern* as a function of *propinquity*, we must now consider degree of *influence* as a function of propinquity too. We saw earlier that the size and membership of the circle of concern around any one person, and of the circle of influence around that person, can differ. So too, we now realize, can the *degree* of concern and influence inside these two circles differ from each other. This certainly happens when their sizes and memberships are different, but it can also happen when their sizes and memberships are identical. For example, a person who evidences an Everyman profile with respect to concern might evidence the exact opposite (or upside-down profile) of the Everyman profile with respect to influence—a valley rather than a hill. Imagine a popular political commentator, Bob. Thousands of fans listen to Bob's radio show every day and take his opinions as gospel. The trouble is, Bob can't get his sons to call him, his wife to respect him, or his dog to *sit*...and there's nothing he wants more.

Here is Mitch. No one for whom he cares cares for him, or notices that his moods and actions depend on them. Nothing he does makes a difference to them. Mitch might be a Martyr in concern but he is an Egoist in influence—making only *himself* run about with a self-given purpose, making only himself, perhaps, happy.

Indeed, one could, theoretically, take all six of the basic "concern profiles" I have sketched out and pair each one of them with each one of the others interpreted as an "influence profile." This small exercise would give us thirty-six possible profile pairings per individual, only *six* of which (i.e. profiles paired with themselves) would *not* involve a disparity between degrees of concern and influence across their domains. Relative to the ideal—i.e., where degree of influence and degree of concern track each other perfectly—each of the thirty disparate pairings would represent a social difficulty of some sort, if not some social pathology.[83] That we do not see such difficulties more often in daily life reflects the fact that, generally, we *seek* to influence those with and for whom are concerned (after all, our happiness depends on them), and the fact that, generally and roughly, we succeed at doing so.

With this success, the Everyman profile becomes most common. But it becomes common for several other reasons too. One is the fact that the spatial-geographic component of propinquity remains strong in everyday life: as I noted earlier, we tend to see more of—and, other things being equal, tend to influence more strongly—those who are frequently physically nearby, and this effect drops off with time and distance from ourselves. It takes the least energy, the least ingenuity, the least ambition, and the least technology to keep this ancient village-like pattern working.

Another reason, however, might be that the Everyman profile (in both concern and influence) *is optimal in delivering the greatest happiness to the greatest number*, and has evolved and persisted for just that reason. If this were proven true, then it would be with great trepidation that we introduced new communication (and other) technologies that further upset the coincidence that has traditionally existed between circles of concern and influence in membership and in degree. As it is, such technologies as we have were historically introduced to extend the size and scope and degree of influence of certain individuals (the mail started as a military courier system), which is why learning to feel *concern* commensurate with influence has occupied ethical philosophy and religious doctrine for so long.[84] The altruistic impartiality-of-concern advocated by utilitarianism represents the logical end of this line of advocacy.[85]

If it is with caution that we deploy theories of the marketplace or of the political arena that are premised upon (applauding) universal Egoism of concern and influence,[86] it is with equal caution that we deploy theories that demand or encourage its opposite, i.e., universal Altruism of concern and influence. Neither theory reflects human nature as we know it; neither Egoism nor Altruism, universalized, could sustain the level of social and psychological complexity-and-organization, Ω, that most societies have already attained. And neither Egoism nor Altruism,

universalized, holds out as bright a prospect of increasing Ω as the *correct admixture* of all profiles across the population: Egoists *and* Martyrs, Altruists *and* Apathists, 'Great' Men *and* Family Martyrs...dominated (statistically) by Everymen.[87]

   The last few statements are actually hypotheses. They might be correct or incorrect. And the main value of our analysis is that we can begin to can find out which are which. More than that, we can search for that most life-enhancing admixture of profiles. If that admixture turns out to be *everyone-an-Altruist,* or *everyone-an-Egoist*, then so be it. Our hypotheses would be false.

   But how would one conduct the requisite empirical inquiry? Social experiments with live subjects quickly run into ethical limits, not to mention problems of control.

   One answer is to study several extant societies using measures that are as unobtrusive as possible.[88] Techniques would have to be developed that map the profiles of concern and influence around all the people living in a given region. Measures of geographic propinquity would be overlaid by patterns of telephone use, long-distance travel, mail, e-mail, and the mass media. This done, one would then try to correlate various distributions of profile types in the population with some measure of that region's well-being—GDP per capita for example, or literacy.

   Quite a task.

   More manageable at first might be to model the relevant aspects of social life on the computer. This kind of inquiry goes by the name of "artificial society" or "artificial societ*ies*" (AS) research. AS is a relatively new area, sprung from research begun in the 1970s into cellular automata (CA), artificial life (AL), and artificial intelligence (AI). With AS, what one loses in realism with respect to the behaviors, feelings, and creativity of actual individuals, one gains in the ability to simulate and study the complexity of human interaction over time. In an artificial society, one might design rules of trade, for example, among a "population" of a thousand "agents" (each agent being represented by a pixel or group of pixels on a computer screen). Each agent is programmed to "want" something; but to *get* that something, each agent must negotiate with its neighbors. The system runs, with thousands of negotiations happening effectively at once, just as in real society. The experimenter has control over the AS's starting conditions and a few parameter settings, but she has no control over what agents individually *do* given their ever-changing circumstances. Indeed, these circumstances are unpredictable. The complexity of a successfully-running artificial society is immense, and it often has unique emergent properties—eras of spontaneous order, eras of dissolution, migrations, even "species"

evolution—that could not be predicted by consideration of single exchanges, algebraically, on paper. And that's what's fascinating about them.

In Chapter Three we looked at an early AS, *Sugarscape* created by Robert Axtell and Joshua Epstein, but there are several others too.[89] None of them uses the motivations, values, or rules of trade outlined in this book, and none attempts to measure the resultant level of Ω—none, that is, but one artificial society I constructed with Robert Turknett in 1998. We called it *TokenTrade.*[90]

With its simple rules and only 100 agents, *TokenTrade* was an extremely limited simulation of token exchange. Findings from studying its behavior are nonetheless suggestive. Chief among these findings is that Ω is highest when the average happiness of the population is changing fastest (which is also to say, when the average satisfaction is accelerating fastest) in either the positive or negative direction. That the negative direction is as "productive" of Ω as is the positive direction reflects the fact that there is no real evolution in *TokenTrade*—no natural selection and no reproduction that would eliminate and replace agents whose S had reached zero. Nor do agents remember or learn to cooperate, which might simulate cultural evolution. The picture painted by *TokenTrade*, which does not have these sophistications, is distinctly Hayekian in flavor: "best"—highest in Ω—is a society in which people's fortunes are changing rapidly and inequality persists. That Ω is highest when the distribution of satisfaction is somewhere between random ($C \gg R$) and any all-"poor" or all-"rich" equilibrium state ($R \gg C$) is inherent in the definition of Ω, of course, but interesting to note is that some universally mutually-acceptable degree of *unfairness* in exchange is required to reach this high-Ω state from *any* starting condition.[91]

Again, *TokenTrade* is too limited an artificial society to really *test* our theory. I offer it mainly in support of the belief that artificial society research in general holds promise for ethically testing theories of biological, social, and/or psychological value such as my own. AS research proposes a significantly different approach—a more evolved, more complex-and-organized approach—to theorizing about society than the ones developed in the 19th and most of the 20th century using rhetorical arguments and closed-form equations. Today, the central problem facing moral philosophers in search of better formulations of justice is not so different from the central problem facing economists and economic philosophers in search of better formulae for prosperity. It is the problem of complexity itself—specifically, the complexity of the phenomena of life and social life they must first describe and then hope to modify. Only artificial society modeling, using computers, can hope to cope with this complexity.

With more AS research of the kind *TokenTrade* represents, we might learn, for example, that the discipline of economics need not hold on to the assumption of universal Egoism to build effective models of market behavior. Mancur Olson has long argued this point.[92] I joined Olson when I suggested that a certain "admixture" of different profiles of concern and influence across the social landscape is probably best for all. The point is that there is no method *but* AS modeling to test whether such hypotheses are true, no method, that is, other than elaborate social gaming with large numbers of real people unaware of being examined...which would not be ethical.

With suitably programmed artificial societies, moral philosophers with an empirical bent might at least begin to test the merits of their ethical theories and advocacies. Until now, Aristotelian *virtue*, Lockian *rights*, Kantian *duty*, Millsian *utlility*, or Gilliganian *care* have competed for the title of the Soundest (Secular) Basis for Moral Progress. Modeled in rules of interaction, artificial society research will likely confirm that all five of these principles are viable, *but it might also find that certain combinations and spatiotemporal distributions of the application of these principles are better yet.* Certainly, real life seems to have arrived at—or rather, seems to have evolved towards—this conclusion. Philosophers might even design and test new ethical principles, or watch them evolve spontaneously among AS "citizens" that have the capacity to learn.[93] Work along these lines has already begun.[94]

It is upon further such research, I believe, that a new *value ethics* could be founded, a branch of moral philosophy that puts Life first, in all its forms.

This concludes my six recommendations, as well as the substance of this chapter.

As I wrote in Chapter One, the theory of value offered in this book revolves around three propositions: first, that (positive) 'value' is attributed to that which preserves or creates *more life*; second, that "lifefulness"—which extended over time is "plenitude"—is characterized by a particular quantity and combination of *complexity* and *organization*; and third, that in the case of human societies and minds, achieving this optimal quantity and combination of complexity and organization depends on the quality and flow of information between people, and between people and their less-animate environment... My hope is that the reader now finds these three propositions useful as well as plausible.

After Chapter One, we went on to study evolution, to sketch out a theory of human needs, to explore the idea of a token economy, to question the nature of production and of exchange, to enrich the way we speak about the marketplace and about money. Throughout, value was identified with the change in the magnitude of a particular variable, namely, a system's overall complexity-and-organization, denoted Ω: $V = \Delta\Omega$ In this chapter we looked for applications of the general theory of value that this formula represents to the problems of moral and economic progress. One more stone needs to be turned however; one more recommendation needs to be made: the re-evaluation of those paradoxically invisible containers of our daily lives, those patient and inanimate butlers to our spirits, those protectors of our bodies, repositories of our memories, and conductors and guides of our comings and goings, gatherings and rests.... I mean, of course, buildings and their grounds, the art and design of which is *architecture.*

You are invited to the Coda.

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NOTES to Chapter Ten: *Progress: Towards a Value Ethics*.

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[1] This passage is also used as the opening quotation of Jane Jacobs' *The Death and Life of Great American Cities* (New York: Vintage Books, 1961). I have not been able to determine its provenance.

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[2] Rondo Cameron, *A Concise Economic History of the World* (New York: Oxford University Press, 1989), p. 9.

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[3] Economists generally refrain from judging or measuring economic progress, notes Cameron, confining themselves to studying economic growth and development. Their defense is this: that since both growth and development are the necessary (if not sufficient) conditions for economic progress, economists *can* content themselves with promoting the former two. Moreover, since growth and development are more amenable to objective measurement and fiscal and legal control, they *ought to* confine themselves to these two areas. Of course, we (and perhaps they) ought to be interested in economic progress *only*—however it is achieved. On this point, readers of a book about value are likely to agree, and would be disappointed to learn that most economists look away at the critical moment of asking whether, or how, the growth and development they help bring about actually enhances the length and quality of lives.

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[4] For a useful summary of the correlation between economic measures and people's happiness, see Robert Wright, "Will Globalization Make You Happy?" *Foreign Policy*, September 2000, available online at *www.foreignpolicy.com/issue_sept_2000/essay.html.* See also Chapter Four, Note 46.

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[5] For the definition of "plenitude," see Chapter Six.

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[6] Some might wonder if I have not strayed from talking about *economic* progress to talking about *moral* progress. But if economics is the science of *value*, and if the phenomenon of value is as deeply tied into individual psychology, culture, and nature as this book has shown it is, then statements 1 and 2 above are economic in implication and spirit—and what they talk about *is* economic progress. Wrote Mohandas K. Gandhi: "I do not believe the spiritual law works on a field of its own. On the contrary, it expresses itself only through the activities of life. It thus affects the economic, the social, and the political fields." (Sir Richard Attenborough, ed., *The Words of Mohandas Gandhi* [New York: Newmarket Press, 1996 (1982)], p. 75.)

For an excellent argument for, and survey of, measures of economic progress, see Victor Anderson, *Alternative Economic Indicators* (London: Routledge, 1991). The reader might also enjoy perusing again the directions being taken by biological evolution according to Robert Ayres (presented in Chapter One) and "mis"reading them as events reported in the daily business press.

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[7] Some would point out that "quest" applies only to humans, and that even *that* might be a cultural window-dressing around the deeper, amoral, and non-teleological evolutionary pattern, namely, the reproductive success of those species whose members happen to achieve a requisite degree of plenitude before reproductive age. At best, we act *as if* we had a quest for plenitude, for more life.

Most writers in the humanities would resist the reduction. I do not, as long as *a reduction* is what it is understood to be. Evolution makes every earlier stage inferior (reduced, simpler) relative to a later one. With evolution, contra Aristotle and Descartes, the *caused* is "greater" than the cause. Our quest for more plenitude, our love of life, our dread of death, our feelings of compassion and fear, our sense of justice, beauty, humor...none of these things are *less* real for having their basis in morally blind natural processes. Indeed, they are *more* real because of it. What evolution *does* is produce higher-level more complex-and-organized patterns and phenomena atop simpler, less organized ones. The latter do not so much go away as get built in, covered over, incorporated.

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[8] The no-harm principle goes back to the Hippocratic oath: "I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous..." Often summarized as "First, do no harm," it lies at the heart of all statements of professional ethics today. In *On Liberty* Mill both states and extends the no-harm principle to the political principle

of "non-interference": i.e., the idea that as long as someone's actions do no physical harm to anyone else, they cannot legitimately be stopped by another:

> The sole end for which mankind are warranted, individually or collectively, in interfering with the liberty of action of any of their number is self-protection. ...The only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. His own good, either physical or moral, is not a sufficient warrant. (Indianapolis: Bobbs-Merrill, 1956 [1859], p. 13.)

"No-harm" is not the only principle upon which we base our sense of justice, however. It is usually accompanied by another principle, that of *fairness* or equitability. If causing envy is a harm, however, then the no-harm principle and the fairness principle start to converge. See Note 10 below, and our discussion of fairness in Chapter Seven.

I have invoked the no-harm principle several times in these pages: not just in statement 2 of the main text of the current chapter a few paragraphs ago, but also in my discussion of types of exchange in Chapter Six, where we gave moral elevation to "win-win" **Type I** and **Type II** exchanges, and where we also discussed "the principle of least force." Absent the no-harm principle, exchanges of **Type III** and lower predominate. (Cf. Chapter Seven, p. 38 for all the types of exchange.) We also talked about the ethical thrust of increasing the size of one's circles of *concern* and *influence* while keeping the latter as far as possible a subset of the former. Indeed, the Maslovian notion that there is a *best* precession, or order, in the satisfaction of our basic needs from survival to freedom contains within it the seeds of consent-seeking inasmuch as all needs higher than survival require successful "social contracting" for their satisfaction.

Why not call it the no-*pain* principle? Because "harm" carries with it a stronger connotation of longer-lasting damage to the organism. It implies a crippling of some sort, difficult or impossible to reverse. We might think of pain as our autonomous nervous system's alarm to our conscious mind that *possible* harm is occurring. This was pain's evolutionary role. But pain is not always a reliable measure, especially when the harm is slight, mental, or long-term. A child who for years watches television all day feels no pain, and yet is severely harmed. A person who drinks alcohol or smokes marijuana every night for relaxation might not see the damage he is doing to his memory and motivation, let alone the harm he does to others around him.

Many great minds, from Plato and Aristotle to Bentham, Smith, Menger, Kant, Mill, Pareto, and Rawls, have, of course, struggled mightily to discern the distributional principle called "justice" and then to state it succinctly, correctly, and once-and-for-all from a secular point of view. It would seem that ideas of justice are themselves evolving, becoming more complex-and-organized, as the societies they seek to guide become more complex-and-organized. As we discuss later in this chapter, extending the no-harm principle to include animals would have profound effects on human social organization.

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[9] V. I. Lenin was purported to have declared, "if you want to make an omelet, you have to break some eggs." No doubt he was right. Missing from his formula is the permission of the eggs—indeed the desire of the eggs—to become part of an omelet. At the other end of the political spectrum, Austro-American economist Joseph Schumpeter pronounced "creative destruction" to be the essence, the beating heart, of free market capitalism. Missing from his formula is the consent of those to-be-destroyed—whether creation follows or not.

The no-harm principle can be extended beyond physical or economic harm to include the harm done by feelings of anger, resentment, envy, pity, and guilt—feelings that can be generated by the growing inequality of outcomes that is perfectly possible when using the no-harm principle and *not* taking into account the harm done by anger, resentment, envy, pity, and guilt. Thinking about this gives us an interesting way to address that other constituent of our intuition of justice—*fairness*. Thus: in any change of dispensation, *fairness is marked by* (if not defined by) *the absence of any resentment, envy, pity, or guilt among the trading parties or observers.*

Here are some of the consequences of this idea (which is only a hypothesis):

If the poor *stay* poor while the rich get richer, whether we have a problem or not depends on the answers to these two, culture-specific questions. Just how angry, resentful, envious, or self-pitying are the poor? And just how guilt-ridden and pitying are the rich? After long years of communist rule, wealth inequity is intolerable to Russians, to many Europeans, and to most Australians. The English are (I think) divided. Most Americans by contrast, with

their (statistically unfounded) belief in the reality of class mobility through equality of opportunity and the returns to hard work, find the enormous income and wealth differences between them quite acceptable, indeed salutary, as an indication that the system "works."

It is clear that too much emphasis on equality (of outcomes in terms of wealth) can stifle an economy's vitality. Constant envy (by the poor) is a debilitating emotion, as are guilt or pity (by the rich). It is less clear, however, that not caring about inequality of (economic) outcomes *per se* is a bad thing for overall economic vitality. If one can ensure that the worst-off do not get worse off yet (or, better, that they improve somewhat in their lot), and if they do not feel envy etc., and if the law is and is seen to be applied equally to all, regardless of income and station, then the wealth-inequality so often goes hand and hand with macroeconomic growth, development, and even progress might not be a bad thing. But, be this as it may, it stands to reason that *proponents of growth and development world-over ought to favor the promulgation of resentment-, envy-, guilt- and pity-reducing moral principles and political ideologies of all kinds.*

Perhaps we can now see the utility, and disutility, of the nation-state as a political, economic, cultural , and ethnic entity. Citizenship of a nation-state defines the set of people that can have the state-backed right *not* to be harmed by the actions of countrymen without their prior uncoerced consent to be so harmed—or rather, without their prior uncoerced consent to the social *process* by which their non-consent might be overridden. Why should you prefer consenting to a *process* like this rather than consenting to every *act* by another that might affect you? For several reasons, most having to do with efficiency. But mainly so that, at certain other times, *your* interests can override *others'* non-consent.

One significant harm is being robbed of the fruits of one's labor. *When* this is happening is not always clear. Marx thought it happened universally, wherever a laborer works for a capitalist. Here one can argue. But certainly, when government officials *abscond* with tax monies and invest them in foreign countries or in the inefficient enterprises of friends—a practice common in Second and Third World countries, and especially in Africa where the Chief and his "family" are *expected* to grow rich—a significant harm is being done. Millions are being robbed of the fruits of their labor. Under these conditions, is it any wonder that the incentive to work or trade within the law and using banks vanishes, or that the whole economy stays mired at a spot-cash or barter level of development?

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[10]   I say "persuade" advisedly, for if people had to be *coerced*, their consent would not be free. For example, when people are convinced to accept harm (or the heightened risk of it) through being convinced that greater harm yet would surely be avoided, their consent is hardly free. It is coerced, although not necessarily by fellow countrymen. I am thinking of how quickly people can "voluntarily" be mobilized against a common threat from outside—a neighboring tribe or country making unacceptable demands or threatening war.

Some observe that *government*, by nature, operates through coercion. After all, government's "medium" is law: making law and enforcing law with an authority that is underwritten by the legitimate use of violence. This leads one reasonably to prefer voluntary, persuasion-based solutions to social problems over government-based, legally-framed (and hence coerced) programs and regulations *wherever possible*. No-one, I think, would argue the contrary; not even a liberal Democrat. What reasonable people do disagree about, however, is what *degree* of injustice—which all agree develops naturally out of the inherent differences between people—or what *level* of common need (say for defense, or infrastructure) justify government coercion and public rather than voluntary, private, or community-based action. Critics of government action make too little of the fact that, in democratic systems at least, people have first to be *persuaded* of the value, and legitimacy, of the possible use of coercion upon themselves. They also underestimate the degree to which (good) political leaders use example, encouragement, and flattery (not to mention monetary incentives such as taxes and benefits) to move people to do the right thing without laws that say they must, or before there *needs* to be such.

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[11]   Which is also to say, more complex-and-organized because it's valued, valued because it's more complex-and-organized—more alive or life giving. Not *everything* difficult is worthwhile, of course, nor is everything worthwhile difficult. When the two occur together, though, the feeling is unmistakable—and a sure sign of life's imminent increase in complexity-and-organization. Cf. our discussion on why "climbing Mount Omega" seems difficult in Chapter Two, p. 19 ff.

Discovering the stuctural importance of the no-harm principle(to economic growth and development) is, I think, the major driving force behind the modern "law and economics" movement.

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[12] Given health, a source of energy, and an adequate food supply, if most people *thought* it worthwhile to dig very large holes in the ground and then fill them again...it *would* be worthwhile. Or perhaps the digging has a purpose, and the holes are not filled. What purpose? To reach the center of the earth, to find the Womb of GEG, the Great Earth Goddess; to search out new minerals or fossils or energy sources, to join cities half-way round the globe with straight-line tunnels that used gravity to provide energy; to dig faster than anyone else... *It hardly matters*. Science fiction writers have it right. Elaborate social systems could develop around any of these projects, with full physical infrastructures and complex institutions of justice, knowledge, art, science, governance, and the rest. Everyone of every talent would have something to do. The pyramids, I would suggest, were built for no better reasons.

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[13] Some readers may imagine that my endorsement of greater complexity could easily be read as an endorsement of labyrinthine systems of law, government, and doing business. Are massive bureaucracies, petty corruption, and "protection" not complexifying and organizing too? Certainly they provide jobs.

Two answers: First, the no-harm principle would forbid much of this at the outset.

But second, the value of our frustration in dealing with, say, complex government regulations and "labyrinthine" legal systems, may yet be positive overall, in the longer run. Should these bureaucracies be a simple *as possible*? Absolutely. Getting things wrong, wasting people's time, and discouraging them from enterprise is a harm. But they should be no *less* complex than is required to minimize harm and create value on a broader scale. The dread invoked in us by Kafka's *The Trial* or *The Castle* was not the complexity but the *uselessness* of it all, the waste, the mockery of justice, not to mention the non-consent of our hero. Hernando de Soto makes the same point in *The Mystery of Capital* (New York: Basic Books, 2000).

Geoffrey Hodgson, in "Sociopolitical Distruption and Economic Development" (in Geoffrey Hodgson and Ernesto Screpanti, eds., *Rethinking Economics* [Aldershot. U.K.: Edward Elgar, 1991] pp. 153–171), argues from an evolutionary perspective, and finds some statistical evidence proving, that occasional periods of social-political disruption in otherwise strong and flexible democracies has historically been productive of strong economic growth, this through the prevention of institutional ossification at a micro-level. Too much R. See also Note 9 above.

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[14] All sellers who have more-or-less captive buyers can ride the rising tide of inflation. By "captive buyers" I mean buyers who would incur considerable expense to change seller-suppliers: for example, a tenant's expense of finding and moving to a cheaper apartment, a student's cost of moving and transferring credits to a less expensive college partway through a degree plan.

Also contributing to inflation is the effect of "wage creep": the fact that it is easier to give *raises* to employees in good times and to cut back on total employment in bad times (i.e. fire some employees), than it is to institute wage roll-backs across the board in bad times. People notice smaller paychecks immediately. The steady, incremental erosion of the buying power of their paycheck is harder to see, especially if they are still getting small raises.

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[15] See Note 17 below.

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[16] There are several definitions of "money supply": *M1*, or "narrow transaction money," like currency-in-use and money in checking accounts; *M2*, or "medium-range money," which is *M1* plus money in savings and money-market investments; *M3,* or "wide-range money," which is *M2* plus large institutional deposits in mutual funds, foreign accounts, etc., and *L*, which is *M3* plus liquid and near-liquid assets such as Treasury obligations and high grade commercial paper.

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[17] In the first two books of the *Republic,* Plato tells much the same story: how city population growth leads to specialization in manufacture and skills, to trade, to efficiency-won leisure, to the (insatiable) appetite for luxury goods, to wars over trade routes and territory to support more growth, etc. Plato's advice in the face of this dire trajectory? Limit the desire for luxury goods. Specialize in production, but use the leisure time earned by productivity-increases for self-improvement of body (via sport) and mind (via philosophy) only.

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[18] De Soto means this to refer to other property rights too, such as patents, business ownerships and shares, licenses to use natural resources, and so on. See Hernando de Soto, *The Mystery of Capital.* See also Tom Bethell, *The Noblest Triumph* (New York: St. Martins's Press, 1998). Intellectual progenitor to both de Soto and

Bethell is Friedrich von Hayek. Property rights, like all tokens and all rights, must also be enforceable in the sense discussed in Chapter Five, p. 12 ff.

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[19] The purpose of these goods is to *experience* the breakdown of institutions and taboos without *actually* breaking them down—since they are often the same institutions and taboos that allow people to enjoy freedom goods in the first place. (Here is a happily married couple, safe in their darkened bedroom, enjoying a videotape of profligate sex among strangers, set in the outdoors....)
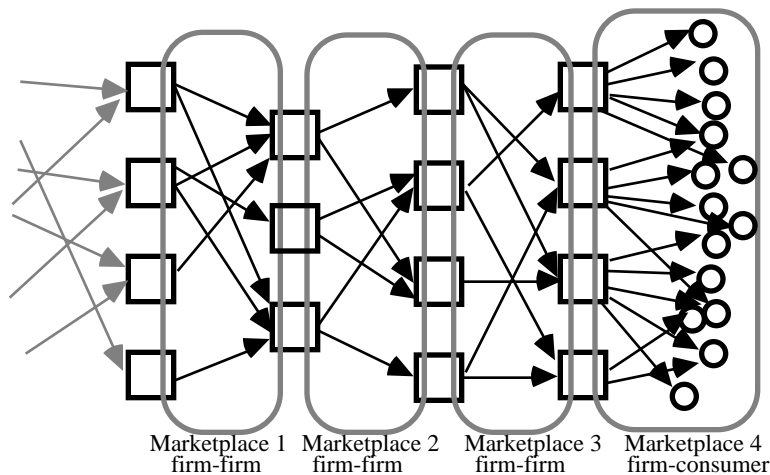
Of course, actual breakdown occurs too, as witness the increase since 1960 of single-parent families, violent crime, teenage suicide, job insecurity, lowered academic achievement, and so on. We have addressed some of these problems throughout this book, and will still. My diagnosis, as you know: an excess of poorly-founded freedom.

For more sociological accounts of modern American social regress, see David G. Myers, *The American Paradox: Spiritual Hunger in an Age of Plenty* (New Haven: Yale University Press, 2000), Robert E. Lane, *The Loss of Happiness in Market Democracies* (New Haven: Yale University Press, 2000), Richard Sennett, *The Corrosion of Character: The Personal Consequences of Work in the New Capitalism* (New York: Norton, 1999).

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[20] This point is intended to cover what economists call "returns to scale," which describes the (usually) lower marginal costs of production that come with larger machines and other mass-production technologies. It also covers the cost-saving efficiencies yielded by the use of digital information technologies to allow producers and their suppliers to coordinate their activities more closely, to respond to customer orders more quickly and sensitively, to reduce inventories, to use transportation vehicles (trucks, trains...) more efficiently, to speed coordinative and deliberative communications within the firm, and to market to, inform, and persuade consumers less expensively (e.g., through the Internet).

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[21] Conversely: the splitting off and sale of firm-components or subsidiaries that have higher-than-average production costs (compared to independent firms that produced the same good) or that would have little market power if they were on their own.

Consider the diagram below, which depicts the flow of goods through markets linking firms in "supply chains," or Warshian "cost webs."

Marketplace 1   Marketplace 2   Marketplace 3   Marketplace 4
  firm-firm   firm-firm   firm-firm   firm-consumer

In Marketplaces 1, 2, and 3, Equation 8.3 rules. Each seller's costs as a seller in market n, $K_s^{(n)}$, is comprised of the sum of the transaction prices it must pay as a buyer in market $(n-1)$ for so-called "factors" of production (i.e. raw materials, components, labor, operating capital, rent, energy, and so forth), plus a normal profit. As a buyer in market $(n-1)$, the firm does not value what it receives as a consumer might (i.e. employing the likes of Equation 8.4). Nor does it care what it pays for factor inputs...except that their sum compare favorably with the prices it can fetch in market n where it is a seller. Only in the final marketplace (Marketplace 4), must the producer-seller's perspective be reconciled with the consumer-buyer's perspective as modeled by Equation 8.5. Warsh's thesis? If $r \geq 1$ and $\mu > 0$ in each intermediate market, then, all other things being equal, *the price of good*

in any market will be positively correlated with the number of prior marketplaces it has gone through—which number is very likely also reflected in *N*, the number of salient attributes the good now displays, and thus its *complexity*. Each firm along the way, we say, "adds value" to the product, although the product is not really valued for what it is or does until the end.

The process of firm consolidation called "vertical integration" is interesting in this context. (Turn the diagram above clockwise 90^0 to see the "verticality.") Here, a given firm tries to eliminate—or rather capture for itself—any consistently above-normal (i.e. $r > 1$) profits earned by a supplier by acquiring it and incorporating it. (When a supplier initiates consolidation with one of the firms it supplies, it likely does so because it wishes to share in the market power of that firm in markets further along the supply chain.) With vertical integration, money-denominated factor marketplaces are absorbed and converted into largely non-money-denominated token economies which are internal to the now-larger and more complex firm, where things are done as much for loyalty, approval, "perks," and power, as for monetary gain, and where formal markets do not operate. Of late, computer technologies have made "virtual" vertical integration possible, i.e., such close coordination between producers and their suppliers that they respond more or less as one firm to demands from the consumer market. Think of Microsoft and Intel. With virtual vertical integration, interpersonal token economies also come to the fore. Cf. Note 21 above.

The success of vertical integration as a business strategy, however, is no sure thing. For often price and quality competition between independent sellers in factor markets—and the efficiencies and innovations this competition inspires—outweighs any above-normal profits the more successful supplying firms might make off with; and the firm that would replace these market dynamics with purely internal token dynamics must find other ways to maintain a sense of urgency about efficiency, innovation, quality control, and so forth. The surest signal that a firm will be subject to a take over bid by one of customers is if the former's market power is determined by the latter to be much greater than unity, i.e. if $r^\mu \gg 1$ (and, of course, if the acquiring firm has adequate financial resources).

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[22] Market power can also erode from too great a success at lowering prices. Technologies of manufacture and distribution that are not explicitly targeted at increasing product quality and maintaining prices, are usually targeted at creating mass markets through lowering prices. This exchanges market power, r^μ, for market *size*, $B + G$, and per-unit profit for total profit. Paul Fussell in *Class* gives this last phenomenon the unhappy name "prole drift." For a brief account of how, in our formalism, we might treat total vs. per-unit profits, see Note 41 of Chapter Eight.

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[23] *Elasticities* also effectively neutralize any movement in the unit of measure since they deal in ratios of *percent* change.

We have not entirely escaped the problem—if it is one—of monetary-unit independence ourselves. Nor its advantages. For example, Equation 8.4 can be re-written $f(V_b) = \dfrac{P_b + K_b}{I_b}$ and Equation 8.3 as $r^\mu = \dfrac{P_s}{K_s}$. In both cases, the quantity on the right-hand side becomes dimensionless, independent of choice of monetary unit. However, *rates* of change of $f(V_b)$ and r^μ with respect to change in the other variables would, unlike elasticities, once again depend on unit choice.

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[24] In 1995, The Advisory Commission to Study the Consumer Price Index (aka The Boskin Commission) was appointed by the Senate Finance Committee to study the role of the CPI in government benefit programs and to make recommendations for any needed changes in the CPI. The Commission's December 1996 report recommended downward adjustments in the CPI of 1.1%. From reading the report it becomes clear how difficult is the task of measuring inflation *without* becoming tangling with quality improvement issues. One is reduced to measuring inflation (excluding what I have been calling evolution) by pricing only extremely quality-stable commodities, like milk or gasoline or soap.

The Boskin Commission Report is available for study online at *www.ssa.gov/history/reports/boskinrpt.html*. A June 2000 review and revision of the report by the National Bureau of Economic Research revised Boskin's reported systematic overstatement in the CPI from 1.1% to 0.65%. This report is available at *http://papers.nber.org/papers/w7759*.

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[25] It is often postulated that we could, overnight, divide every price, wage, and money amount in a bank by 100 or 1000 and nothing would change the next morning except where decimal points would have to be placed.

Similarly, we could multiply all present money-amounts by 100 and nothing would increase except for the bother of having to rewrite them all with two extra zeros. We are asked to conclude from this that the *number* that is a price (or wage or money deposit) is irrelevant, and that all that is relevant are *comparisons* between prices (or wages or deposits).

The argument is as misleading as it is appealing.

Here is how it is misleading. It is essential for money amounts to be able to discriminate between the prices of things with a fineness that matches our different valuations of them. Ten products cannot have different prices if there are fewer than ten possible "price points" to assign to them. And if these price points, by some strange shortage of numbers, were forced to be adjacent numbers (say, the integers 1 through 10), then we would be hard pressed to express many *proportional* valuational differences between goods. In the welter of goods that constitute a modern market economy, one simply must have a wide enough range of numbers to arrange them at a nearness-to-each-other (or distance-apart) that permits an accurate mapping of their value (1) relative to each other and (2) relative to all the other goods from other categories to which they are likely to be compared. So if, overnight, we divided all present-day prices by, say, 1000, and still kept units of dollars and cents, we would lose the ability to price-discriminate proportionately among different brands bread, beans, breakfast cereals, and so forth. Indeed, we would lose the ability to price discriminate between all goods currently costing less than $10. On the other hand, if, we found that the prices of all but a handful of the cheapest trinkets in a national economy *all* had three zeros attached to their ends, and that the prices of expensive things like cars and houses were expressed in billions of the currency unit, we would lose no precision by dividing all prices by 1000. Indeed, we would gain in accounting efficiency, save paper, not have to carry wads of almost worthless banknotes, and so forth. (In the U.S. today, cents—"pennies"—are all but useless, and it is a matter of time before dimes (10 cents) become the smallest unit.)

Best, therefore, is a currency unit *in which the full range of necessary price discriminations at the lower price ranges can efficiently be made using the smallest number of significant figures.* This is optimum calibration—neither too fine nor too coarse to measure what needs to be measured.

The idea of optimum calibration ties in well at a theoretical level with the idea we examined in Chapter Seven: how money, as a token of freedom, offers that freedom as a function of the number of different ways that there are to spend it in the marketplace. If the smallest prices all have zeros at their ends, and these zeros are eliminated by decree, then the freedom offered by a certain amount of money is unaffected. But if the division destroys a level of real-price precision, then the freedom money offers is curtailed. All this points to money's deep informational role. Cf. Chapter Seven, and Notes 97 and 98.

It is interesting to note, finally, that international currency exchange rates are often expressed with a precision that exceeds that necessary to buy commodities in either country. For example, on September 23, 1998, one U.S. dollar was equal to 1,676 Italian lire, but there was nothing I could buy in Milan for precisely 1,676 lire. For 1000 lire, yes, for 2000 lire, plenty...and so on. The Japanese yen was equivalent to 12.91 lire, and there is no currency denomination smaller than a lire in Italy. Nor, for that matter, can one buy anything for 1 yen in Japan. The super-precision of international currency exchange rates is an outcome of the fact that they are *ratios*, not real prices—they are ratios calculated and recalculated minute by minute on sums of money traded not for goods but for each other, and in amounts so huge that small differences in ratios ("rates") add up to significant amounts of money to the exchangers.

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[26] For example, Eugen von Böhm-Bawerk, perhaps the most celebrated member of the Austrian School of economics, took the Ricardian idea of "roundaboutness" to a new level in his major work *Capital and Interest* (Transl. William Smart; New York: Brentano, 1922 [1890]). Böhm-Bawerk proposed that the degree of roundaboutness in manufacture (Warsh's length of a path through a cost-web) added complexity and cost to the final product or service, to be sure. But often this roundaboutness was efficient. For example, to catch fish it is better to use a rod than to use one's bare hands, and it is better if that rod has a reel, and better yet if the reel runs fast and smooth and does not tangle the line....etc., and each of these improvements adds parts and steps to the good and its use, and adds market-junctures to the production process: complexity and organization. Roundaboutness does show diminishing productivity returns, however, as Böhm-Bawerk noted: after a while, adding components and sophisticated new features, especially to capital goods, costs more than can be justified by the increase in the quantity and/or quality of the output.

With consumption goods, the rate at which complexifying improvements return positive but diminished increments in satisfaction, if it does at all, depends entirely on the sophistication and sensitivity of the buyer, not to

mention his or her wealth, and on whether or not the good is framed as a climactic one (i.e. operating in a "make-or-break," "win-or-lose" context where small differences simply matter more).

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[27] It would seem that if a fixed amount of money is in circulation, evolutionary wage and price increases cannot happen for all goods and services at the same time. For as the average price of one category of goods is driven up, perhaps for one segment of the population, so would the price of another have to be driven down, perhaps for another segment of the population, with consequences on the total production and consumption quantities of each. In this zero-sum game all that would change—all that *could* change—would be *relative* prices, just as economists tell us, and not the general price level.

As expressed in our model, what they are saying is this: the sum of K_s, I_b and K_b over all sellers and buyers is a constant. That is, the sum of all marginal production costs over all sellers is equal to the sum of all incomes minus the sum of all search costs over all buyers, which is equal to the sum of all prices obtaining for all goods sold at a given period, which is equal to the total amount of money in active circulation during that period, which does not change...unless we allow some way to put new money into the system or take "old" money out of it, i.e., out of circulation and into reserve. And of course, the latter two procedures are precisely what happen in real life. Total money-supply *is* increased. But these increases become *inflation* only when the rate of money-supply increase exceeds the rate of increase required to "feed" overall, non-zero-sum evolutionary price increases as well as the absolute growth in population and/or number of business establishments. "Monetarist" economist Milton Friedman, for example, advocates that the Federal Reserve Bank explicitly and rigidly link money-supply growth rates to GDP growth rates, percentage-point for percentage-point. The merit of this explicitness and this rigidity is to curtail speculation about "what the Fed will do" with interest rates, and thus to head off wild swings in Treasury bond prices and currency markets that arise as large investors and the Federal Reserve try to outguess each other and then compensate for each other's wrong (and right) "rational expectations." But the is idea also to avoid inflation by "feeding" the economy new money at just the right rate—a rate represented, for better or worse, by per-quarter or annual percentage GDP growth.

When money is in *under*-supply three things happen: private currencies and non-money tokens emerge in order to meter exchange, market vicinities shrink in geographical size and activity levels, and direct goods-for-goods barter re-emerges. All three of these things were happening in Russia in the late 1990s.

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[28] For example, we have hardly touched upon the influence of Federal policy governing banking, foreign trade, taxation, and investment. And here are some other complexities:

(1) What is happening to price and wage levels in some parts of the economy—as defined by geographic region, by sector, by industry, or by occupation—may not be happening in other parts of the economy. As in a large garden, what grows and what decays is in constant flux, even as the seasons exert their overall influence. Indeed, simultaneous and contrary trends are common in large economies, resulting, in the long run, in even longer-run re-distributions of income and wealth among individuals, and of financial and market strength among firms. One outcome of these facts is that monetary inflation and economic evolution, as partitioned above, do not fall cleanly into two non-interacting processes. Several "hybrid" combinations will raise wages and prices too; for example,

   • lowered search costs (K_b), raised incomes (W_b), and lowered between-seller competition (r_s up); or
   • raised marginal costs of production (K_s) and raised consumer valuations, f(V_b), with steady incomes (W_b) and search costs (K_b); or
   • lowered costs of production (K_s) but sharply raised between-buyer competition (r_s up) and incomes (W_b).

And so on. Not *all* combinations are possible, but many are. Here are some examples of how money-supply inflation can cross over into evolutionary "inflation," and vice versa.

(2) If the government reduces income taxes, or lowers the prime interest rate or just prints up more banknotes so that a larger amount of cash now finds itself in the pockets of consumers for no extra output from them as workers, the rush to buy formerly unaffordable goods will create a relative shortage of these, enabling some producer-sellers to command competition-based extra-normal profits. Contrariwise, if a substantial number of producer-sellers share their competition- and valuation-based extra-normal profits with their employees (and/or stockholders), then those employees and stockholders are able to offer higher prices with unchanged valuations for things, and thereby to put themselves closer to the head of the line for any positional goods (or for ordinary goods of which there is a real shortage), which raises the prices of these goods for everyone.

(3) There are times, however, when increasing the money supply is precisely what is called for. If prices in general are dropping because of widespread surpluses of goods, or for any of the reasons given above for evolutionary

price rises *but reversed*, then "printing more money" and making sure that it finds its way to consumer-buyers will have a the effect of maintaining price levels, while printing more money and making sure it ends up with producers covers their losses for selling surpluses below cost (because $r^\mu < 1$) and gives them the time and means to invest in making different products, products that will have more value to more consumers. Minting money to use for government-sponsored scientific or design-oriented research and development—in relatively modest amounts, of course—may not be inflationary at all if that R&D leads to new technologies, new products, and to higher levels of capital and labor productivity in the country as a whole. For a long time, cold-war military spending served this purpose in both the U.S. and Europe.

In general, it makes a substantial difference to what actually happens whether newly minted money is given to consumer-buyers as a group (say through lowering income taxes) or to producer-sellers as a group (say through lowering corporate taxes) or to both (say by lowering the prime lending rate). Moreover, consumer-buyers might not spend their new money on buying goods, but choose instead to save, invest, or pay off debt with it. Producer-sellers might not pass their tax savings on to consumers by lowering their product prices, and might choose instead to buy each other up or open factories in foreign countries. And the states and cities might offer to borrow it all back, taking it out of local circulation, by issuing attractive new bonds... Ah, macroeconomics!

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[29]   Consumer-buyer valuations and income distributions are also significant variables, as our theory has it in Equation 8.5. These two variables are not discussed in what follows.

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[30]   I am asserting, of course, that qualities may be usefully quantified, at least in part. The quantities I am drawing a contrast with here, though, are the cruder ones: quantity-of-goods-demanded, and quantity-of-goods-supplied (Q_S and Q_D) in gallons, SKUs (stock keeping units), loaves, cans...

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[31]   This might be made up of 10 independent yes/no binary judgments, or seven pre-set categories each with seven or so degrees of *strength*, and so on. Note that N can be greater than the 3 bits Miller says is the maximum because (1) for us the limits are given by βN_K and γN_J and β and γ are apt to be less than 1, and (2) we are assuming a level or two of "chunking. " See Appendix Six for an elucidation of binary attribute lists and how these become informational measures of potential complexity in units of bits. See Chapter Three and the discussion of the work of George A. Miller and others on "chunking" and the limits of human information processing capability, p. 10ff.

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[32]   Said more mathematically, as $(B_s + G_{B_s}) \to \infty$, $\Delta(r_s{}^\mu)/\Delta B_s$ and $\Delta(r_s{}^\mu)/\Delta G_{B_s} \to 0$

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[33]   It also has larger effects. Writes economist Michael E. Porter:

> The quality of local demand is a...critical determinant of a country's microeconomic competitiveness. A demanding customer is a powerful tool for raising productivity.... Demanding customers educate local firms about how to improve products and services and force them to upgrade these products and services in a way that will translate directly into higher value for the customer and higher prices. On the other hand, if local demand is unsophisticated...productivity and international market prices [for those goods] will suffer.
>
> > Michael E. Porter, "Attitudes, Values, Beliefs, and the Microeconomics of Prosperity," in Lawrence Harrison and Samuel Huntington, eds., *Culture Matters* (New York: Basic Books, 2001) pp. 18, 19.

Porter places productivity increase at the very center of any viable strategy for achieving broad economic progress, and he faults various cultures for holding to beliefs and values that thwart dedication to productivity. In this he represents many development economists in so far as they admit cultural variables into their thinking at all.

I would be happier to go along with Porter *if* we found a (labor) productivity measure better than number-of-widgets output per man-hour input. After all, what is produced by a firm and an economy is *value*—value both inside of it and outside of it. The search for practical measures of value productivity would at least start here. To his credit, Porter wants "productivity increase" to cover improvements in *quality* as well as quantity, which a value-based measure of productivity would do automatically. (For more on this, and a stab at formulation, see Note

79 of Chapter Seven.) Porter also recognized that extra productivity can *increase* the prices of goods as often as decrease them.

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[34] Note that with $\beta = 1$ and/or $\gamma = 1$, μ could still be equal to zero—none of the (identical) buyers wanting any of the (identical) goods. The formulas for β and γ are as follows

$$\beta = 0.5\left(1 + \frac{R_{buyers}}{N_K}\right), \text{ and } \gamma = 0.5\left(1 + \frac{R_{goods}}{N_J}\right).$$ See Appendix Six for further explanation.

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[35] Of course, simple aphorisms that laud simplicity are nicely self-exemplifying.

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[36] Short-circuiting legal and political processes through bribery and corruption is similarly a simplifying and "free-ing"-through-disorganizing practice, reducing Ω as a result.

On a more theoretical level: Recall from Chapter Two that $\Omega = \sqrt{CR}$. Decreasing a system's complexity, C, or lessening its degree of organization, R, is not necessarily a bad thing *if the other is increasing enough* to make their product (Ω^2) larger. It is decreasing one without increasing the other enough (or at all) that leads to no good. This easy to see mathematically. Let $\Delta\Omega$ be an increment in Ω, let ΔC be an increment in C, and let ΔR be an increment R. Then:

$$\Delta\Omega = \sqrt{(C + \Delta C)(R + \Delta R)} - \sqrt{CR}$$

$\Delta\Omega$ will be negative only if $\Delta C < 0$ *and* $< -(\Delta R)$, or if $\Delta R < 0$ *and* $< -(\Delta C)$, or both. Recall that Ω, C and R themselves are always positive. See also page 58 of Chapter Nine, and Note 97 there, and Note 23 of Chapter Two.
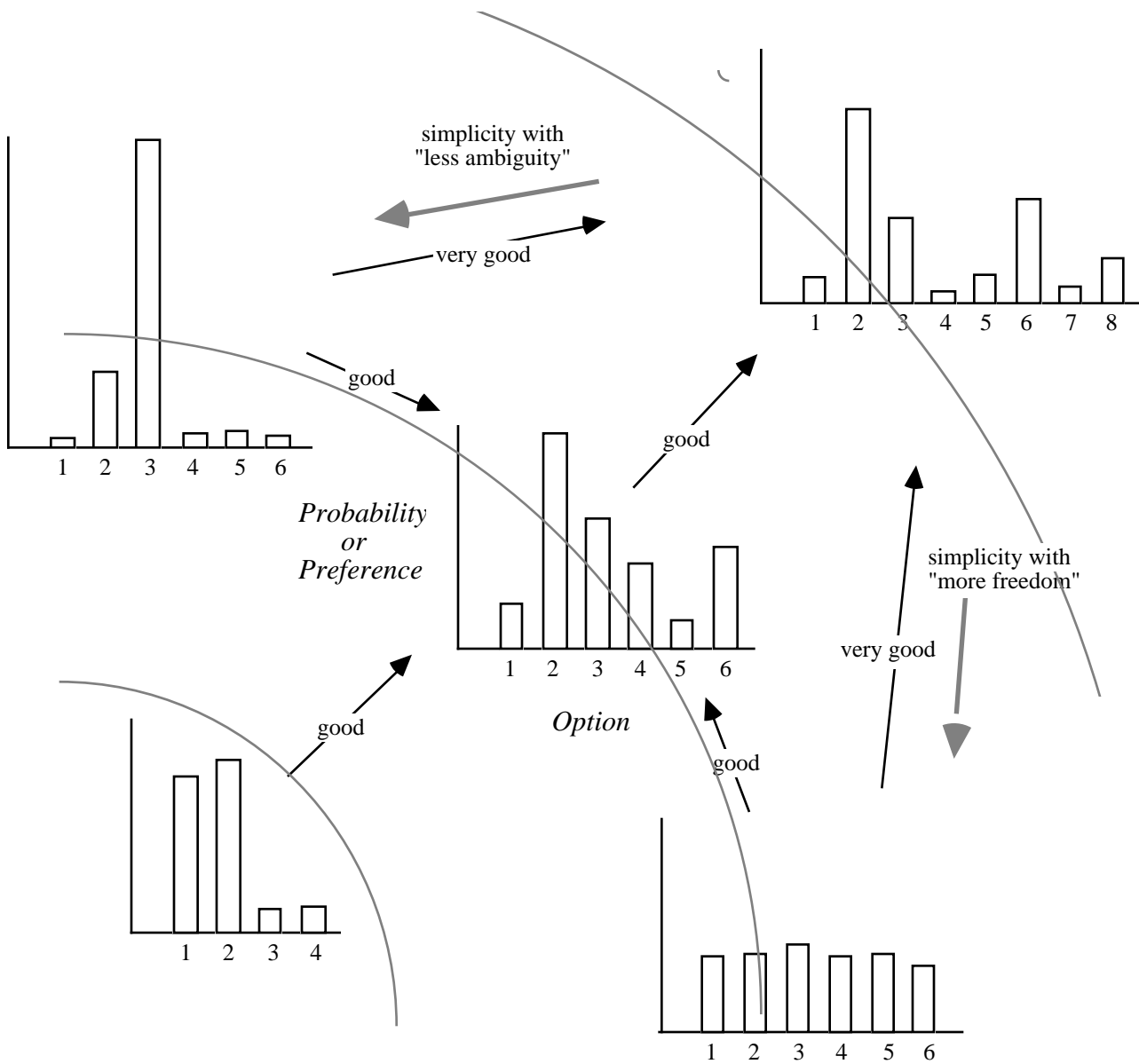
Here is another way to visualize what I am saying.

Recall Figure 2.1, plotting four regions in the graph of C against R. We might abstract that graph using illustrative probability or preference distributions like this, where left-to-right means more complexity and bottom-to-top means more organization. "Preference" is relative, and translates into "probability of choosing." The arcs are contours of equal potential complexity, C_{pot} (the outermost $C_{pot} = \log_2 8 = 3$ bits, then $\log_2 6 = 2.6$ bits, then $\log_2 4 = 2$ bits)

The arrows marked "good" illustrate movement in the direction of positive value, i.e., towards greater complexity-and-organization, Ω. Movement in the opposite direction is not good, i.e., has negative value, because it decreases complexity-and-organization.

The "love" of any *not-good* direction, I am saying, is evil. If one imagines a starting position in the top right, the call for more simplicity through "less ambiguity" (or "more certainty") entails a movement to the left, a cutting off of options and strong favoring of one or two of the remaining possibilities. The call for more simplicity and "more freedom" entails cutting off options too, but a levelling of favor or preference for the remaining options. This levelling feels like freedom, but is a false freedom since the frontier of potential complexity is smaller. Better is it to have more options, even if some of them are at the moment not as likely to be adopted. Least damaging of

the directions that , if "loved, " would be the root of some evil, is down the ridge of Ω (i.e. the diagonal in this diagram). Here, although lifefulness is lessened in total, at least a healthy balance of complexity and organization is maintained. Neither chaos nor rigidity is allowed to reign. The world merely becomes "smaller." Cf. our discussion of similar matters in Chapter Two.

simplicity with
"less ambiguity"

very good

good

good

*Probability
or
Preference*

Option

simplicity with
"more freedom"

very good

good

good

_____

[37] The analysis I have just offered (indeed, some might say, much the theory in this book!) may seem too difficult for any real person to learn to do good or harm with. And any person patient enough and educated enough to understand it fully would be probably be a do-gooder anyway, so why worry? I would claim, however, that ordinary people have ready intuitions about all of the factors I describe. Rough reasoning is good enough to set the dynamics going. And besides, social intelligence has never been the sole province of the educated.

    Those who wish to pursue the thesis of these pages at a more technical and/or empirical level yet, might like to experiment with the alternative formula for Ω offered in Chapter Two, Note 12, viz:

$$\Omega = \sqrt{\frac{CR}{1+[C-R]^2}}$$

This formula still favors movement upward and to the right everywhere, but it has a stronger tendency to favor clockwise or anti-clockwise motion towards the diagonal, i.e., to the ridge of Ω , and only *then* upward and along it, than does $\Omega = \sqrt{CR}$, which we have been using all along for clarity of exposition and for the lack of sufficiently refined empirical data to warrant using the more complex formulation.

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[38] "For the love of money is the root of all kinds of evil..." 1 Tim 6:10 (NRSV). See also Note 53 of Chapter Nine.

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[39] I am using "love" in the colloquial sense here (of "great liking for"), not as I define and discuss love in Chapter Four (p. 39 ff.). "Love" in the original Biblical aphorism, "the love of money..." has this sense. The Greek Bible has "love," in this passage, rendered as "craving."

I am also assuming a measure of freedom to choose one's actions. "Evil" is what people do who *could* do good but choose not to. "Good" is what people do who *could* do evil but choose not to. This is why it is difficult to think of animals as being good or evil. Not having "eaten of the Tree," they are blameless for the harm they cause.

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[40] Of course, our aphorism borrows another feature from its Biblical origin too, and that its use of idea of "root." The love of *x* is not evil in an of itself. Nor is it the proximate cause. It is the "root" or *deep* cause of evil—leading to evil surely, leading to it inevitably, but through intervening stages and after a period of time. My suggestion that *persistence* in preferring negative $\Delta\Omega$ is the heart of the problem speaks to this point.

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[41] Many of the arguments I make with respect to complexity-and-organization (Ω) in the pages that follow could also be made with respect to *complexity* alone (*C*) and organization alone (*R*). Too little or too much *C* is bad and requires coping with; too little or too much *R* is also bad, and requires coping with. Cf. Chapter Three, where the limits to human information-processing rates are discussed.

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[42] It offends our sense of justice to see the lazy being rewarded more than the diligent, the stupid more than the smart, the ignorant more than the informed. The offense is comic if the outcomes are good for all, but tragic if the results are bad, which they usually are. We also know, however, that exaggerated resentment of the lucky, of the wealthy-by-inheritance, of the powerful-by-association, and so on, is corrosive of our character and happiness, and so we accept as inevitable, even desirable, a certain degree of *non*-correlation between deservingness and reward. After all, or our children might benefit from a touch of such injustice too.

The proper degree of regret for not fulfilling one's potential and the proper degree of disapproval to be levelled at others for not striving to do the most good they are capable of, is strongly tied to cultural-religious norms. For European Jews and most Christians, for example, *not* fully developing one's talents (which are gifts from God) is tantamount to sin. One has a duty to serve God, which entails committing all one's powers towards to bringing about His Kingdom on earth. Similarly, for Confucians, the mandate to follow in the Way of Heaven entails endless self-improvement through learning and through the willing acceptance of higher and higher positions of responsibility in society. For other religions, notably Buddhism, no goal is higher than release from suffering, which means having enough health, wealth, and wisdom to be happy with the status quo—*and no more*. Progress is an illusion, striving a mistake, and achievement in any material sense hardly necessary. (At the individual level, of course, many exceptions to these generalizations can be found in all cultures, in all religious traditions.)

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[43] Kant addresses this problem directly, if briefly, when he speaks of the duty everyone has to deepen and broaden their natural gifts (rather than be devote themselves to pleasure, like some "South Sea islander"). Immanuel Kant, *Grounding for the Metaphysics of Morals*, in Steven M. Cahn, ed., *Classics of Western Philosophy*, Fifth Edition (Indianapolis: Hackett, 1999), p. 845.

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[44] See Chapter Five for my special use of the word "force."

Emulation, or the force of example (along with all the narratives that justify slacking in the first place), might not be the only force driving the downward spiral. There may be a more logical one, too. In social situations in which the *reward* for group effort is preordained to be divided equally (or randomly, or arbitrarily) among members of the group (but, in any case, to be distributed without correlation to actual individual effort), it is common for individuals to "free-ride" —to stop contributing themselves, or to work no harder than the laziest person in the group. This problem lies at the heart of why communistic social arrangements ("each giving according to their ability, each receiving according to their need") usually operate at lower levels of energy and efficiency, and why the people caught up in them must spend so much time in internal bickering and other motivational and correctional activity rather than on cooperating on the task at hand. (Ironically, had Marx not been an atheist, the program of socialism in Russia might have succeeded. Together with the people who by temperament were self-driven, people who believed in God and/or in reward and punishment in the hereafter would also not free ride given these parameters.)

Free-riding tends not to occur in two other situations where, structurally, it might.

The first is when the group's effort is essential to saving the very lives of its members. In the heat of battle, a soldier will often give his utmost to the group regardless of whether others do likewise, not just because military codes insist upon it and will reward heroic behavior symbolically (i.e. with medals), but because it increases his own absolute chances of survival.

The second is when the group in question is a tightly knit, consanguinal family or tribe. Here people look after each other, shoulder unequal loads, and take unequal risks largely without complaint: the children are fed and grandma is fed according to their hunger, not according their abilities or efforts. One reason for this is love, expressed as *altruism*—albeit altruism that evolutionary biologists would trace back to long-term self-interest on the part of genes. The other reason is that token economies in families and tribes actually *do* reward members differentially and in proportion to their contribution. It is the casual observer's myopia to the traffic in psychologically important tokens within the group that makes the behavior of the productive and generous members seem purely altruistic. (See Chapter Four on token economies.) Had Marx paid more attention to psychological economics and less to material economics and the politics of class resentment, then perhaps his program for an ideal communistic society could have come closer to being realized, with or without religion.

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[45] But see my remarks about nostalgia and complexity masked by simplicity in Chapter Three.

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[46] Ian Buruma, "Divine Killer," *New York Review of Books*, February 24, 2000, p. 24, citing George L. Mosse, *Nazi Culture* (New York: Schocken Books, 1981), p. 10. Not all intellectuals were immune to the thrall of such "liberative" simplification. As Rector the University of Freiberg, the man judged by many to be the greatest German philosopher of the 20th century, Martin Heidegger, ended most of his addresses in the mid-1930s with these words: "Let not doctrines and ideas be the rules of your Being. The Fuhrer alone *is* the present and future German reality and law." This was typically followed by three "*sieg heil*"s. (See Richard Wolin, *Heidegger's Children* [New Jersey, Princeton University Press, 2001], p. 48).

Further to Note 14 above: As many have observed, what was new and unique about the Nazi campaign to rid Europe of all its Jews in the 1930s and '40s was the industrialization and bureaucratization of the process of mass murder. Tens of thousands of people were involved in carrying out the larger plan, with by far the largest majority of them "just doing their jobs" at some desk by day, and going home to their wives and kids by night, never seeing first hand the pain they caused. The addition of complexity-and-organization to German society by the establishment of this "industry", let it be admitted, provided livelihoods and satisfied further needs besides: feelings of security, legitimacy, daily friendship, and so on. What is wrong with ths picture, of course, is that this life-producing system for its employees was actually "producing death" at much faster than it was producing life—several orders of magnitude faster—let alone doing so without the consent of those who were being killed. In terms of Ω, it was a industry whose output was the most simplyfing-and-discorganizing act of all: slaughter. (One might say something similar of the animal-ranching and meatpacking industry, world over. See p. 41 ff., below)

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[47] Jasper Becker, *Hungry Ghosts: Mao's Secret Famine* (New York: The Free Press, 1997), p. 70.

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[48] Quoted by Elaine S. Hochman, *Architects of Fortune: Mies van der Rohe and the Third Reich* (New York: Wiedenfeld and Nicholson, 1989), p. 121.

At this point in her book, Hochman is suggesting that the architect Mies van der Rohe's brand of modernism, which prized simplicity and clarity, had the potential for intriguing the National Socialists. Or so Mies hoped to show. After all, Hitler had opined that the virtue of clarity was German, and Italy had showed that fascism and modernism worked perfectly well together... But it was not to be. For one, Mies's Bauhaus school of design, inherited from Walter Gropius, was fatally undermined by its historical association with Marxism. For another, Modernism was internationalist, not *volkisch*. Hitler, himself a frustrated architect, would prefer the more monumental simplicities of a gigantic, stripped, neoclassical order. It was the perfect solution for the Third Reich, architecturally speaking: Roman—"eternal", First Reich—in style, tyrannical in size and "clarity." And Hitler had the ambitious young architect Albert Speer to help him carry it out.

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[49] This point is well made by William Easterly in his *The Elusive Quest for Growth* (Cambridge: MIT Press, 2001) pp. 71–84, in the chapter entitled "Educated for What?" Easterly is addressing the problem alleviating of low and negative economic growth in very poor countries, but the same logic applies to pockets of perstistent poverty in the U.S., such as the rural South. Easterly is skeptical of education as the panacea for chronic poverty. Required, first, is the correct incentive to *become* educated and a a low level of corruption (so that, for one, it is only *partly* true that "who you know is more important than what you know"). My upcoming comments on education will be very broad, and acknowledge this truth.

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[50] Don DeLillo, "In the Ruins of the Future: Reflections on Terror and Loss in the Shadow of September," *Harper's Magazine,* December 2001, p. 34. Edward Rothstein, in "Exploring the Flaws in the Notion of the 'Root Causes' of Terror (*New York Times,* November 17, 2001, p. A7), offers a similar analysis: fundamentalism, like totalitarianism, is dangerous above all because it is complexity-denying:

> Under fundamentalism, in both its religious and political forms, every aspect of life is governed by a single set of ideas. All of history, all of natural law and all actions of the divinity, are seen as leading up to the present moment, granting incomparable power and authority to the fundamentalist. Those laws also demand that they be accepted universally and that great battles must be waged on their behalf. ...The fundamentalist does not believe these ideas have any limits or boundaries. Goals are not restricted to a particular place or a particular time. The place is every place; the time is eternity.

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[51] This is not to say that in chnronically underdeveloped countries the first order of business, educationally, should be literacy and vocational training. I speak here mainly of developed countries seeking to go to "the next level" of equity and prosperity.

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[52] Between 1980 and 2000, the U.S.'s incarceration rate quadrupled, creating a huge prison building boom. Between 1992 and 2000 the crime rate fell every year. Some attribute this to the higher rate of imprisonment. More likely it had to do with the economic boom that held over that same period.

In any event, in 2000, a record 600,000 inmates were released from prison, up from 170,000 in 1980. Because throughout the prison-building boom, state budgets for education, rehabilitation and job training in prisons were drastically cut, these 600,000 releasees were far less well-prepared to re-enter civil life than any previous generation. Indeed, the lessons they learned in the profoundly simplified and coercive, low-on-the-stratigraphy life in prison will have two effects: first, lowering the Ω of the lives of people in their circles of concern and influence, and second, landing them back in prison fairly soon as they find civil life frustratingly complicated, nuanced, and "delicate." In California, 68% of the people admitted to prison in 2000 were on parole at the time. In 1980 that figure was 21%. What I have been trying to say about regular education applies even more to education programs in prisons. Rehabilitation programs targeted at increasing inmates' capacities to handle (i.e. to organize) complexity *per se* might prove useful. The alternative is to accept a more or less permanent criminal class, mis-educated by their periodic stays in prison to continue in its ways. Prevention will require the building more prisons, in geometrical increase. (Statistics cited are from Fox Butterfield, "Often, Parole Is One Stop On the Way Back to Prison," *The New York Times*, November 29, 2000, A1.)

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[53] The connection has deeper roots, of course. The idea that righteousness leads to prosperity can be found throughout the Bible. See for example Psalm 37, where the proposition is not that righteousness is ultimately "good for the system," but that God (if He chooses to) blesses the righteous individual directly.

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[54] For a discussion of dissipation, see Chapter Six.

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[55] One would have to include not keeping up due to excessive demands from one's environment, usually one's work environment. Relief from stress is the most often cited reason for turning to drugs, from alcohol to heroin to sleeping pills—relief from stress or the temporarily increased ability to cope with having to be extraordinarily alert or energetic on demand or for unnatural periods of time.. Here "uppers" become essential: amphetamines, cocaine. And for boosted creativity, marijuana. Drug availability follows the ability to pay. Especially prone to drug use, therefore, are rising entertainers, be they musicians or professional wrestlers. These individuals are well-paid, frantic, far from home much of the time, and forced by their agents (if not their own ambition) to be everywhere and always superhumanly *terrific*, at least in public. The question is: why do they need to go to such extremes in the first place? Is it not a jaded public needing the simulation? Is not the average American addicted to the sight of high-octane performance? Are not popular entertainers *our* cocaine, TV and movies *our* "plug-in drugs"?

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[56] Sex itself can become unhealthily simple and disorganized, not to say addictive to people who have little else to celebrate. In 1999, deaths in Africa due to AIDS were almost twenty times higher than deaths due to warfare. President Thabo Mbeki of South Africa was mocked for years for suggesting that poverty was the main cause of AIDS in his country. One has only to relax one definition of "cause" a little—but not so far as to confuse it with correlation, that old no-no of academics—to see how Mbeki has a point. All but the most mechanical of cause-effect relationships are indirect, and even these, on very close inspection, turn out to be indirect too. All the way down... Mbeki's foolishness was to assert that the HIV virus had nothing to do with AIDS. This was taking things too far.

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[57] The common-sense hypothesis that children watching violent TV shows and playing violent videogames makes them more likely to resort to violence has recently been borne out empirically. The best solution? Research shows: turning off the TV. (The work of Thomas S. Robinson and colleagues at Stanford University, reported by Eric Nagourney, "Curbing Aggression With the Off Switch," *The New York Times*, January 23, 2001, D7). It is a matter of time before researchers are able to identify that not just declining literacy and family break-up might be laid at the door of excessive TV-watching, but also neglect of the physical environment—arising from inability to see or "read" it, another kind of illiteracy. TV is a drug, as Marie Winn argued some time ago in *The Plug-In Drug* (New York: Viking, 1985 [1977]).

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[58] I am thinking here not only of broadcast television programming at schools (e.g. Chris Whittle's Channel One), or the overuse of videotaped history and science shows (mostly from PBS) to immobilize restive students and relieve teachers (who imagine the material "covered") from active engagement with their students and the subject matter, but also of such home-viewed "educational programs" for pre-schoolers as Sesame Street. Sesame Street, in my view, although much beloved, fairly carpet-bombs tender young minds into attention deficit disorder (ADD)—which is actually a "deficit of attention" to anything *but* the frenetic graphics, explosive sound, and exaggerated expressiveness of Sesame Street puppets and humans. For the most part, children's television is a pacifier, a baby-sitter, a "plug-in drug," a brain-scrambler..whose use is inversely proportional to the education- and income-level of the child's parents. More than twenty minutes of Sesame Street a week is a poor replacement for a safe street to play on every day—a real street, with real friends, real animals, real yards and parks, and real things to count and marvel at. Mr. Rogers' neighborhood, visited more than a few times (perhaps as a therapy), is as deadening as it sweet.

In my view, no early-education reform in America will succeed as long as television rules young households the way it does in most of middle- and lower-income America. The retort that "at least it's educational" is thin cover and little compensation for the awareness of the physical world it kills off, let alone the manual skills, social initiative, technical imagination, personal patience and persistence it forestalls. The medium of TV is indeed the message, as Marshall McLuhan observed forty years ago; and nowhere is this more true than with children's television.

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[59] It seems to me that the Swedish model has much to recommend it. From the 1930s through the 1970s, with strong labor unions in constant wage bargaining with business owners, Sweden's effective minimum wage (they have none such, legally) rose to be the highest in the world. Ever watchful, the government knew that as firms whose profitability depended on using low-wage labor went out of business, unemployment would increase. But in the cause of economic progress they encouraged it to happen anyway.

No calamity followed. Quite the opposite. Because, quite unlike the U.S., personal income taxation in Sweden was (and remains) high and highly progressive, while corporate taxes were (and remain) very low. This meant that every person thrown out of work could be looked after for years by government unemployment funds with hardly a drop in their standard of living. During this time they could be *re-educated* to re-enter the workforce at a higher level of capability (i.e. complexity-and-organization), and, for this very reason, at a higher level of compensation. Swedish firms, each now large, could rapidly evolve into capital-intensive businesses, exporting steel, pharmaceuticals, cars, aircraft, armaments, machine tools, telecommunications, and high-design furniture to the world. Health care, housing, education, transportation...everything domestically foundational to a decent life and to personal growth was provided to all by the state in cooperation with private enterprise (in lieu of high corporate taxation)..

Today, Sweden has a democracy and a cultural life that is the envy of the world. It has one of the largest bodies of civil law, and, from downtown to countryside, one of the cleanest and most pleasantly-designed physical environments. It has the lowest rate of crime and poverty and the most equitable of income distributions. Its citizens enjoy every sophisticated technology.

Sweden, I would venture, is, a "high-Ω society"—for its size, probably the highest—despite the recent slowdown in its economic growth and its problems assimilating immigrants. Much the same could be said of Germany from around the 1950s, a country whose policies also have encouraged recapitalization with high-wage protection and whose growth rate and standard-of-living increases have met or exceeded those of the United State's for decades now, notwithstanding the costs of reunification.

In compensation perhaps, Americans like to think that Swedes (and Germans, and just about everyone else) are less *free* than Americans are. True or not, let us assume that Americans are the freer. With labor unions weaker in the U.S. than corporations, with a huge land mass, a multi-ethnic, multi-cultural, multi-religious population, and an historical reluctance to turn to paternalistic government to solve social problems, this just means that we (as Americans) must use different methods to become a higher-Ω society.

To my mind, the single most important change we Americans could make in this regard *is a swift and substantial increase in the legal minimum wage*, this over the wailing of employers (and most economists) that unemployment, bankruptcy, and inflation could be the only result. The minimum-wage increase must be accompanied by a progressive tax on personal income large enough to provide life-support and training (if not a complete education, which would be better yet) for all those who will lose their jobs. And it must be accompanied by a corporate tax deduction for providing training directly or for financially supporting educational institutions. Then let low-wage, low-skill jobs continue to be exported to countries that are working their way up the same slope as we are, but that began, perhaps, a little later.

And what, in the U.S., should that minimum living wage be? I would start it at $15 per hour in the year 2004, and let it rise over time to keep pace with the inflation that it would, indeed, cause...until the new dispensation in wage equality and a new capital-labor balance have become the norm and inflation stops, or rather, slows to the systemic, complexity-induced level of wage and price growth that we discussed in the first part of this chapter. America is a capitalist society. Fine. There is no surer way to hasten the *real* capitalization (where "capital" means non-labor means of production) of our *nominally* capitalist system (where "capital" mostly means large and investable sums of money) and, at the same time, to restore the dignity of the working classes and cure a whole range of poverty- and desperation-induced social pathologies, than by raising the minimum wage. Even if its ultimate and only effect is to make it easier for an average-size family to live decently on one to one-and-a half times that minimum-wage, raising the minimum wage would be worthwhile. For one, America desperately needs people making *homes* and neighborhoods that are safe and environmentally rich. For another, people who are paid well enough to live decently become *more* ambitious to make more money yet, not less. How American is that!

Of course, one cannot discount the differences in size and in ethnic and cultural diversity between Sweden and the United States, as I noted. For one, Swedes can enact legislation with a speed and degree of brotherhood not possible here. But the practical difficulties that minimum-wage legislation faces in the U.S. tells us very little about its real advisedness. Indeed, it might even argue *for* it.

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[60] "Bowling" here is a reference, of course, to Robert D. Putnam's celebrated article "Bowling Alone: America's Declining Social Capital," *Journal of Democracy* 6; 1; January 1995, pp. 65–79 which caused a minor furor in sociology circles. Putnam's aim is to demonstrate the critical importance to the economic health of a region of its voluntary civic organizations. "Voter turnout," he writes, "newspaper readership, membership in choral societies and football clubs—these were the hallmarks of a successful region. In fact, historical analysis suggested that these networks of organized reciprocity and civic solidarity, far from being an epiphenomenon of socioeconomic modernization, were a precondition for it."

Putnam replies to his critics and updated his research in *Bowling Alone: The Collapse and Revival of American Community* (New York: Simon and Schuster, 2000). See also his *Making Democracy Work: Civic Traditions in Modern Italy* (Princeton: Princeton University Press, 1993). See also Chapter Four.

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[61] See Dan Hurley, "On Crime as Science (a Neighbor at a Time)," *New York Times*, January 6 2004, reporting the work of Dr. Felton Earls of Harvard University's School of Public Health. Available online at *www.nytimes.com/2004/01/06/science/06PROF.html?pagewanted=3&8hpib*

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[62] Americans spend a greater percentage of their time shopping than any other nation: 6 hours per week in 1987. (See Betsy Morris, "Big Spenders: As a Favored Pastime, Shopping Ranks High with Most Americans," Wall *Street Journal*, July 30, 1987.] One might now add time spent shopping online and on cable TV.

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[63] For an excellent analysis of role of paid attention-giving in social-economic terms, see Robert B. Reich, *The Future of Success* (New York: Knopf, 2001), pp. 158–193. Reich's book is a veritable companion to this one.

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[64] On the idea of the moral sphere, see Robert Kane, *Through the Moral Maze* (Armonk, N.Y.: M.E. Sharpe Publishers, 1996).

Extending the no-harm principle is also a reflection of a moral principle that most people adhere to almost unconsciously and that I articulated in Chapter Five, namely, "starting at the top of the stratigraphy," placing persuasion above coercion and higher forms of persuasion above lower forms, and higher forms of coercion above lower. To save the reader turning back, in Chapter Five I wrote:

> [I]n general it is both more effective and more moral to attribute *higher* levels of complexity-and-organization to those who might turn out to be lower on the scale of complexity-and-organization—to treat, say, the inanimate as animate, the animal as human, the foolish as wise, the child as a young adult, and so on—than to do the reverse, i.e., to attribute or assume *lower* levels of consciousness or evolvedness than might be the case.

To grant rights to animals is to treat them *as though* they were human as far as is possible on the evidence. The burden of proof that an animal does *not* have self-consciousness, or conscience, that it does *not* dream or long or regret or care or feel ownership, should be upon the disbeliever, not on the believer.

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[65] Gary Francioni puts it this way

> The only time that our infliction of suffering on animals raises any sort of legal question is when we inflict that suffering outside of the accepted institutions of animals use—when we inflict suffering in ways that do not generate property-related benefits and where the only explanation for the behavior can be characterized as torture "for the gratification of a malignant or vindictive temper." (*Introduction to Animal Rights* [Philadelphia: Temple University Press, 2000] p. 70)

The U.S. also has a federal Animal Welfare Act, which is aimed at protecting animals in government-funded research institutions from being harmed in ways not absolutely necessary for maintaining the rigor of the research. (For example, there are minimums set for cage sizes, food intake, and so on.) As Francioni points out, there are two problems with this: first, mice and rats, which constitute roughly 90% of the animals used in research, are explicitly excluded from coverage by this law, and second, the people judging whether the Animal Welfare Act has been broken or complied with...are the researchers themselves, in written self-reports.

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[66] Not to mention the psychological suffering of all the humans directly involved in the process: the farmers, the slaughterhouse workers, the tanners, the retail butchers. Although this is suffering to which, it would seem, they *consent*, one wonders how many would choose a less bloody job, given the chance.

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[67] Part of my motivation here is to exclude the argument that stray dogs should be euthanized within a week or two on the grounds that they wouldn't live that long anyway on their own, adrift in the city. The life of animals among (non-human) animals is a dangerous one too, let us remember, highly subject to accident, natural disaster, climatic change, ecological imbalance, and disease—not to mention being killed and eaten by something higher on the food chain. Animals feel fear and incomprehension as much, or as often, as they feel joy or satisfaction, and few live as long as they metabolically could.

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[68] This formulation of animal rights would seem to support the view that we have the right to do as much harm as we please to creatures that *would not exist at all* were it not for our efforts at breeding and raising them: e.g. the vast majority of cows, chickens, goats, dogs, cats, and parakeets. This right includes the right to take their lives—to take their lives *back*, as it were—as well as the right to be indifferent to their pain, since being alive and in pain is surely better than being not alive in the first place. To exclude human infants from this logic, who certainly would not exist "except for their parents," is, according to Peter Singer, to commit the sin of *speciesism*: i.e., the arbitrary (as he calls it) regard humans have for the lives of their own kind regardless of their actual condition or evolvedness. That *all* animals are themselves "speciesists" seems not to be noted, but even if it were, Singer would certainly argue that humans are supposed to be morally superior to animals, which is to say, should not be speciesist and should regard all forms of life as equivalent in merit in proportion to their evolvedness.

Refuting Singer on this score lies outside the scope of this work (but see Peter Berkowits, "Other People's Mothers: The Utilitarian Horrors of Peter Singer," *The New Republic*, January 10, 2000, with which I essentially agree even as I remain very much a utilitarian). Let me however address the argument that we can legitimately kill animals we are responsible for bringing into being *because* we are responsible for bringing them into being. The flaw here is twofold: first is to imagine that we really are the sole cause of any living creature's life; and the second is to imagine that even if we *could* be the sole cause and creator of a creature's life—assembling it, say, molecule by molecule—it follows that we would legitimately have total command over that creature's fate. We are, at most, minor partners in life-creation, four billion years of evolution (or God, if you prefer) taking most of the credit. Does the friend who introduced you to your spouse have the right to kill or maltreat your children? Of course not! Nor even do *you* have that right. Once children are born—or, some say, once children are biologically conceived—they no longer belong entirely to their parents, nor to anyone else for that matter. They are their own beings, with their own inalienable rights. The same applies to animals. I am arguing that once they are born (and perhaps once they are conceived too), they have a right to live on as happily as possible.

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[69] Many in the animal rights movement would not be happy with this. To their thinking, farm animals—fenced and caged, herded and bullied, exploited, stolen from, and bought and sold as property—are slaves *par excellence*, even though we might stop short of slaughtering them. I myself hold out the possibility that farm animals can be humanely treated and managed well enough for their "exploitation" (by us) not to be suffered as a harm (by them). The right not to be treated solely as human property is not the same as the right to *own* property. We do not steal a sheep's wool when we shear it, nor a hen's egg if it is not the last one, nor a cow's milk if there is more than enough for her calf (and future science, I feel sure, will enable us to keep cows lactating without over-producing calfs). In return, humans offer farm animals protection from predation, disease, hunger, and cold. There is no doubt that the produce of such happy animals will and does cost more at the supermarket than the produce of poorly treated factory-farm animals. But then, as I argued in the first part of this chapter, better products nearly always do cost more.

Personal disclosure: I am not yet fully a vegetarian, and admire those who are without going to the extreme of forswearing animal products altogether.

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[70] The words "satisfaction," "pleasure," and "happiness" in this sentence are intended in their most conventional, everyday senses, not the more technical senses I offered in Chapter Four and following.

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[71] Impartiality is also a feature of all classical ethical theories, such as a *rights* approach to ethics, or a Kantian one of duty. It is challenged by virtue ethics, and by some feminist ethics of care, and now by my value ethics.

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[72]   This is how Robert Kane defines the absolute good. See his "The Four Dimensions of Value" in Michael Benedikt, ed., *Center 10: Value* (Austin, Texas: Center for American Architecture and Design, 1998) pp. 9–16.

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[73] The assumption, of course, is that we *want* the best for all in the first place. Utilitarianism is strongly axiological in this sense, normative to the root: the greatest good for the greatest number is what we *should* want. Why? Because it is the only way to be happy in and with ourselves, to have a full and guiltless and happy life.

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[74]   Hunger strikes have their place, but are highly situational, focused upon achieving a limited—i.e. partial—goal. Like self-immolation and other forms of demonstrative suicide, the morality of hunger strikes is questionable at the outset, if for no other reason than their disregard of the extreme pain they cause to family members, friends, and dependents.

   Peter Singer, in his well-known essay "Famine, Affluence, and Morality" (*Philosophy and Public Affairs*, 1, Spring 1972, 229–243), argues that the (presently) affluent are morally obliged to donate their earnings to the very poor in order to prevent the poor's suffering and death, and do so until they (the rich) are reduced, and the poor are raised, to equivalent neediness. This "strong position" follows logically from utilitarian impartiality. Singer also reluctantly offers a more moderate position: the rich should give 'til it hurts in a "morally significant" way. For example, it's worth driving a less luxurious car if the money saved and transferred will save a life, or educate a poor child, somewhere in the world.

   I think Singer's purposes in making these arguments are two-fold: first, to show that a thoroughgoing utilitarianism can make as stringent "Christian" claims upon us as can any religion or other ethical theory, and second, to show how very, very far from reasonable is the typically-less-than-1%-of-GDP that affluent nations spend on humanitarian aid. In both of these observations I think Singer is correct. For a rich expression of the sentiment involved, one might look to the words (and indeed the life) of socialist labor leader and frequent U.S. Presidential candidate in the early 1900s, Eugene Debs. Debs perhaps unwittingly struck a chord with Rabbi Hillel's credo "If not me, then who? If not now, then when?" with his own: "While there is a lower class, I am in it; while there is a criminal element, I am of it; while there is a man in prison, I am not free." What stronger call to activism beginning in empathic self-identification could there be? (See *www.eugenevdebs.com*).

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[75]   A useful if rough way to think about this: the people who "listen to you" are in your circle of influence, while the people that *you* listen to are in your circle of concern. If we take "listen" more literally for a moment, we can imagine people who speak loudly but who don't hear well, people who speak loudly and have good hearing, people who have good hearing but speak softly, people who have bad hearing and speak softly. One should not run to moral judgments, but I would wager that most people instinctively prefer the third combination in other people—i.e., good hearing, soft voice—and are most wary of the converse: loud voice, poor hearing.

   Note also the fact that individual A is inside individual B's circle of influence logically implies that B is inside A's circle of concern.

   The idea of circles of concern and circles of influence can also be found in the national best-seller *The 7 Habits of Highly Effective People* by Stephen R. Covey (Simon and Schuster, 1990, pp. 81–94). Covey's interest is in illustrating how being "proactive" necessarily entails enlarging one's circle of influence. He makes an ideal of one's circle of influence being at least as large as one circle of concern; and has little to say of the dangers of it being larger, beyond it making one myopic and selfish. Nevertheless, the whole metaphor is nicely employed by Covey in the service of encouraging self betterment, which in our terms means greater Ω. My own analysis was developed independently of Covey's.

   A related concept is that of the "radius of trust," an idea put forward by Frances Fukuyama in *Trust* (New York, The Free Press, 1995). The term is fairly self-explanatory. The "radius of trust" encompasses those people with whom one will deal without the need for legal guarantees, enforceable contracts, precise accountability, and so forth. The radius may be larger or smaller from individual to individual, from time to time, from realm of activity to realm of activity, and, on average, from culture to culture. In the terms of psychological economics, people within each other's radii of trust are exchanging only tokens in the top three strata: approval, confidence, and freedom.

Moreover, by my definition of love, offered in Chapter Three, we can say that one *loves* the people within one's "radius of trust" more than one loves the people outside of it, i.e., more than one loves strangers, not to say suspicious or threatening strangers. Fukuyama also argues that the radii of our circles of trust have on average decreased over the second half of the 20th century: one of the outcomes of the increased value of freedom and relatively decreased value of "community" defined at the larger scales of class, nation, labor union, political party, and so on. (See his *The Great Disruption*, excerpted in *Atlantic Monthly*, May 1999, pp. 55–80, but especially p. 71)

With Covey, I prefer to speak of circles of concern *and* circles of influence, however, which Fukuyama does not, because I think it opens the discussion up a little more by recognizing the possible asymmetries brought about by unreciprocated feelings, as well as the two inherent "directions of sentiment" involved, namely: (1) willingness to do *x* based on its outcomes, however indirect, for the people in my circle of concern (here I make my happiness dependent on them) and (2) willingness to do *x* because it affects the people in my circle of influence (here I make their happiness dependent on me). Finally, our "circles" metaphor applies across all needs, and might indeed, on analysis, reveal a different set of circles at each stratum of need. Complicated, I know; but better matched to subtleties of the phenomenon than the simpler, portmanteau idea of a "radius of trust."   More about this in the main text.

For another approach to the idea of circles of concern and influence, this time from anthropology, see Marshall Sahlin's "Kinship Residential Sector Model of Reciprocity" in his *Stone Age Economics* (New York, Aldine de Gruyter, 1972) p. 199. See also *Nicomachean Ethics* (op. cit.), Book 9, Chapter 10, where Aristotle discusses the right number of friends to have; to wit, not too many, not too few, or as many as can live together, or who are friends with each other...and so forth. In *The Expanding Circle: Ethics and Sociobiology* (Farrar, Strauss and Giroux, 1981), philosopher Peter Singer argues for extending our circle of concern to animals.

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[76] In small, closely-knit groups, it is perfectly possible for *every* individual to identify everyone else as belonging to "their" circles of concern and influence, i.e. the ones of which *they* are the center. The mathematically-inclined reader might imagine a group of points uniformly distributed on the surface of a 2-sphere. Each point is equally surrounded by the others, with the same configuration of geodesic distances and directions. Each point equally the *center* of the group that is the-rest-of-the-group. Many of my points could more technically be expressed using spherical rather than plane geometry.

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[77] There is some empirical evidence that 100 is the largest number of individuals with whom any one individual can successfully form direct social relationships. When multiple circles of concern and interest overlap to form a circles of circles, as it were, this number probably increases to 150 or so. Under this regime, tokens can still circulate in ways that ensure that their provenance is not totally lost. This maximum group size has also increased over evolutionary time together with the size of the neocortex. We might see evidence here again of our increasing complexity-and-organization model of social evolution and our picture of the mind as mirror and repository of the social realm. See Robin Dunbar, *Grooming, Gossip, and the Evolution of Language* (Cambridge, Harvard University Press, 1996) and Carl H. Petrich, "Organization Science: Oxymoron or Opportunity," in *Complexity*, Volume 3, No. 4, April 1998 pp. 23–26, where some of the relevant group-size literature is reviewed.

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[78] He may not *actually* be "invisible" at work but just feel that way, unaware of the influence he is having. He might also feel bad about the inconsistency he observes his own behavior, but blame circumstances. Note also that Figure 10.2 could just as easily represent P's "invisibility" at home and tyranny at work. The point is the *difference* between the two circles, not which is concern and which is influence.

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[79] It should be noted that it is more common to (try to) influence those for and with whom one is concerned than it is to be concerned for and with those over whom one has influence. That is, P's and Q's patterns are more common than R's. We can never be sure about whose life we are influencing *in*directly, i.e. *via* others.

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[80] I say *almost* entirely because even in our wired world, we tend to see more of—and, other things being equal, care more for—the people we actually live with, work with, shop with, and so on, all of which are still largely geographically-based, spatially-coordinated relationships.

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[81] Kant, with his Categorical Imperative, in my view came as close as one can to formulating the right rule for rule utilitarians by recommending that we all act *as though* our influence *was* universal (and we could want it

that way). Kant had in mind influence that depended on the force of example. Even rule- and practice utilitarians, whose recommendations are *intended* to have more widespread effects than any single act or acts could, will find, as Moses did, that the rigor with which their rules and practices are followed dwindles with distance or time from the experience of their original exemplar.

The influence of *governments* falls into a different class, although it obeys the same logic. To the extent that the laws that governments make *affect* everyone, so should that government's *concern* be for everyone. Utilitarianism (and its ideal of impartiality) often seems to be an ethical system more suited to prescribing the actions of governments (and courts) than of individuals, with Kant's Categorical Imperative working to convince us to act as though we were governments, "legislating" not only for ourselves but for all others.

Legal and political activists interested in matching government's concern with its influence, both in scope and degree, must do so with respect to each law differently, since each law affects different people and groups differently. This is an almost overwhelmingly difficult task. But there is some order to it all, which I think our theory helps discern. Generally, concern for the minimum satisfaction of all citizens' lower needs—survival, security, and legitimacy (part of which is liberty)—is expressed by the granting of *rights* to them, rights which no future government can easily rescind. With respect to any law that might influence these rights, the government properly regards *all* people as equally worthy of its concern, regardless of their race, religion, gender, age, wealth, etc. The satisfaction of people's higher needs, on the other hand—i.e., the needs for approval, confidence and personal freedom—is often left open. To be sure, laws that affect the satisfaction of these needs *ought* to made with a concern by government that matches the influence of those laws upon different people and constituencies; but because the influence of the law as such weakens as one goes up the stratigraphy (with people being left more and more to their own devices as long as they stay *within* the law), the concern-influence match is usually rougher in this area, harder to *settle*, and thus more subject to endless contestation, guesswork, interpretation and counter-interpretation.

On the distinction I make between liberty and freedom, see Chapter Four.

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[82] Note that the way to "add" these patterns together is not by direct superimposition but by fitting them next to each other, rather like jigsaw puzzle pieces. Thus the trough of non-self concern of the Family Martyr *fits into* the trough of family non-concern of the 'Great' Man.

To enrich the potential of the representation, one can imagine the profile of any of these archetypes spun around its central axis, i.e. the self, to create a surface. The Everyman bell-curve, for example, would look like a hill, the Egoist into a tall column standing in a plain, and so forth. One can then imagine variations in concern-elevation in different directions, i.e. towards specific individuals, exceptions to the rule, bumps.

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[83] *Two* people, therefore, could relate to each other in one of $6^4 = 36^2 = 1296$ possible *combinations* of concern-influence-pairings. And if this weren't complexity enough, one can imagine that different profiles are used when different *needs* are involved. For example, a person might be a Concern Martyr–Influence Martyr when only *freedom* tokens are in play (i.e., be easy-going and let everyone *else* get their way), but quickly turn into an Concern Egoist–Influence Altruist when gains or losses of *legitimacy* are at stake. Then the person would become exclusively self-concerned, and yet project his or her authority as far and wide as possible. To "influence" someone, after all, is to deploy one of six *forces* we discussed in Chapter Five, and authority is the force associated with legitimacy. When the need for *survival* and its associated force, *violence*, dominate, what have those who run away become? Egoists in concern to be sure, but Egoists in influence too.

On the subject of pathology, recall Stanley Milgram's famous studies of obedience ("Behavioral Study of Obedience," *Journal of Personality and Social Psychology,* Vol 1, 1965, pp. 127–134, and "Some Conditions of Obedience and Disobedience to Authority," *Human Relations*, Vol 18, 1965, pp. 57-76). Here the majority of the experimental subjects—white middle class Americans, all—helped the experimenters to train yet other subjects to answer questions correctly, this by delivering small electrical shocks to them for wrong answers. The first group of subjects (the trainers) could not see the second group (the trainees) but only hear them over loudspeakers from some other room. The shocks deliverable by the trainers were gradated on a dial: more severe shocks for successively wrong answers. Milgram's finding: trainers continued to deliver those shocks even up to what they knew was the danger level (i.e., dial settings marked "Danger XXX"), with screams and sobs and pleas for mercy issued from the next room. They did so on the assurances from a lab-coated Dr. Milgram and his associates that "everything was quite alright" and that the "experiment should go on." (In truth of course, no shocks were being delivered to anyone, the real subjects of Milgram's experiment being the "trainers" and not the invisible, indeed non-existent, "trainees.")
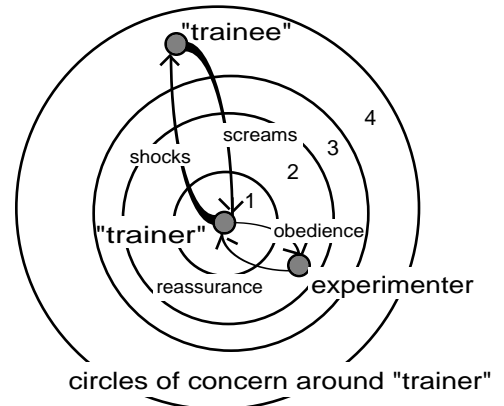
Milgram's experiment was shocking, indeed, for what it told us about the rather easily-arranged conditions under which ordinary people will inflict pain upon others, to wit: obedience to authority, wanting to be cooperative, and believing in that cooperation-obedience's higher purpose (here, carrying out Science). Milgram's experiment can also be charted using the idea of concentric of circles of concern thus:

By his (or her) obedience, the subject, who believes himself to be enlisted as a trainer, wishes to acquire approval tokens from the experimenter. He accepts the experimenter's legitimacy tokens and therefore the force of his *authority*, as well as the legitimacy of the experiment as a whole in the context of Science. The experimenter is right there with him, in the room, in his most immediate circle of concern. The "trainee" on the other hand is in a remote circle of concern, an anonymous, unseen person, and although his screams are heart -rending, and seem to a matter of the trainee's survival, the train*er*'s survival is not symmetrically at stake. (One is reminded of the Confucian story summarized by Vilfredo Pareto in *The Mind and Society*, [Vol. II, p. 671]: "A king sees an ox on its way to sacrifice. He is moved to pity for it and orders that a sheep be used in its place. He confesses he did so because he could see the ox, but not the sheep.")

circles of concern around "trainer"

Now, no trainer in Milgram's experiment was *happy* to hurt their trainee. Indeed, most expressed pity. But on balance, taken together with the experimenter's threat of issuing disapproval and even negative legitimacy tokens ("you are not one of Us, a believer in Science, a carrier-through on Agreements..."), most trainers cooperated nonetheless. Said differently: the trainer was involved in two psychoeconomic exchanges where the positive value (of *receiving reassurance*s + *giving obedience*) plus the negative value of (*hearing screams + delivering shocks*) was still positive because the negative value of second pair was diminished by the lack of propinquity of the trainee. We need not assume that a positive value was assigned by any trainer to delivering pain therefore (although there was likely a positive value assigned to believing they had *successfully trained the trainee per se*, i.e. a degree of self-satisfaction independent of the experimenter's approval, or lack to it).

One would expect that any change in the experimental situation of the trainee that placed him *closer* to the trainer—say, if the trainer were told the trainee's name and address and vice versa, or if the trainee were brought into the same room—would diminish the trainers obedience to the experimenters drastically. And interestingly when the experimenter in Milgram's experiment left the room, trainer s' obedience decreased markedly. (When *two* experimenters were present, obedience did not significantly increase, however. It seems that one white coat was enough to establish the requisite level of legitimacy.) Also, if "co-trainers" (who were actually experimental accomplices) rebelled, the experimental subject trainers were more likely to rebel too. Why? Because now, added to the trainer's "hedonic calculations" were approval and legitimacy tokens—always the fruits of conformity—offered by the co-trainers for following them in their action.

This cursory analysis does not do full justice to Milgram's important experiment and to the many similar studies that have been carried out by social psychologists since. I offer it only as an example of how circles of concern and influence can vary in degree and with the needs involved to create morally problematic situations.

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[84] Nietzsche would have no truck with this. Neither would Ayn Rand. Morality, thought Nietzsche—and Christian morality in particular—had its origin in resentment of the strong by the weak. It is the attempt by the weak, he said, to constrain, embarrass, and otherwise harness the power of the strong for the protection and benefit of the weak. Thus does the "slave morality" become the master of all.

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[85] It is quite uncertain, however, that it is advice that should be offered to everyone all the time. Altruistic concern for *all* others has been called *supererogatory* by some utilitarians: meaning "good, but beyond what is required to qualify as a moral being." The question is whether altruism of this absolute kind is actually good *at all.*

Consider the Golden Rule: *Love your neighbor as yourself.* Regarded by many as the Bible's central moral teaching (Lev 19.18, and many places thereafter), the injunction might contain more wisdom yet. For "love your neighbor as yourself" is *not* a call for unlimited altruism of concern. It does *not* mean love *everyone* as you do yourself. It means, or at least *might* mean, just what it says: love those who are your *neighbors*—i.e. your co-workers, your family, friends, actual physical neighbors. The essential independent variable invoked here is *propinquity.* The Bible is advocating the Everyman/Everywoman profile, with "...as *yourself*" cautioning us against

both the Egoist and Martyr profiles too. It seems to be saying that neither a society that is organized as a huge pyramidal hierarchy, nor one that is arranged as a network of equal interrelatedness and obligation among all individuals, will be as ethical as a society that consists of a network of neighbor-lovers. To the stranger in our midst we are to show hospitality and respect; but this falls far short of "loving him as yourself." As for the "resident alien:" he is only not to be oppressed (Ex 23.9). In sum: loving everyone equally is not just unrealistic, but in the long run, or at the larger scale, is likely counterproductive of the greater good. Propinquity rules in the Judeo-Christian model. (But see Note 75 above on the impartiality of *governments*.)

Not contradicting but enriching this interpretation is the New Testament parable of the good Samaritan (Luke 10.25–37). In this parable, one's "neighbor" is interpreted to mean "anyone nearby at the time." Moving about in the city makes it a constantly changing matter as to who is, and who is not, your neighbor. We should note also that the man in the parable that the good Samaritan stopped to help was robbed and struck down. He was in survival-level need. Under these circumstances, the parable teaches, social propinquity does not rule but *physical* propinquity does, however temporary and accidental that propinquity is. It is unclear, though, whether this neighborhood rule could rationally, or should morally, be extended to relations based on needs much higher than survival. Should one rush to aid a nearby stranger who is drowning or being raped? Yes. Should one rush to aid a stranger who is having a bad hair day? Let us say: it depends on how little it would entail to help them.

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[86] Certainly, mainstream economic theory since Adam Smith supposes that individual self-interest—which in our terms means Egoism in concern and influence—is the strongest and most salutary driving force behind the market order. Accomplishing the greater good falls to the Invisible Hand. (I say Egoism of *influence* too because in the ideal market all players are "price takers." That is to say, they have no influence on the going price of the good by deciding whether or not to buy [or sell] it themselves.) Some theoretical economists argue the stronger position that egoism dominates *all* areas of life—familial, cultural, psychological, political, what have you. But most hold a more moderate position. In other areas of life, they concede, other forms of valuation might rule; and altruism too. They are happy to limit the assumption of egoism to the valuations that occur in organized markets for conventionally defined goods and services among strangers.

There are at least two ways of finding fault with even this more moderate position.

The first is to argue that the marketplace is so deeply infiltrated by social norms and political energies that, for scientific if not ethical reasons, no boundary can be put around economics per se. Conversely, no realm of life supposedly free of the marketplace and its rules really *is* free of them—not art, not culture, sports, education, or family life. These point were argued in Chapters Four, Five, and Six.

The second is to question whether egoism rules even in economic life as conventionally construed, and then to question whether the discipline of economics *needs* this assumption to proceed. It is obvious, for example, that many people in the marketplace—and perhaps most at any given time—are buying and selling, valuing and bargaining, not for themselves but for others. They are acting as agents. While it's true that the agent's welfare is usually tied to the welfare of his or her client or employer, or friend, or relative—to the welfare, anyway, of the people in his or her circle of concern—it's also true that this adds a layer of complexity to market behavior that is normally ignored: to wit, the secondary "market" in tokens, money, and even material goods, that exists between the agent and his or her clients, employers...etc.

Then too there are individuals—agents of the law, for example—who are paid to be impartial utilitarians, not egoists; and their decisions have enormous effect on the economy. Other people are paid in one way or another to be altruists, and sometimes even martyrs. Teachers for example, and doctors. By definition and by law, *professionals* are enjoined to protect the public good and not (just) their own. And so on

Egoism, in other words, turns out to be an option for how people relate to each other, even in the marketplace, rather than a universal fact about how they all do. All thirty six of the combinations of concern profiles and influence profiles I sketched out are likely to be at play in the marketplace at any one time.

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[87] And Everywomen, of course. It is often remarked that "it takes all kinds to make a world." This should be said with conviction, not sighed.

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[88] See Eugene J. Webb, et al., *Unobtrusive Measures: Nonreactive Research in the Social Sciences* (Chicago: Rand McNally, 1966).

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[89] Chapter Three. The best source for reports and discussion of current AS research is the refereed online quarterly, *The Journal of Artificial Societies and Social Simulation*, found at *http://jasss.soc.surrey.ac.uk/JASSS.html* . A Java-scripted artificial society based on *Sugarscape* is now available free for researchers from *http://www.brook.edu/es/dynamics/models/ascape/* . For a popular overview of the field of artificial societies, and an assessment of their promise, see Johnathan Rauch, "Seeing Around Corners," *The Atlantic Monthly*, April 2002, available online at *http://www.theatlantic.com/issues/2002/04/rauch.htm.*

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[90] In *TokenTrade*, each agent "has" three basic needs: one for Survival-and-Security, one for Legitimacy-and-Approval, and one for Confidence-and-Freedom. What each agent "wants" is to be happy by increasing the total satisfaction, S (where $S = S_{S\&S}[1 + S_{L\&A}(1 + S_{C\&A})]$). Cf. Chapter Six. p. 29.

Each agent is also given, as a starting condition, a certain level of satisfaction and certain endowment of tokens. The rules of trade are such that each agent surveys the token offers made by its neighbors and chooses the trading partner that profits it most, given certain standards of fairness. The experimenter has agent-by-agent control over token endowment, neighborhood size ($\equiv$ circle of concern and influence), trade size (i.e. maximum number of tokens it can offer or receive per trade), its intrinsic S dissipation rate, and its sensitivity to fairness. These are the independent variables, or parameters. Dependent variables are five in number: average satisfaction, individual and population-wide, average happiness, individual and population-wide, and the complexity-and-organization (Ω) of the distribution of satisfaction over the population at a given time. *TokenTrade* is a dynamic AS with an engaging graphical interface: it can be watched as it runs in real time. One can create different starting scenarios and then watch how the distribution of happiness and satisfaction "evolves" over time.

To run *TokenTrade* on your Web browser, visit *www.ar.utexas.edu/cadlab/turknett/tokentrade.html* For a fuller description of how it works, see Robert L. Turknett, Jr., *An Artificial Society of Token Traders: Computer Simulation of Life, Happiness, and Complexity in Trade*, unpublished Masters Thesis, School of Architecture, The University of Texas at Austin, 1998.

Although is it "just a game" and not truly an AS that runs itself, Maxis Software's very successful The Sims (a sequel to SimCity) is a significant attempt to model contemporary economic behavior at a personal level. By the time you read this, The Sims Online will be established, and a connection to the real economy made. See J.C. Herz, "Learning From The Sims," *The Standard*, March 2001, *www.thestandard.com/article/display/0,1151,22848-0,00.html.*

The best source for news and research reports of economies modelled as evolving systems of autonomous interacting agents is the "agent-based computational economics" (ACE) site run by Leigh Tesfatsion of Iowa State University: *www.econ.iastate.edu/tesfatsi/ace.htm*.

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[91] This goes to the points made about quasi-fairness in Chapter Seven and about love in Chapter Four

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[92] See Mancur Olson, *The Logic of Collective Action* (Cambridge: Harvard University Press, 1965.) and Mancur Olson and Satu Kahkonen, *Not-So-Dismal Science: A Broader View of Economies and Societies* (New York: Oxford University Press, 2000). "Institutionalist" economists since John Hobson have made similar points. See also Note 82 above.

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[93] Robert Axelrod's groundbreaking research, reported in *The Evolution of Cooperation* (New York: Basic Books, 1984), used AS techniques to model artificial societies in which several rules of interaction competed for adoption among a population of "individuals" in Prisoner's Dilemma-type exchanges. Although the exchange rule most successful at engendering cooperation and proliferating in the long run was TIT FOR TAT, and although TIT FOR TAT was also the most robust rule against "invasion" once established in a geographical cluster, other rules (they had wonderful names: HARRINGTON, TESTER, RANDOM, TRANQUILIZER...) had fairly long and successful runs too, with many adherents. One wonders whether more realistic modeling of social interaction would not give them indefinitely long lives too, even when they are not the rule that the majority adopted.

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[94] See for example Brian Skyrms, "The Stag Hunt," *Proceedings and Adresses of the American Philsophical Association*, 75, 2, 2001, pp. 31-41; Brian Skyrms and Robin Pemantle "A Dynamic Model of Social Network Formation, *Proceedings of the National Academy of Sciences,* 97, 2000, pp. 9340–9346; and Jason Alexander and Brian Skyrms, "Bargaining with Neighbors: Is Justice Contagious," *Journal of Philosophy*, 96, 1999, pp. 588–598; Frederick Rankin, John Van Huyck, and Raymond Battalio, "Strategic Similarity and Emergent Conventions,"

Games and Economic Behavior 32, 2000, pp. 315–337. Essential to Skyrms' and his colleagues' work is the idea that not just individual bargaining strategies can evolve in ASs, but that agents can "move about" selecting who to bargain with, and can choose to imitate the strategies of other agents. That is, the idea of "neighborhood" is made fluid, as well as frequency-of-interaction—or, in our terms, *propinquity*—and influence. With a few random strategy- and neighbor- choices thrown in, this combination of parameters seems to allow social order to evolve spontaneously: cooperation among large numbers of agents, the emergence of "leaders," and so on.