

Vernon L. Smith

Human nature: an economic perspective

Fruitful social science must be very largely a study of what is not.

– F. A. Hayek, *Rules and Order*

An economist writing on the topic of human nature is surely expected to talk about decision making by narrowly self-interested rational agents. These agents are assumed to choose among all possible options the one that maximizes their expected gain, defined variously as utility, profit, income, wealth, and so on, depending upon the standard model invoked. Moreover, *ceteris paribus*, the particular context of the decision is irrelevant in the standard model.

But I will not be fulfilling such a simplistic expectation; neither am I going to claim that people are not motivated by self-interest. In fact, on balance, I believe we have more to learn about what con-

stitutes self-interest by observing humans in a variety of contexts than we have to teach using models based on traditional assumptions about self-interest. This is because my half-century involvement in the development of experimental economics long ago revolutionized the way I think about economics. Market and other group decision-making experiments have deepened my understanding and respect for the power of human beings to create institutions that enable them to discover ingenious new ways to pursue and satisfy their interests. This creative process is neither deliberate nor consciously visible to the participants.

From an economist's point of view, the most compelling feature of human nature is sociality. It has been our species' capacity for social exchange that has enabled task specialization and the production above bare subsistence that has supported investment in the creation and utilization of knowledge. As can be seen in the ethnographic record, in daily life, and in laboratory experiments, whether it is goods or favors that are exchanged, exchange promises gains that humans seek relentlessly in all social interactions. Focusing on narrow, easily modeled, a priori conceptions of self-interest distracts us from this underlying truth.

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Intellectually we economists have in many ways outgrown our roots in the Scottish Enlightenment. We have far more technical knowledge of the economy than Adam Smith did. But while our understanding of economics has grown more sophisticated, we have abandoned, forgotten, and failed to build upon some of Smith's most significant insights. As I shall endeavor to explain, this failure has been costly in diluting and blunting our understanding of the foundations of our sociality.

The good news, however, is that the insights of the Scottish intellectual tradition have reemerged in the study of motivated human behavior using the methods of experimental economics, and in a wide variety of applications of this technology to the design of new resource-management problems in the field. This renaissance in research has enabled the earlier traditions to be explored and extended with contemporary tools of inquiry, and promises to deepen our understanding of human sociality.

Adam Smith did not champion the standard socioeconomic science model (SSSM) based on the self-interest assumption as it is used today by most economists. In Smith's view, each individual defined and pursued his own interest in his own way. Indeed, Smith has been badly and repeatedly mischaracterized with the title 'economic man.'¹ This label ignores his overriding moral concerns; it may prevent us from appreciating the nuances of the key proposition articulated by Smith and almost all the other Scottish philosophers: to do good for others does not require individuals to

1 Cf F. A. Hayek, "Adam Smith (1723–1790): His Message in Today's Language," in *The Trend of Economic Thinking: Essays on Political Economists and Economic History* (Chicago: University of Chicago Press, 1991), 120.

take *deliberate* action to do good for others.

As Mandeville so efficiently stated it, "The worst of all the multitude did something for the common good."² Many contemporary scholars have mistakenly reversed Mandeville's proposition, arguing that the SSSM requires, justifies, and promotes selfish behavior. That exclusively selfish behavior can yield benefits to others through exchange in no sense allows us to conclude that the existence of social exchange and its key role in increasing welfare necessitates such selfish behavior. That A (selfish behavior in exchange) implies B (wealth benefits via specialization and markets) says nothing about whether or not B implies A.

Cultures with evolved markets have enormously expanded resource specialization and have created commensurate gains from exchange, and are wealthier than those that have not.³ This supports Smith's fundamental two-part theorem that wealth is derived from specialization – the division of labor – which in turn is limited by the extent of the market. Thus, we have:

exchange → specialization → wealth.

By Smith's account, "This division of labor . . . is not originally the effect of any human wisdom, which foresees and intends that general opulence to which it gives occasion. It is the necessary, though very slow and gradual, consequence of a certain propensity in human nature which has in view no such extensive utility; the propensity to truck,

2 See Bernard Mandeville's poem, "The Grumbling Hive: or Knaves Turned Honest" (1705), quoted in Hayek, "Adam Smith," 82.

3 Gerald W. Scully, "The Institutional Framework and Economic Development," *Journal of Political Economy* 96 (3) (1988): 652–662.

barter, and exchange one thing for another.”⁴

Individuals can use their increased wealth for consumption, investment, or gifts to the poor, the symphony, or the Smithsonian. Markets economize on the need for virtue, but they do not eliminate it – indeed, markets depend on a modicum of virtuous behavior, if they are to avoid heavy monitoring and enforcement costs. If monitored and externally enforced rights can never cover every margin of decision, then – contrary to the notion that markets depend on selfishness – opportunism in all relational contracting and exchange across time is a *cost*, not a benefit, in achieving long-term value from trade. An ideology of honesty means that people choose to play the game of trade rather than steal, although property crimes may well pay the rational lawbreaker.⁵ Nor does people’s altruistic behavior in dispersing the

4 Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, ed. R. H. Campbell and A. S. Skinner (Indianapolis: Liberty Fund, 1981), 20. Thus, when Smith uses the metaphor of the invisible hand, he is referring to the essential insight that people in markets achieve ends that are not part of their intention; i.e., people achieve more efficient arrangements induced by the specialization-exchange nexus than is possible without that nexus. The more common, inappropriate, interpretation is illustrated in the following quotation from Joseph Stiglitz (“Information and the Change in the Paradigm in Economics,” in *Les Prix Nobel, The Nobel Prizes 2001* [Stockholm: The Nobel Foundation, 2002], 472): “The argument of Adam Smith . . . that free markets led to efficient outcomes, ‘as if by an invisible hand,’ has played a central role in these [information economics] debates The set of ideas that I will present here undermines Smith’s theory and view of government that rested on it. They have suggested that the reason that the hand may be invisible is that it is simply not there – or at least that it is palsied.”

5 Douglass C. North, *Structure and Change in Economic History* (New York: Norton, 1981).

gains they enjoy from ordinary market transactions prevent market exchange from promoting specialization and creating wealth.

David Hume, Adam Smith’s Scottish neighbor, was concerned with the limits of reason, the bounds on human understanding, and with moderating the exaggerated claims of Cartesian rationalists. As F. A. Hayek has put it, “Descartes contended that all the useful human institutions were and ought to be [a] deliberate creation of conscious reason . . . a capacity of the mind to arrive at the truth by a deductive process.”⁶ To Hume, by contrast, rationality was a phenomenon that reason discovers in emergent institutions: “the rules of morality . . . are not conclusions of reason.”⁷ Smith developed this concept of emergent self-organizing order for economics. In this methodology, truth is discovered in the form of the intelligence embodied in rules and traditions that have formed, inscrutably, out of the ancient history of human social interactions. This is the antithesis of the anthropocentric belief that if an observed social mechanism like reciprocity or language is functional, then somebody, somewhere, somehow must have invented it.

I am not saying, however, that we can do without a constructive sense of rationality. Indeed, we employ rational tools to formulate the hypotheses used to interpret observations alleged to arise from an emergent order. For example: individual families initially providing for all their own consumption discover that they can gain by trading some of their bumper corn crop for hogs to add to

6 F. A. Hayek, *Studies in Philosophy, Politics and Economics* (Chicago: University of Chicago Press, 1967), 85.

7 David Hume, *A Treatise of Human Nature* (London: Penguin Classics, 1985), vol. 2, 235.

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their herd; from this experience they learn that they can transform corn into hogs more cheaply through trade than through home production. As more and more people specialize either in corn or hogs and trade in this manner, the community becomes wealthier through greater individual wealth. This dynamic could be a form of Smith's "very slow and gradual" process through which people create unintended opulence and then choose how to utilize that opulence.

The durability of ancient Judeo-Christian norms of social stability and the rule of common law in England are difficult to fathom without the concept of an emergent evolutionary cultural order. The early lawgivers did not make the law they presumed to give; they observed social traditions, norms, and informal rules and gave voice to them, as God's, or natural, law:

all early "law-giving" consisted in efforts to record and make known a law that was conceived as unalterably given. A "legislator" might endeavor to purge the law of supposed corruptions, or to restore it to its pristine purity, but it was not thought that he could make new law But if nobody had the power or intention to change the law . . . this does not mean that law did not continue to develop.⁸

I believe that Hayek's interpretation applies well to what one finds in the first written law, Ur-Nammur's Code. The Sumerian clay tablets containing laws inscribed in cuneiform script that appeared by 2050 B.C. reflected the social norms and practices already described in Sumerian proverbs and fables.⁹

8 F. A. Hayek, *Law, Legislation and Liberty*, vol. 1, *Rules and Order* (Chicago: University of Chicago Press, 1973), 81.

9 Samuel Noah Kramer, *History Begins at Su-*

The common lawyer Sir Edward Coke championed seventeenth-century social norms as law commanding higher authority than the king. Remarkably, these forces prevailed, paving the way for the rule of law in England, which would become so essential to the development of the American liberal social order. What allowed the rule of 'natural' or 'found' law to prevail in England "was the deeply entrenched tradition of a common law that was not conceived as the product of anyone's will but rather as a barrier to all power, including that of the king – a tradition which Edward Coke was to defend against King James I and Francis Bacon."¹⁰

According to David Hume, there are just "three fundamental laws of human nature, *that of the stability of possession, of its transference by consent, and of the performance of promises.*" 'Tis on the strict observance of those three laws, that the peace and security of human society entirely depend; nor is there any possibility of establishing a good correspondence among men, where these are neglected." If only we could have had a more widely distributed appreciation of these principles, and some operating knowledge of how to implement them, in the rush to liberalize the former Soviet Union.

Hume's insight is the foundation for both *personal exchange*, based on small-group reciprocity, and *impersonal exchange*, through markets. Central to both kinds of exchange is what economic the-

mer: Thirty-Nine Firsts in Man's Recorded History (Philadelphia: University of Pennsylvania Press, 1981), 51 – 59, 116 – 131.

10 Hayek, *Law, Legislation and Liberty*, 85, 167, 173 – 174. For a thoughtful examination and critique of Hayek's arguments, see Ronald Hamowy, "F. A. Hayek and the Common Law," *Cato Journal* 23 (2) (Fall 2003): 241 – 264.

orists have traditionally called property rights. As I use the term, a property right is a guarantee allowing actions to occur within the opportunities and constraints defined by the right. Such human rights need have nothing to do with property in the sense of land or physical assets. We automatically look to the state as the guarantor against reprisal when rights are exercised, but we also know that the state can often be as much a part of the problem as of its solution.

In any case, property rights predate nation-states. This is because social exchange within stateless tribes, and trade between such tribes, predates the agricultural revolution. Both social exchange and trade implicitly recognize mutual consensual rights to act when engaged in voluntarily and spontaneously. But how is it possible for property rights to emerge without an external enforcement authority? Repeated exchange: if you gather or grow grain, I husband goats, and we trade our surpluses, then we each have a stake in the other's rights to territory and in a common emergent incentive to band together in defending those rights.

Some political activists juxtapose property rights and human rights as if they were mutually exclusive phenomena. Those activists are sadly confused. Property is that over which an individual human, or association of humans, exercises some recognized and sanctioned specific priority of action with respect to other humans. Only humans, not property, can be recognized by a community as allowed to act without reprisal from others. Moreover, such rights must have stability over time if they are to enable production.

The essence of property rights is the claim to the product of one's own labor and to the further productive yield generated by the savings from that product.

Property rights mean that, one, if I plant corn, then I have the right to harvest the yield of that corn, and therefore the right to prevent an unauthorized passerby from harvesting it; and, two, if I use some of the income from the sale of that harvest to invest in more land, then I have the right to plant and harvest from that additional land. To be 'propertied' is to have accumulated. To accumulate is to *not* consume all that my labor, and previous savings-investment, has produced. This allows my accumulation to remain at work in society at large and for all others to benefit from my capital investment. This is the basis for all net wealth accumulation in society. *There can be no other basis.* If there is any abridgement of my right to so harvest and accumulate, then there is a direct abridgement of the right of all others to enjoy the benefits of my accumulation and to a corresponding reduction in their poverty.

We should all love rich people, because they consume such a small percentage of their accumulation, leaving almost all of it to work in the economy and make the rest of us better off. But rich or not, there are solid reasons why it is good economics to love thy neighbor as thyself: each of us benefits through exchange from the utilization of specialized knowledge possessed by others.

Since the pioneering work of Boas over a century ago, the study of extant hunter-gatherer tribal societies has made plain the sophistication and diversity of property rights throughout human history. Of the hundreds of examples that could be cited, I want to quote one of my favorites, from Peter Freuchen's *Book of the Eskimos*. As you read it, keep in mind Hume's laws of human nature.

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“A [polar] bear is so constructed that it does not like to have spears in it,” say the [Inuit] Eskimos. As if to prove what they say, the bear – as they run right up to the beast with their incredible courage and hurl their puny weapons at it – takes the spears that have lodged deeply in its flesh and breaks them as if they were matchsticks.

... According to custom, all the hunters present are to get parts in the quarry, in this case both of the meat and skin. There are three pairs of trousers in a bearskin. If there are more than three hunters present, the ones who threw their spears last will usually be generous enough to leave their parts of the skin to the others. The hunter who fixed his spear first in the bear gets the upper part. That is the finest part, for it includes the forelegs with the long mane hairs that are so much desired to border women’s kamiks [boots] with.

... So the hunter measures with his whip handle from the neck down, and marks the length of his own thighs on the skin and cuts off at that mark. The next hunter does likewise with the next piece, and the third one gets the rest.¹¹

In terms of social exchange and its economic function (I do not deny, but cannot here consider, other important functions), I want to note that the Inuit ‘first harpoon’ property right norm is an incentive rule that rewards the greater risk and cost of being the first to harpoon this incredibly dangerous prey. It is an equal opportunity rule, not an equal outcome rule, that evolved from ancient prehistory. Any member of the hunting team is free to go first, pay the risk cost, and collect the higher revenue. All others, however, whose contributions cannot be differentiated – and

11 Peter Freuchen, *Book of the Eskimos* (Cleveland: World Publishing Company, 1961), 53 – 54.

this is the key condition – share equally or more flexibly in the remaining revenue.

These deep ethical principles surface in laboratory experiments showing that when there is no way to differentiate individual contributions, people support the equal outcome rule. When contributions can be differentiated, people tend to prefer a rule that rewards in proportion to individual contributions – more to those who sacrifice more for the group. The literature developing these social-psychological mainsprings of our humanity goes back at least to George C. Homans’s 1967 *The Nature of Social Science*, and has been widely examined and replicated in experiments. The point that I cannot overemphasize is that we are all a collage of the norms and rules of human exchange, and that the rules – which we do not observe consciously, and of whose work in enabling social stability we are unaware – in turn depend upon context.

Imagine, now, that you have been recruited to our economics laboratory for an experiment. When you arrive, you are paid \$5 for appearing at the scheduled time and place. You are escorted to a computer terminal in a large room with roughly forty terminals, each at a work desk with partially enclosed sides to facilitate privacy. Others arrive and, when all are seated, everyone reads through the instructions on the monitor. You are randomly paired with one other person whose identity you will never know.¹²

12 Sometimes two-person interactions similar to this are conducted ‘double blind,’ meaning that the experimenter can never know who made what decisions. Introducing double-blind procedures is a way of changing social distance by removing the experimenter and all others from knowledge of the subjects’ decisions.

A sequential move procedure for two persons is displayed on your computer screen. In the experiment you will be designated either as a person 1 or a person 2. If you are a person 1, you move first. You choose between two alternatives: \$20 for yourself and \$20 for person 2, or you can pass the decision on to person 2. If you do not pass, the experiment is over and you will each be paid \$20. If you pass to person 2, he or she has two alternatives: \$25 for each (\$25, \$25) or \$15 for person 1 and \$30 for person 2 (\$15, \$30). All this is done privately to protect anonymity.

If each is a narrowly self-interested 'economic man,' i.e., always chooses the larger of two amounts of money for him or herself, and each believes that the other is similarly motivated, then person 1 will look ahead in the decision sequence and see that if he passes to person 2, she will elect the outcome (\$15, \$30). Thus, person 1 will 'rationally' choose to opt out with (\$20, \$20). This is the proffered equilibrium of the formal game when it is played once between players who are strangers with no history or future.

What do we observe? Among fifty-four subjects (twenty-seven pairs) recruited from the general undergraduate population, 63 percent of persons 1 pass to their matched person 2, while 37 percent choose the predicted equilibrium (\$20, \$20). Of the persons 2 with the opportunity to make a choice, 65 percent elect to cooperate (\$25, \$25), while 35 percent choose to defect (\$15, \$30).¹³

We have data from many of these trust game experiments with different payoff outcomes; typically, about half or more

of persons 1 pass to their matched person 2, and some two-thirds or more of persons 2 cooperate. For example, in one version, person 1 can choose (\$10, \$10) or pass to person 2, who chooses between (\$15, \$25) and (\$0, \$40). You might think that few will pass to person 2, since it is in their interest to take the \$40. In fact, half of the undergraduate subjects pass to person 2, and 75 percent reciprocate with (\$15, \$25). Incidentally, the same fraction of graduate students choose to pass if they are persons 1, and nearly as many, 67 percent, reciprocate. Hence, cooperation can survive training in economics and game theory.¹⁴

Why do these experiments reveal so much cooperation?

Hypothesis I: people are altruistic; they like to give money even to people they do not know and will never be able to identify.

Hypothesis II: people tend to reciprocate; they like to 'return the favor' when others make choices that benefit them.

How can we test, that is, discriminate, between these two hypothetical explanations? The reciprocity argument takes into account that person 2 sees that person 1 gave up the outcome (\$20, \$20). Suppose therefore that we do the same experiment, except that we eliminate the option in which person 1 may choose the predicted equilibrium, and instead require him to cede the choice to person 2. Economically, this means he incurs no opportunity cost; psychologically, this means his 'trust' is now involuntary. Then the entire game task reduces simply to person 2 choosing between (\$25,

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13 Kevin A. McCabe, Mary Rigdon, and Vernon L. Smith, "Positive Reciprocity and Intentions in Trust Games," *Journal of Economic Behavior and Organization* 52 (October 2003): 267–275.

14 Kevin A. McCabe and Vernon L. Smith, "A Comparison of Naïve and Sophisticated Subject Behavior with Game Theoretic Predictions," *Proceedings of the National Academy of Sciences* 97 (7) (2000): 3777–3781.

\$25) and (\$15, \$30). Hypothesis I predicts no difference between the choices made by persons 2 in the 'voluntary trust' and 'involuntary trust' games. Hypothesis II, however, predicts that more persons 2 will choose to maximize their own reward.

Hypothesis II seems to be confirmed experimentally. In twenty-seven pairs of subjects, all of whose persons 1 must involuntarily trust persons 2, we observe that only 33 percent of persons 2 choose the predicted equilibrium (\$25, \$25). In the voluntary trust case, person 2 implicitly sees that person 1 has performed an action that enables person 2 to make him or herself better off, but also to 'return the favor.' In the involuntary case, no such interpretation of an implicit contract is evident.

We interpret this behavior as driven by the human propensity to engage in exchange – in this context, personal exchange. What we learn from the experiments is that this propensity is so strong that it survives anonymity in half or more of the participants in single-play protocols; in repeat interaction, over 90 percent of the subjects are able to sustain cooperative outcomes.

Adam Smith would hardly have been surprised by these results:

Of all the persons ... whom nature points out for our peculiar beneficence, there are none to whom it seems more properly directed than to those whose beneficence we have ourselves already experienced. Nature, ... which formed men for their mutual kindness, so necessary for their happiness, renders every man the peculiar object of kindness, to the persons to whom he himself has been kind ... No benevolent man ever lost altogether the fruits of his benevolence. If he does not always gather them from the persons from whom he ought to have gathered them, he seldom fails to gather them, and with a ten-

fold increase, from other people. Kindness is the parent of kindness.¹⁵

Most of my career has been devoted to the experimental study of market and other exchange mechanisms with at least four subjects. In one simple experiment there were twenty-two subjects – ten buyers and twelve sellers.¹⁶ Privately each buyer was assigned a value, and each seller a cost. Unknown to everyone, the demand schedule, defined by the set of all buyers' values ordered from highest to lowest, ran from \$3.70 to \$3.10. Also unknown to all, the supply schedule, defined by the set of sellers' costs ordered from lowest to highest, ran from \$0.20 to \$3.80. These schedules intersected at a uniform clearing price of \$3.40 and at a corresponding volume of nine units traded. Buyers earned a profit given by the difference between their value and the purchase price from some seller. Sellers earned a profit given by the difference between their unit private cost and the price received. No subject knew the defining economic environment, so each had to function entirely with only two pieces of information: the personal private value (or cost); and the public information generated by the open outcry of buyers' bids and sellers' asking prices in a version of the trading mechanism known as the double auction – a two-sided generalization of the ancient progressive buyer-bid auction, dating back to the Babylonians of 500 B.C. and still used by auction houses to

15 Adam Smith, *The Theory of Moral Sentiments* (Indianapolis: Liberty Fund, 1976), 225. Notice that Smith is talking about reciprocity, but without using this word from our time. Then he proceeds to talk about reputation formation and positive cultural responses.

16 Vernon L. Smith, *Papers in Experimental Economics* (Cambridge: Cambridge University Press, 1991).

vend collectables, tobacco, wool, and other commodities.

All subjects hear (or see, in computer-based electronic auctions) the bids and acceptances that yield the serial contract prices. The competitive equilibrium clearing price and volume of trades, and their particular realization in this example (\$3.40, 9), are of course unknown to the subjects. Yet these simple markets converge across repeat trading periods to approximately the ruling equilibrium within two to five periods (depending upon the thickness of the markets, the number of participants, and the parameters of the supply/demand environment). The subjects deny, if asked, that any kind of quantitative model can predict their final price tendencies. They also deny that each could be doing as well for him or herself as possible, given the restraining effects of what all others are doing. Yet these are precisely the properties of the equilibrium to which they have just converged in repeat interaction. The results have been replicated in many hundreds of experiments with a variety of different supply and demand schedules. These equilibrium observations also have been extended to far more complex interdependent multiple-commodity markets in which the costs in one market depend upon the volume and price in the others.¹⁷

These laboratory experiments have established that markets efficiently aggre-

17 Arlington Williams, Vernon L. Smith, and John O. Ledyard, "Simultaneous Trading in Two Competitive Markets," manuscript (Bloomington: Indiana University Department of Economics, 1986); Arlington Williams, Vernon L. Smith, John O. Ledyard, and Steven Gjerstad, "Concurrent Trading in Two Experimental Markets with Demand Interdependence," *Journal of Economic Theory* 16 (2000): 511–528; Charles Plott, "Equilibrium, Equilibration, Information and Multiple Markets: From Basic Science to Institutional Design," Nobel Symposium, "Behavioral and Experimental Econom-

gate the dispersed private information possessed by their participants. The results are robust to variations in the subject pool, and many cross-cultural comparisons have been made.

Although Adam Smith recognized the phenomenon that we call reciprocity, he never realized that the personal sentiments he described in his first book were a form of exchange functionally like the markets whose consequences he spelled out so eloquently in his second book. He apparently did not see the unity between the two works based on a broader universal conception of the "propensity to truck, barter, and exchange."¹⁸

It was Hayek who saw clearly the tension between the two orders of exchange and the cultural dangers that each posed for the other:

we must constantly adjust our lives, our thoughts and our emotions, in order to live simultaneously within different kinds of orders according to different rules. If we were to apply the unmodified, uncurbed rules of the . . . small band or troop, or . . . our families . . . to the [extended order of cooperation through markets], as our instincts and sentimental yearnings often make us wish to do, *we would destroy it*. Yet if we were to always apply the rules of the extended order to our more intimate groupings, *we would crush them*.¹⁹

ics," Grand Hotel Saltsjobaden, December 4–6, 2001. The effects of using different trading institutions have also been extensively explored; see Smith, *Papers in Experimental Economics*.

18 See Vernon L. Smith, "The Two Faces of Adam Smith," Southern Economic Association Distinguished Guest Lecture, *Southern Economic Journal* 65 (1) (July 1998): 1–19.

19 F. A. Hayek, *The Fatal Conceit* (Chicago: University of Chicago Press, 1988), 18. The italics are Hayek's.

Here is my interpretation of the problem of living within two “kinds of orders according to different rules”: In the world of personal social exchange, which all of us live in no matter how deeply involved we might be in specialization and markets, our experience is that good comes from deliberate acts of good – sharing, kindness, and reciprocity. “I owe you one” is a common human expression across many languages.

By contrast, the work that markets do and the unintended good we accomplish through them is completely foreign to our direct personal experience. Therefore, it seems to us that we ought always to be able to intervene, introduce controls, and make them work for a greater good. But failing proof of efficacy, any such policy can so easily not result in improvement, and can yield unintended consequences that make things worse. Thus, restrictions that keep jobs from being exported prevent domestic firms from lowering cost to meet competition; firms slip toward bankruptcy and the jobs are lost anyway, postponing the natural predilection of the economy to direct resources into new industries. Yesterday’s old economy jobs are artificially retained by policy restrictions, blocking the channeling of funds into creating tomorrow’s new jobs and wealth. Political lobbies emerge from those wanting to protect their past; no lobbies emerge from those who will create the new products, technologies, and jobs – for they are part of what is *not*.

If unintended outcomes are not plainly visible as part of our experience and are thus identified as the result of our constructivist interventions, we fail to learn the great harm we have done. The value of all that is must derive from that which is not, from that which could have been. Understanding what is requires understanding what might have been.

Hence, the understanding that can stem from experiments that probe behavior in arrangements that do not exist.

If undeveloped economies based on personal exchange and local trade are to grow wealth, the trust that supports productivity among people well known to each other must somehow be transferred to institutions that enable exchange and specialization to be extended to vast networks of strangers. One still must give in order to receive through that extended order, exactly as in traditional societies, but through the intermediary of monetary and financial institutions that disconnect individuals from the pervasive bonds that traditionally held them in mutual trust, respect, and dignity. Taking is no longer plainly related to giving, and the rules of the market that benefit all by deepening specialization may confront, clash, and destroy the old connectedness without making visible the productively superior replacement connections.