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Daniel W. Bromley: Sufficient Reason

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Prospective Volition

While the content of knowledge is what *has* happened, what is taken as finished and hence settled and sure, the *reference* of knowledge is future or prospective. For knowledge furnishes the means of understanding or giving meaning to what is still going on and what is to be done.

—John Dewey, *Democracy and Education* (1916)

SUFFICIENT REASONS

At midnight on September 2, 1967, the Swedish government undertook a profound institutional change: it altered the side of the road on which automobiles were to be driven. We might suppose that Sunday, September 3 was a day of some considerable adjustment for drivers in Sweden, and it seems probable that the following months were interesting times on Sweden's roads. Why would the government of Sweden undertake such a disruptive institutional change? Why does it matter on which side of the road a people drive, as long as they all do it on the same side? How much did it cost to change all the highway signs? What possible benefits motivated this change? How could those benefits be measured against the known—and presumably large—costs of the change? Was a benefit-cost study undertaken prior to this massive institutional change? In the absence of such study, how can we be sure that economic efficiency and social welfare have not suffered? In the absence of this evidence, how can we possibly know if the Swedes, in 1967, acted rationally? Surely, some rent-seeking sign makers managed to gain control of the machinery of state with the intent of garnering large contracts to produce millions of new signs. Or, perhaps Swedish politicians and civic leaders saw a future that they imagined would be better if they brought their driving institutions in line with those of their neighbors?

In 1973, approximately a decade after the publication of Rachel Carson's book *Silent Spring*, the pesticide DDT (dichloro-diphenyl-trichloroethane) was banned in the United States for all but emergency uses. Since the end of World War II, DDT had been used to control mosquitoes in order to combat malaria, yellow fever, and typhus—among other diseases. Carson's book documented the extent to which DDT, by entering the food chain, was the probable cause of reproductive problems. The

serious decline of the bald eagle (America's national symbol) in the United States was blamed on DDT, and this controversy was apparently an important stimulus to eventual passage of the Endangered Species Act. Many other nations have also banned DDT or placed it under strict control. Was the banning of DDT preceded by a careful benefit-cost study to prove that the ban would be socially beneficial? If not, how can we be certain that the ban of this powerful chemical was socially preferred? How can the U.S. economy remain competitive with the rest of the world if the government is able, quite arbitrarily, to impose regulations in the absence of benefit-cost analysis? Perhaps something else was at work here? Was DDT banned because of some sense that, regardless of how the benefits and costs might look to a Paretian economist, the larger issue of human safety—and environmental integrity—was absolutely compelling?

In 1819 the British social reformer Robert Owen successfully persuaded Parliament to enact a law prohibiting the employment in cotton mills of children less than nine years of age, and limiting the workday for all employees less than sixteen years of age to twelve hours per day. In 1825 and 1831 the law was extended so that all those under eighteen years of age were limited to twelve-hour workdays, and they could not be made to work nights until they reached the age of twenty-one. These measures were so aggressively fought by the millowners that Parliament was persuaded to refuse inspections and monitoring of compliance with the act. In 1844, under pressure from industrialists, the minimum age for entering factory work was pushed back down to eight years of age. Finally, in a series of acts between 1847 and 1853 the workday of women and children was set at twelve hours (6 a.m. to 6 p.m.) with ninety minutes for meals. In 1875 Lord Sandon's Education Act became law requiring that all children must be in school until they reach the age of twelve (Checkland 1964). How is a dedicated welfare economist to look upon these changes? Are these examples of "inefficient institutions"? Did these institutional changes reduce the rate of Britain's economic growth? Were these social reforms accompanied by a complete welfare analysis proving that the benefits of these institutional changes exceeded the costs of change? If not, how can we be sure that efficiency and social welfare did not suffer as women and children were suddenly constrained in the number of hours they might (be made to) work in the factories? How could it possibly happen that politics was allowed to interfere in the market in such an arbitrary fashion? Isn't this but another example of inefficient policies that redistribute income (welfare) away from the owners of factories and toward workers?

In November 2004 the British Parliament outlawed fox hunting with hounds—long regarded as the quintessential defining trait of proper recre-

ation among the rural gentry in England and Wales. The issue had been fought over for at least two decades. Arguments were advanced about the economic impacts on the rural economy. Claims were made that as many as eight thousand people would be put out of work—including saddlers, blacksmiths, grooms, stablehands, and employees of pubs and lodging establishments. In addition, it was alleged that the countryside would soon be overrun with foxes wreaking havoc on all manner of living creatures. How can we explain this dramatic break with England's long and durable institutional tradition? Is nothing sacred? Were welfare economists invited in to offer estimates of the economic value of fox hunting, or to produce estimates of the economic impacts of foxes with and without hunting? Were studies undertaken to determine the willingness to pay on the part of others to see the regal splendor of fine horses and finer riders coursing through verdant hills in hot pursuit of their beagle hounds and the pesky fox? What about the “passive use value” of those who, though never themselves intending to hunt, conjured great value (utility?) merely knowing that somewhere, on a particular Sunday, imperial England was still alive and well—even if its empire had disappeared?

In 1872 Yellowstone National Park in the western United States was created. This park, the first of many areas to be set aside for preservation, covered almost nine thousand square kilometers in Wyoming and part of Montana. Following this action, Yosemite National Park in California and Grand Canyon National Park in Arizona were soon added to the nation's park system. And that system continues to expand slowly as new ideas emerge about particular ecological settings and circumstances. To the best of my knowledge, there was no proper welfare analysis undertaken to make sure that the private and social benefits of these actions exceeded the private and social costs. How can we be sure that efficiency did not thereby suffer, and that social welfare in the United States has not subsequently been permanently undermined by these actions? Are we to conclude that these massive land grabs by the government of the United States placed the American economy on an inefficient growth trajectory from which it will never recover?

These examples highlight the obvious problem facing those who imagine that prescriptive economic analysis offers essential and meaningful advice in the formulation of public policy. When Paretian economists lament the lack of welfare analysis of public actions, are they suggesting that legislation to limit the workday of women and children at the height of the Industrial Revolution was “inefficient”? When Paretian economists insist that important public actions must be subjected to a welfare analysis, are they suggesting that the creation of America's system of national parks was a mistake because they were not consulted to ascertain whether those actions were efficient (Arrow et al. 1996)? When development econ-

omists lament the absence of efficient institutions in some nations, do they mean to suggest that Norway and Sweden are somehow deficient because they do not resemble the United States in their institutional structures? Can it be that we have reached the point where it is possible to suggest that the main problem with India is that it is not more like Germany? And that the answer for Somalia is that it must become more like the Netherlands? If the teleology of growth is so compelling, then development economists from the United States need only say, “Become like us.” Indeed, the Washington Consensus of the past few years—epitomized by American attitudes toward free trade and open capital markets, and the policies of the World Bank and the International Monetary Fund—seems to have consisted of little else (Stiglitz 2002; Taylor 1997). The financial crisis in Southeast Asia at the end of the twentieth century is what might have been predicted from the convergence of massive inflows of foreign capital into a region of the world without the requisite institutional infrastructure. That missing infrastructure, often dismissed as “regulations,” would provide the necessary architecture and institutional scaffolding to make sure that fragile nations were not overwhelmed by massive and quite rapid inflows and outflows of capital.

Not surprisingly, these examples of institutional change reveal that democratic nation-states manage to find sufficient reasons for new policies (new institutions)—and those reasons stand despite the absence of monetary evaluations from Paretian economists. Does optimality and social welfare suffer accordingly?

REASONS VERSUS CAUSES

Public policy is concerned with debating reasons for collective action, and those reasons necessarily are found to reside in the circumstances of the future. The standard Paretian approach tends to evaluate public policy choices using decision rules predicated on individualistic utility maximization. But it seems worthy of notice that this approach to public policy employs methods whose failures precipitate the new-felt need for institutional change. That is, public policy—collective action—issues arise precisely because of the clear failure of atomistic maximizing behavior to yield aggregate outcomes that are considered to be socially redeeming. Does it not seem odd to use as a truth rule for collective action intended to correct existing problems the very same analytical algorithm that produced the particular circumstances suddenly found unacceptable?

In addition to using a flawed prescriptive rule for collective action, traditional economic approaches to policy analysis fail on other grounds as well. When considering individual choice, it is generally understood that we must assess the alternative states to be occupied by the individual in

the future. John flips the light switch because he desires that the front yard be lighted. This desire for a future state (a particular outcome) is the reason for the choice, while the cause is that he flipped the light switch. The flipping of the switch is merely a necessary though quite uninteresting step in a process that starts with reason, entails a causal sequence, and ends with a desired outcome. The prospector rises early and digs hard well into the evening because of the prospect of finding gold. That is the reason he works hard. Notice that we need not introduce the notion that the utility of actors is thereby enhanced by their choice. It is quite enough to admit that the actors have sufficient reason for their actions. Our task is to understand those reasons. The economist may well insist that the actors' utility is thereby increased, but this embellishment of the reason for the action is unnecessary. To say that an action increases the actor's utility is neither necessary nor sufficient for us to explain a particular action. Quite obviously the individual imagines (and desires) being better off, or the action under consideration would not have been taken. But the pertinent idea in the mind of the prospector is that if he digs in a particular place, the chances are good that he will find gold. Indeed, he has convinced himself that he is digging in the most efficacious place—otherwise we might expect to find him digging elsewhere.

We see that individual actions are both explained and justified in terms of the future states they are expected to bring about, whether it be a nicely lighted front yard or a leather pouch bulging with valuable gold nuggets. Both individuals—John of the porch light and the prospector—are acting with the future clearly in mind. Notice that their reasons run from the future back to the present and not the other way around. This conceptualization of the choice problem requires us to comprehend that the imagined purposes of the future drive choice in the present. This vision of the choice problem entails the concept of final cause in which the “final cause of an occurrence is an event in the future for the sake of which the occurrence takes place. . . . things are explained by the purposes they serve” (Russell 1945, p. 67).

The gold prospector digs early and diligently (an occurrence in the present) for the prospect of an event in the future (finding gold). The prospect of gold in the future explains the digging in the present. The enhanced appearance of John's front yard in the future—and the future begins the minute he flips the switch—explains the flipping of the switch in the present. We see that plausible outcomes in the future motivate and therefore explain choices. Humans act with an eye to the future, not to the past, and not to the present. We are not pushed by the circumstances of the past or the present, but rather we are moved by the desire to alter future states we might occupy. Or, perhaps, we are moved by the realization that if we do not act now, the future will be worse than the present.

The first step in the quest for new public policy is not that current and future outcomes are found to be economically inefficient. Rather, existing settings and outcomes lead to questions about why those particular circumstances exist. Why is the health system so horrible? Why are highways not safer? Why are rivers fouled by pollution? From these challenges to the status quo will arise consideration of new institutional arrangements that might deliver improved outcomes for individuals in society. Perhaps newly published information about the effects of DDT will induce some individuals to question whether the future will be well served by the existing institutional arrangements that allow DDT to be used as a pesticide. The matter might be put: “If it is true that DDT causes particular environmental problems, as the evidence seems to suggest, then do we wish to continue down that path?” Notice that the pertinent question is not a matter of whether efficiency will suffer. Nor is it an issue of determining whether there is a bona fide “market failure” in our midst. Rather, the question concerns whether we want that particular future to be realized.

When reformers such as Robert Owen pressured the British Parliament to modify working conditions in the cotton mills, the debate undoubtedly focused on the life prospects of very young children laboring twelve to sixteen hours per day. The millowners could certainly be counted on to raise economic arguments against a change in the rules. If current debates serve as a guide, it would be asserted that the new institution prohibiting child labor would make their product more expensive (that is, the institutional change would be inflationary). We might also suppose that the millowners would complain that the change would render them less able to compete against foreign firms in nations whose institutional structure was more “business friendly.” Finally, millowners might well have expressed concern that the new institution would lower the income of families whose children could no longer be in the labor force. By casting a social choice of this nature in purely economic terms, we see immediately that the debate gets framed in economic-efficiency terms. The reformers could only fall back on the argument that it was uncivilized at this time in history to have children in the mills rather than in school. The opponents of institutional change would likely cast the debate so that static calculations of an economic kind were advanced as arguments against a new institutional arrangement that has little to do with economics, yet a great deal to do with alternative visions of the future—children who are in school rather than in the mills. We are reminded that institutional change concerns whose interests will be advanced or impeded by some particular institutional arrangement. These choices are inherently of a rationing nature. And this is why I refer to them here as *rationing transactions*.

Notice that the mere presence of economic implications from institutional change is not sufficient for institutional change to be seen as, and

to be evaluated as, solely an economic issue. Some economists are too easily captivated by the notion that because economics as we have come to define it is the science of choice, it is therefore the only science of choice. From this idea comes the quite obvious non sequitur that there can be no rational choice without the blessing of an economist or two. Given that much of contemporary economics employs the circular logic of revealed preference to “explain” choices consistent with preferences, it should be obvious that we are unable to say anything meaningful about the substantive reality of so-called rational choice. Despite this problem in the realm of the individual actor, many welfare economists have too eagerly insisted on a standard notion of rationality in collective action—that the net present value of all benefits and costs must be positive (or at least nonnegative) in order that an action might be considered socially preferred (Arrow et al. 1996). When the political process results in institutional change in the absence of this finding, Paretian economists are quite sure that once again the special pleaders have maneuvered politicians into yet another inefficient giveaway that reduces social welfare. This peculiar conclusion is simply the necessary entailment of positivism and consequentialist welfarism, and yet such dubious provenance seems not to preclude frequent criticism of much public policy being advanced with great certitude (Palmer, Oates, and Portney 1995).

Of course, institutional change is not always as some of us would wish it to be. Some institutional change appears inexplicable, and all of it produces gainers and losers. It is no mystery why the gainers tend to like particular institutional changes. Nor is it hard to see why the losers cannot be expected to rejoice. But the key questions concern how to understand the reasons for particular policies, and how to regard the gains and losses that attend institutional change. Farmers denied access to DDT must find another means to control crop pests. But of what long-run economic significance is this? Those who care about public health and bald eagles will obtain relief from the new rule. Are the economic interests of farmers logically commensurate with the destruction of important parts of the ecosystem? Is the momentary disruption of a particular industrial technology of the same significance as the quite irreversible elimination of bald eagles? While it is clear that the pest-control strategies of farmers will inevitably be more expensive at the outset—we deduce this from knowledge that farmers, given a choice, and being clever managers, would use the most cost-effective *legal* means of pest control—this fact is not sufficient (or even pertinent) to the social choice of whether to ban DDT. This conclusion follows necessarily from the realization that there exists a number of pest-control options open to farmers, all them arrayed in some manner based on their cost-effectiveness. The elimination of one

strategy simply renders other strategies economically feasible—and now “efficient” to pursue.

If Paretian economists are to be consistent in their commitment to general equilibrium analysis, then the ban of DDT in the political arena is not different from some market-driven outcome that suddenly renders DDT no longer to be the cheapest pest-control strategy. What if some essential ingredient was no longer available in the market? Why is it that a market-driven elimination of DDT as a feasible technology—a price increase driven by a new scarcity of some pertinent raw material—is regarded as legitimate, while a ban on a deadly product is somehow regarded as untoward “interference” in the market? Why is it thought necessary to determine the willingness to pay for bald eagles and weigh this amount against the alleged “costs” to farmers of switching to a new pest-control strategy? The demise of bald eagles has a single plausible cause—DDT. Of course, scientific findings may someday emerge to exonerate DDT, at which point we might easily predict that the ban on DDT would then be lifted. The options for killing plant pests in agriculture are numerous, with only one of those options (DDT) being, at the moment, the cheapest (most efficacious). But being the “best” among the panoply of choices is not sufficient reason for selecting this option when it entails the social costs of eliminating the population of eagles (and perhaps other creatures).

We see that the preference for market-based outcomes rather than collective action (public policy) springs from the notion that market-driven change is the result of the wondrous invisible hand, while collective action to ban DDT is the result of willful intent to harm one group (farmers) while helping another group (those who care about bald eagles). Notice the appeal to magic. The market, through its alleged abilities to divine social values, gives the optimal technology trajectory that then generates the optimal pest-control strategy. Notice that the word optimal is simply another term for cheapest in terms of what the farmer has to pay to control pests. But, of course, by using the cheapest means on one set of accounts, the farmer manages to shift costs to others in the form of harm to bald eagles. Because there is no market for bald eagles, this situation is immediately labeled a market failure. Enter the Paretian economist to declare whether or not it is optimal to make farmers stop killing bald eagles while they go about their business of also killing crop pests. If it is not deemed efficient to bring about this new state of affairs (banning DDT), then it seems that there is no market failure and the eagles deserve to die—on economic grounds at least. Some welfare economists are inclined to say that if politicians should decide to ban DDT, then it must be for political reasons and not for rational economic reasons. We see here that “the market” is used as a basis to malign collective action when

that political action differs from what is thought optimal in the light of prescriptive calculations predicated on market circumstances.

This strained case for freedom and markets was made by Hayek when he pointed out that coercion should be regarded as a restraint on what an individual may do when that restraint is the result of the will of other individuals and that “we should not regard as coercion the restraint on what an individual can do imposed upon him by ‘physical circumstances’ ” (Viner 1961, p. 231). Because one’s “physical circumstances” can quite easily be regarded as one’s situation in the market, it is natural for those who prefer markets to point out that any change from the status quo by collective action, unless it has unanimous assent, constitutes coercion. Jacob Viner, in commenting on Hayek, noticed a rather serious flaw in Hayek’s logic:

Freedom is thus defined as freedom *from* subjection to the will of others, and not as freedom *to do* anything in particular, or for that matter to do anything at all, in the sense of power or ability or opportunity to do it. . . . It is to enable him [Hayek] to maintain a sharp distinction between “coercion” as meaning willed restraints on others and the restraints from “physical circumstances” that Hayek puts so much stress on what A “wills” with respect to B as distinguished from what impact A’s behavior has on B regardless of whether A had B in mind or not. (Viner 1961, p. 231)

Notice that if individual A successfully “wills” some restraint on individual B, then that would constitute coercion of B by A. However, if the status quo institutional arrangements are such that A can behave in a manner that is seriously detrimental to the interests of B—but A remains oblivious or indifferent to B’s suffering—this would not qualify as coercion in Hayek’s eyes. This allows those who defend markets and the institutional status quo to suggest that when individual B decides to seek relief from this unpleasant situation, this manifestation of will on the part of B, coupled with B’s necessity to seek some official sanction to be relieved (usually in the form of government action), comprises the essence of coercion upon poor A who is simply doing what she has always done. Notice that if B had the will to alter A’s behavior but, instead of relying upon the state, had attempted to bargain with A over the interference and had failed, then the status quo would be reaffirmed by the welfare economist as efficient, and B would simply be out of luck. The so-called freedom of the market would be affirmed over the tyranny of collective action. It is not logical, but it is the received wisdom.

As a defense of minimal government and *laissez-faire*, Hayek’s selective conception of coercion serves his normative purposes. In fact, this view of will and intent is common in the standard account of externalities.

Here we are told that externalities are unintended side effects of some other direct action; the steel mill makes steel, but as an unintentional by-product, it also fouls the air. Collective action to reduce that pollution is often seen as coercion of the polluting firm. Many welfare economists advocate an approach that allows bargaining between polluter and victim. If the victim cannot pay enough to induce the polluter to stop, then it is, according to the standard view, socially optimal that the pollution continue and that the victim either move away or suffer in silence. But is it credible to assume that externalities are unintentional visitations of costs on others? When the steel mill is planned, the owners or manager certainly know the recipe for making steel, and they know that it will entail a certain quantity of coal being burned and that the smoke from that combustion must go somewhere. How this part of the production process can be dismissed as “unintended” is curious indeed (Schmid 1978, p. 41). And it seems odd to suggest that the efforts of those (individual B) suddenly harmed by A’s actions are engaged in coercive behavior if they decide to seek relief from the legislature rather than offering payments to A so as to be relieved of the harms. Why, exactly, is it compelling to insist that B must offer payments to A in order to be liberated from the visitation of unwanted costs from A?

We see that institutional change is often regarded, *prima facie*, as interference in the allegedly natural processes of the market. But this judgment rests on the false premise that the current price structure that guides rational calculation is logical and socially ratified. In actuality, what exists at any particular moment in an economic system is nothing but the mechanical and thus accidental coalescing of thousands of prior collective and individual actions that together create a set of ordered relations from within which today’s prices will emerge, and today’s atomistic choices will take place. If one believes that prices actually come from markets, then they reveal themselves quite capable of believing that milk actually comes from plastic bottles. Why this prevailing and quite arbitrary constellation of prices and costs carries any normative significance for public policy remains unjustified. Its only plausible claim to credibility is that we are thought to live in a “market economy,” and thus by implication the outcomes of market processes are thought to be presumptively beneficent. But this is not a reason for the automatic sanctification of market outcomes—it is mere validationism. The status quo ante institutional setup merely exists. To imagine that the status quo ante is natural is to commit the naturalistic fallacy. To imagine that the status quo ante serves some useful and transcendent purpose—say, to enhance social welfare—is to commit the teleological fallacy. The status quo ante has but one redeeming feature: it protects those well served by it, and it harms those who are thereby disadvantaged. Indeed, advocacy of *laissez-faire* is simply a ral-

lying cry for those now made comfortable by the status quo ante institutional setup. It is rather like those with an agreeable portfolio of economic assets insisting that the primary purpose of government is—but, of course, they mean ought to be—the protection of property rights. One looks in vain for the poor and miserable advancing this assertion.

FINAL CAUSE

We see that the conventional approach to the consideration of institutional change invokes the concept of consequentialist welfarism in an effort to pass judgment on the efficiency properties of proposed changes that are concerned with, indeed motivated by, rationing—that is, altering or reallocating—the gains and losses of future economic agendas. The Paretian economist errs by imagining that this process is correctly informed by the circular concept of economic efficiency. The Paretian economist also errs by grounding the evaluation of institutional change on the doctrine of mechanical cause. That is, mechanical cause is the process of evaluating future outcomes in terms of the present. But, of course, this is not how individual choice and action are formulated, and it is certainly at odds with how democratic societies undertake public policy. Public policy is correctly modeled as choice that considers present actions and their entailments in terms of the future. For public policy the pertinent question becomes, Will a commitment to the present institutional structure get us where we wish to be in the future? If the answer to that question is not promising, then a new institutional setup is called for. This process is informed by the concept of final cause—the purpose to be served by a new institutional setup. Notice that the desired outcome in the future constitutes the reason for the action whose resultant will be a modified institutional setup. The probable (and desired) outcome explains (is the reason for) the collective action that is the cause of the institutional change that will plausibly result in the desired outcome. We can say, therefore, that the plausible outcome provides evidence of sufficient reason for the new institutional arrangement.

Final cause permits us to understand that DDT was banned not because it was suddenly economically efficient to do so (a mechanical cause), and not because environmentalists suddenly acquired more “power” vis-à-vis agricultural interests (an ex post rationalization). DDT was banned because there gradually evolved a new collective commitment to the idea that bald eagles, and perhaps other animals, were worth the disruptions to pest control in agriculture—not “worth it” in welfare economics terms, but simply worth it in terms of creating a future that, on balance, seemed the better one to embrace. Pragmatists would suggest that we were able,

collectively, to mobilize better reasons for a future with bald eagles than without them. The same can be said for alterations in British work rules in the nineteenth century, for the ban on fox hunting with hounds, for a change in the side of the road on which one drives a car in Sweden, and for the establishment of the national park system in America. Final cause reveals to us that children living in poverty are fed breakfasts (and possibly lunches) in schools not because they may not get them at home, and not because it is the socially optimal thing to do. They are fed for the reason that there is robust evidence that they will be happier, healthier, and more attuned to learning if they are not hungry. If we really believed that the future is understood in terms of the present, then it would be easy to allow schoolchildren to remain hungry and distracted. After all, it is costly to feed them from the public purse, and the present value of the comparative benefit streams is quite uncertain. But because public policy forces us to think of the present in terms of the future, feeding schoolchildren comes to be seen as quite the obvious thing to do. We do this not on utilitarian grounds but on the grounds of more compelling outcomes in the future—in this case, their enhanced educational prospects.

Final cause would allow us to see that rules putting children in schools rather than in the workplace is not logically advocated or denounced on the basis of whether economic efficiency will be thereby advanced or harmed. The banning of deadly chemicals cannot be evaluated on efficiency grounds. There is no meaningful way to evaluate on efficiency grounds an institutional change that puts Sweden's drivers on a different side of the road. Indeed, the 1994 referenda in Finland, Norway, and Sweden whether to join the European Union—an institutional change of dramatic proportions—certainly did not lend themselves to analysis on welfare economics terms in which there emerged a single “rational” truth rule. Of course, the protagonists raised a number of issues, and much of the discussion was carried out in what we might regard as a general benefit-cost framework. But the idea of computing a net present value of a yes or no decision on such questions is absurd. The citizens of those three countries cast their votes, after long months of debate, in terms of their own individual sense of which future they found most compelling. Each person, in the course of contemplating the decision, searched for the best reasons by which it might be possible to fix his or her belief about the future either in or out of the European Union. It could not possibly be otherwise.

With the idea of final cause in hand, it is helpful to think of public policy—the process that entails institutional change in democratic states—as an exercise in practical inference (von Wright 1983). A syllogism of practical inference brings together two kinds of premises. The first I shall call the volitional premise. A *volitional premise* is a want

statement, or a proposition concerning an end of action. The volitional premise can be thought of, in the language of final cause, as a desired outcome in the future for the sake of which a particular policy action *must* be undertaken now. If the emerging desire is to address problems of atmospheric ozone, then certain actions are required. If the emerging desire is to address the pollution of the Baltic Sea, then particular actions are required now. If the emerging desire is to make sure that a nation's youth are prepared to assume the responsibilities of citizenship, then particular actions are required now. We see here the application of *prospective volition*—the human will in action, looking to the future, contemplating ways in which the future might and should unfold. If nothing is done in each of these instances, then it is possible to contemplate the future and the probable outcomes to be realized under existing institutional arrangements. If those probable outcomes are regarded as undesirable, then the existing institutional arrangements that parameterize individual domains of choice—fields of action—will be seen as instruments whereby different possible futures are possible and, with some care, plausible. This brings us to the epistemic premise.

The *epistemic premise* draws on scientific and traditional belief (some prefer to call it scientific and traditional knowledge) to offer a plausible guide for necessary action if the volitional premise is to be realized. If it is intended that atmospheric ozone be protected then the epistemic premise represents the proposition that chlorofluorocarbons must be eliminated from everyday use. If it is intended that the Baltic must be protected, from further nutrient enrichment, then the epistemic premise reveals that nitrogen and phosphorous loadings must be reduced by some specific amount. If it is intended that children will grow up to be responsible citizens, then they must be required to stay in school until they reach a certain age and have acquired particular life skills. Notice that estimates of the monetary benefits arising from these future states are not a necessary or even a credible part of the decision process. Which is not to say that the costs of various means to reach these desired outcomes are irrelevant. But welfaristic estimates of the benefits in order to justify these outcomes are neither necessary nor sufficient for rational choice.

It is worth emphasizing again that new public policy starts with a consideration of particular desired outcomes in the future (the volitional premise). The epistemic premise—of the form, “if Y then X”—connects the desired outcome (Y) with the necessary action (X) to achieve that outcome. Notice that the epistemic premise is both a prediction and a prescription. The epistemic premise prescribes what must be done (X) in order that the desired outcome (Y) might be achieved. And the epistemic premise predicts that the desired outcome (Y) will be realized if a particular action (X) is undertaken.

The conclusion of a syllogism of practical inference is referred to as a practical necessity. That is, the conclusion points to the practical necessity of deploying the means (X) implicated in the epistemic premise in order to attain the end (Y) implicated in the volitional premise. The necessity of the conclusion of practical inference follows from the nature of the syllogism. Notice that the volitional premise is clearly not of the form:

Y is desired if the benefits of Y exceed the benefits of $\sim Y$ (“not Y”).

The welfare economist might be expected to put this as: iff $\Sigma \$V_Y > \Sigma \$V_{\sim Y}$. Nor is the volitional premise of the form:

Y is desired if the benefits of Y exceed the costs of X.

Rather, the volitional premise states what *must* be done. In democratic states, these declarations of what must (or ought to) be done emanate from the judicial and parliamentary branches of government. That is, after all, the reason why these branches of government exist. It is in the discourses of parliaments—and the considerations of the courts—that debates about the relative merits of Y and $\sim Y$ take place. Although Paretian economists may feel uncomfortable at the prospect of making choices without prices (and thus without monetary estimates of $\Sigma \$V_Y$), this is a misplaced concern (Vatn and Bromley 1994). Democratic structures and processes exist for precisely those purposes.

It is common in such discussions to consider future outcomes in terms of the discounted monetary benefits and costs. Doing so entails discounting the interests—the life prospects—of future persons. This happens in standard welfare economics analysis because the future is considered in terms of the internal rate of time preference. The internal rate of time preference is the one relevant to currently living agents as they contemplate deferring consumption into the future—perhaps next year, perhaps longer into the future. However, the external rate of time preference, the rate at which those now living discount the utility of future persons, is the pertinent rate for intertemporal choice, and this rate is not reflected in any prices faced by living agents, and it is therefore unavailable to us. For this reason, the external rate of time preference is not a choice variable that can be used to inform public policy about the future (Bazon and Smetters 1999). Notice that it is not our consumption that is being deferred, because it is not our consumption in the future that matters (because we will not be here to consume). Intertemporal choice, in which those of us presently living compare our present consumption (and investment) decisions against the consumption decisions of future persons, entail interpersonal comparisons of well-being. Long-run intertemporal choice is interpersonal choice. The idea that the gainers could compensate the losers is incoherent. The standard story, that we can com-

pensate future persons by not correcting serious environmental problems and generating yet more wealth to pass on to them—in their increasingly degraded environment—simply compounds the fallacy of standard approaches to public policy.

Interestingly, and paradoxically in light of standard thinking among some welfare economists, the political process brings the future into view. Individuals may contemplate their future in terms of the institutional structure within which they are embedded, and which defines for them acceptable domains of choice. But individuals cannot change that institutional structure; only collective action can alter the choice domains of individuals. And in contemplating that structure and its possible alteration, the future is all that matters.

We see that a welfare analysis of environmental policies in which the costs are borne today—say, in the form of higher carbon abatement costs—while the discounted benefits accrue in the future to persons not yet born constitutes choice in which the future is considered in terms of the present. Those of us now living stand as dictators over the environmental assets to be inherited by future persons, and in the standard economic approach to that problem we act in our interest, not in the interest of future persons. It remains to be explained how this approach can possibly be said to maximize social welfare over time. The standard approach simply assures that the time stream of all possible future discounted net benefits is as large as possible to those of us now living and choosing. This is acting according to how the future serves the present. When the future is discounted, the future serves those of us living in the present very well indeed, because discounting will discourage environmental policies in which we bear many of the adjustment costs, while the benefits accrue to future persons.

This issue has usually been framed in terms of the quest for the appropriate rate of discount, but that is only part of the matter. Under all collective choice settings the question inevitably arises, What is right with respect to the future? Welfarism cannot answer that question. Instead, the ethical choice can be thought of in terms of the Rawlsian veil of ignorance—what decision would be taken about global climate change (or any policy) by risk-neutral agents who were ignorant of whether they would live today or a hundred years from now? In the language of a superfair game, intertemporal policy would be framed in terms of “no envy.” That is, no agent, upon learning when she would live, would wish to trade places with any other time-identified agent. Notice that the pertinent question is not what climate endowment those of us living now prefer to leave for future persons. Rather, the problem concerns how can the tyranny of time’s arrow be solved in the interest of all present and future persons. The no-envy constitution addresses that problem.

This brings us back to the notion of prospective volition—the human will in action, considering the present in terms of the future. That is, what actions must be taken now in order that the future shall be better than the past and the present? This vision sees reasons for action running from the future back to the present. This vision of the policy problem requires the concept of final cause, which allows us to understand that new policies to reduce pollution emerge not because it is suddenly economically efficient to reduce pollution, but because of a collective commitment to how the future ought to be constituted. Chlorofluorocarbons were not eliminated because lawmakers discovered that the net present value of the ban was positive. Chlorofluorocarbons were banned because of a collective commitment to restore atmospheric ozone. Finland and Sweden did not join the European Union because the citizenry was presented with a welfare analysis revealing that the net present value of doing so was claimed to be positive. These countries joined because the citizenry contemplated a future in and out of the EU and concluded that being in was plausibly better than being out. The citizens of Norway made the opposite choice.

IMPLICATIONS

The idea that the market—or a marketlike welfaristic calculation—is the proper analytical approach for social choice has a durable grip on many economists. Those of conservative persuasion use helpful economic concepts to advance their preferred political dogma. Because the status quo ante is invariably defined as the logical and inevitable result of “the market at work,” conservative economists can sanctify this mystical process and thereby resist proposals to rectify “market failures”—discrimination in the workplace, environmental pollution, high rates of unemployment, flaws in the health care system, to name just a few. “The market” is a useful metaphor for conservative economists to continue to keep government “interference” in that market at bay. Those economists of a liberal persuasion admit a role for government, but insist that its actions must be held in check by strict adherence to what they imagine to be objective efficiency criteria. This double standard among liberal economists provides—or so they want to believe—rigorous and objective cover for their liberalism. Conservative economists are, in a sense, more honest. However, even these economists manage to conjure their self-serving requisite truths by selectively picking which part of the large corpus of economics they shall deploy at particular moments. But regardless of political persuasion, many economists are eager to invoke—to hide behind—what they have come to believe is the wondrous scientific rigor of received economic doctrine. This behavior denies public policy of many valuable insights

that a more honest economics—an economics committed to the working out of the reasons for particular public policies—could offer.

Although the syllogism of practical inference is suggestive, notice that it begs the question of how volitional premises and epistemic premises are formulated. How, exactly, do we know what we want? How can we be sure that we know how to get what it is we think we want? The problem now is to turn our attention to the different ways by which individuals come to believe what it is they hold to be true. Following Pierce, we must now come to grips with the idea that the sole function of thought is the production of belief. We must explore how humans undertake structured thought for the explicit purpose of producing belief. And this task shall occupy us throughout all that follows.