

SUFFICIENT REASON:
VOLITIONAL PRAGMATISM AND THE MEANING OF ECONOMIC INSTITUTIONS¹

Daniel W. Bromley
Anderson-Bascom Professor of Applied Economics
University of Wisconsin-Madison

I. Introduction

The economy is always in the process of becoming. Here is a theory of how it becomes. The economy concerns the legally sanctioned means whereby ownership of future value is exchanged. Labor power is exchanged for wages or a salary. Commodities are exchanged for currency. Markets are about futurity and therefore markets are about legal control of economic values into the future. But market prices (often called values) are creatures of—artifacts of—the underlying legal system. Those who think prices come from markets reveal themselves capable of believing that milk comes from bottles. The ground on which prices rest is called the legal foundations of market capitalism. Individuals can exchange possession of objects and circumstances, but only the state—through law—can transform possession into ownership. Possession is phenomenal—empirical. Ownership is noumenal—mental. Kant termed it *possessio noumena*. Ownership transforms external (outside of us) objects and circumstances into internal mental categories with the force of the law behind them. Ownership is about an external thing belonging to someone—and thus not belonging to others. Markets cannot function without a clear concept of ownership. We see that the state is necessarily a party to every transaction. It is a party to every transaction because the state agrees to define and mediate ownership, and to mediate the transfer of ownership.

¹ Lecture presented at the China Center for Economic Research, Beijing University, December 6, 2005. The comments here are based on my forthcoming book by the same title, to be published by Princeton University Press, 2006.

It is the state, as well, that defines the legal foundations of the market. A market economy rests on a fluid and dynamic legal substrate. That legal substrate is the institutional foundations of the economy. When I say that the economy is always in the process of becoming, I mean that the institutional foundations of the economy are always undergoing change. If they did not change, the economy would soon become ossified in a perverse and counter-productive structure. However, like Neurath's mariner, we are not able to put our ship into drydock to repair the leaks and clean off the barnacles. Instead, we are obliged to "repair" our ship while at sea. The repairs I have in mind here is the process, and the fact, of institutional change. We are concerned here with the general outlines of a theory of that ongoing repair project concerning the ship of state. My purpose in the book from which these ideas are drawn [Bromley, 2006], is to offer an epistemological approach—a theory of human action—that stands in stark contrast to the ubiquitous prescriptive urge that flows from commitments to what Richard Bernstein refers to as our misguided modernist fetish over objectivism, rationality, and realism. Standing opposed to these modernist icons we find the allegedly dubious ideas of relativism, irrationality, and antirealism. There can be little doubt that the first trilogy (objectivism, rationality, realism) is privileged in the modern mind, while the latter trilogy (relativism, irrationality, antirealism) encompasses all that is said to be distasteful and ambiguous about postmodern thought and practice. Indeed, the terms themselves must be understood as conveying odious qualities. Who can possibly aspire to be a relativist, to be irrational, or to be antirealist? Modernism celebrates firm prescriptive convictions. Unfortunately, as Nietzsche reminded us, convictions are more dangerous to the truth than lies.

Prescriptive economics of the consequentialist variety—assertions about rationality, efficiency, optimality, socially preferred policies, Potential Pareto Improvements—is a central

part of the modernist project obsessed with objectivism, rationality, and realism. In Sufficient Reason I challenge the core catechisms of the modernist trilogy. Specifically, the book is a pragmatist's challenge to *a priori* consequentialism and its preoccupation with ruling prescriptions. The purpose is to spell out a pragmatic theory of human action, of economic institutions, and of institutional change. I call my approach volitional pragmatism.

II. Considering the Pragmatic Alternative

A few economists have, for some now, been intent on developing a theory of institutional change predicated on models of individual utility maximization and associated claims about the *a priori* rationality of action. Douglass North comes to mind [1990]. This quest has centered on making institutional change endogenous to economic processes and to economic models. This effort at endogeneity is misguided precisely because endogeneity is just another word for nothing left to choose. And if someday there is a “theory” of institutional change in which economic institutions are no longer objects of choice, but follow necessarily and mechanistically from relative prices (and from circular notions of efficiency), this dubious accomplishment will have stripped the concept of economic institution of any coherence and pertinence to economic theory and economic practice. Endogeneity will have reduced institutional change to nothing but a machine process.

What is needed here is not mechanism. What is urgently needed is, instead, a theory of institutions and institutional change built on the concept of prospective volition. Prospective volition is the human will in action, looking to the future, and deciding how that future ought to unfold. It is the prospect of attaining particular outcomes in the future that constitute the reasons for humans to undertake specific events today—whether acting as individuals, or acting

collectively in those entities (legislatures, administrative agencies, courts, the Central Committee of the Communist Party) created precisely for the purpose of considering and implementing institutional change. When we get a grip on those reasons we will get a grip on why institutions change.

There are five main components of my theory of institutions and institutional change.

A. Economic Institutions

There are three categories of institutions: (1) norms and conventions; (2) the working rules of going concerns (firms, non-governmental organizations, government agencies, families, nation-states); and (3) property relations (or entitlement regimes). The latter two categories of institutions are of analytical interest because they, unlike norms and conventions, are policy variables and therefore subject to change through collective action. Notice that these latter two categories of institutions constitute and define the legal foundations of an economic system.

John R. Commons regarded these classes of institutions as indicating what:

...individuals must or must not do,...what they may do without interference from other individuals, ...what they can do with the aid of collective power,...and what they cannot expect the collective power to do in their behalf,...[Commons, 1924, p. 6].

Notice the presence of an authoritative agent, and the legal entailments here—must, must not, may, can (with the aid of the collective power), and cannot (expect the collective power to help us do). Those institutions at the “informal” end of the spectrum—the norms, habits, customs, traditions, and conventions that provide important boundaries to, and parameters for, much individual and group action—will not be addressed here.

B. Public Policy

The second component of the theory of institutions and institutional change concerns a concept of public policy. Public policy is collective action in restraint, liberation, and expansion of individual action. Notice that the purpose of all public policy is to change individual and group behavior so that new—presumably more desirable—outcomes are realized. Because individual and group behaviors are informed and parameterized by the legal institutions of an economy, public policy focuses directly on the institutional foundations. After all, the best way to alter individual behavior is to modify the positive and negative incentives and sanctions that induce particular individual behaviors. The effect of new public policy is therefore new institutions and the resulting new behavior. New institutions redefine who must or must not undertake some specific action (we call this a duty), new institutions redefine who may undertake certain actions without interference from other individuals (we call this privilege), new institutions redefine who can undertake certain actions with the explicit aid of the collective power (we call this a right), and new institutions redefine who cannot expect the collective power to undertake certain actions in their behalf (we call this no right).

The fundamental challenge in public policy is to work out—fix belief about—what seems best to do in the face of the irritation of doubt and surprise about the status quo. The problem of fixing belief concerns how individuals come to believe what they now believe they believe. This brings us to the third component of the theory of institutions and institutional change.

C. Abduction

The epistemological program of volitional pragmatism is that of abduction. Aristotle called it diagnosis. The founder of pragmatism, Charles Sanders Peirce, called it the method of

hypothesis, or abduction. It is also known as inference to the best explanation. Many scientists imagine that induction and deduction constitute (and exhaust) our ways of fixing belief. But abduction offers valuable insights and prospects to those who are seriously interested in discovering the reasons for particular events. Many scientists use abduction without realizing it. An abductive argument is of the form [Hands 2001, p. 223; Hoover 1994, p. 301]:

The surprising fact, **C**, is observed:
But if **A** were true, **C** would be a matter of course,
Hence, there is reason to suspect **A** is true.

Abduction starts when particular circumstances and events—the surprising fact **C**—are encountered for which we need an explanation. Human action is animated by doubt or surprise. Peirce talked of the “irritation of doubt.” Why is that tree in my garden dying? Why am I feeling dizzy? Why did that airplane crash? Why is my car sputtering? Why is unemployment increasing? Why is the manufacturing sector experiencing reduced productivity? Abduction allows us to deploy specific known relations and particular assumptions to formulate propositions (testable hypotheses) with the intent of explaining those particular events. If your car will not start on a cold morning, abduction is the process your mechanic will deploy in quest of a reason. If you have a fever, abduction is the process your doctor will deploy as she ponders the reason for your fever. If you are trying to explain falling productivity, abduction is your avenue to explanation. The essential purpose of abduction is the production of belief about specific events. To quote Peirce, “...the action of thought is excited by the irritation of doubt, and ceases when belief is attained; so that the production of belief is the sole function of thought [Peirce 1957, p. 36].”

Peirce added that “The object of reasoning is to find out, from the consideration of what we already know, something else which we do not know [Peirce, 1877, p. 9]. Since a belief is that upon which we are prepared to act, we seek to fix belief about events and circumstances so that we will know how to respond to those events and circumstance. This brings us to the fourth component of the theory—a theory of human action.

D. Human Action

As above, a belief is that upon which we are prepared to act. I combine this notion with the volitional economics of John R. Commons, and the idea of created imaginings from G.L.S. Shackle, to challenge standard thinking that the ends of action are both known and fixed, and thus the only challenge for individuals is to address alternative means to those predetermined ends. I am not alone in my rejection of this approach. Many writers suggest that it is precisely here that rational choice theory goes off the rails—for the simple reason that the concept of choice as it is used in economics becomes incoherent. Or, as Amartya Sen has observed, turns the idea of choice into a mere play on words [Sen 1977]. Notice that if ends are given, and all that remains is for the individual to compute the most efficacious means to achieve those ends, this is not choice but mere calculation. Individuals who can only calculate are not choosing among alternative actions—they are calculating to find the “best” means. Notice that this route leaves the individual, once the calculations have been made, with no choices to make. As long as the individual could not “rationally” have done other than what the calculations revealed to be the rational choice, the agent did not exercise choice [Lawson 1997]. It is here that Shackle enters the picture. Shackle insisted that:

Conventional economics is not about choice, but about acting according to necessity....The escape from necessity...lies in the creation of ends, and this is possible

because ends, so long as they remain available and liable to rejection or adoption, must inevitably be experienced by imagination or anticipation and not by external occurrence. Choice, inescapably, is choice amongst thoughts, and thoughts....are not given [Shackle 1961, pp. 272-73].

I find this a plausible account of individual action. More profoundly for public policy, if individuals, in the process of arriving at choice, contend with both ends as well as means, it necessarily follows that groups of individuals engaged in collective action must do so as well. Indeed, Debra Satz and John Ferejohn suggest an ironic aspect of rational choice theory. Rational choice theory works best when there is little choice to make. Specifically, Satz and Ferejohn write:

we believe that rational-choice explanations are most plausible in settings in which individual action is severely constrained....we believe that rational choice is a weak theory, with limited predictive power.....We fully realize the irony of our contention: the theory of rational choice is most powerful in contexts where choice is limited [Satz and Ferejohn 1994, p. 72].

Rational choice models fail to explain individual action because such models are, as Mark Granovetter might put it, undersocialized. The clear implication is that individual and group action is not predicated on utility or prices. Rather, individual or group action is predicated on the reasons people find for action, and the fit of those reasons within the current working rules of going concerns. As Joseph Raz would say, deliberation is not a process of discovering what we want, but a process of reflecting upon what there is the most reason to want [Raz 1997]. If I choose to lie in a hammock rather than weed my garden, I am obviously able to marshal better reasons for doing the former rather than the latter. At the time, it was better to believe that I had the more sufficient reasons to choose the hammock over weeding.

Firms, villages, households, and nation-states are going concerns. A going concern is a group of people engaged together in pursuit of a purpose. Within any going concern some

individuals are in a position to play an important role in the construction of new working rules (institutions). These individuals are known as directors, owners, managers, bosses, supervisors, headmen, judges, legislators, and administrative rule-makers. We may think of them as authoritative agents. The choices that individuals make are embedded in—and to a certain extent products of—the actions of yesterday’s authoritative agents. The prevailing working rules provide the scaffolding for today’s choices and in so doing they transmit yesterday’s “economic values” to individuals who must make choices today. To Veblen, this idea captures the essence of cumulative causation. This is the instituted personality. Commons called this a process of “artificial selection” because it explained the evolution of going concerns without the contrived notion of “natural selection”—the magic mechanism of spontaneous order. To Commons, evolution in human systems is “artificially” created by human volition. How many days of paid holiday are associated with this particular job? What is the going wage for this type of work? What proportion of income is subject to taxation? What structures may I build on this land that I own?

Individual choice is already set in motion and parameterized according to prior collective decisions by those to whom the society under study (the going concern) has granted the authority to determine “economic values.” John Dewey maintained that we are “always arriving in the middle” of life—as when one walks in during a movie rather than at its beginning. The answer to the above questions about paid holiday, going wage, taxation, and allowable structures on a parcel of land have evolved over time in response to new perceptions of what seems better, at the time, to do about paid holiday, going wage, taxation, and allowable structures on particular parcels of land.

A key element of Commons’s theory is his reinterpretation of the etiology of economic values. No longer are those values perceived to emerge spontaneously from natural

forces, as in the mechanical equilibrium theories of mainstream economics. Commons instead discerned that the general pattern of economic values observed to obtain in a given “going concern” (economy) are in a fundamental sense the cumulative volitional creation of those who have consecutively possessed the power or delegated authority to decide upon the content of the concern’s working rules [Ramstad 1990, p. 87].

The “content of the concern’s working rules” is precisely the scaffolding within which individual action is first animated, and within which “reasonable” (workable and consensual) solutions to new problems are created by those who must act. The same holds for collective action (since collective action is but the collation of individual action within designated entities such as boards of directors, the courts, or the legislature). If we keep in mind that economic institutions are human constructs, and if we understand why institutions are thought to be in need of change, we might then understand how individuals and groups (including formal law-giving bodies) follow abductive inference in the fixing of a new belief, and then connect that new belief to the existing institutional setup. It is this connection that is necessary if the existing institutional arrangements are suddenly to be judged unsuitable for bringing about desirable futures.

How is it that in a short period of time many nations have prohibited smoking in public buildings? How is it that within a few years of establishing a plausible link between aerosol sprays and the ozone “hole” over Antarctica, aerosols have been practically eliminated in consumer goods? How is it that child labor—once thought to be normal—is now seen as a travesty? How is it that the industrial workweek—once in the range of 60 hours—is now approximately 40 hours throughout the industrial world, and on its way to being 34-35 hours? How is it that automobile seatbelts are now required in practically all developed nations? These institutional changes came about because individuals came to hold new beliefs. That is, they began to imagine that the world—their world—would be a better place under a new institutional

setup. A theory of institutional change requires that we understand the nature and purpose of institutions, and we understand that differing institutions constitute the reasons for differing actions and thus for differing outcomes. Institutions explain individual and group behavior.

In the course of choosing, individuals form images of action, but it is psychologically impossible for individuals to determine ends outside of the context of action. That is, the prior specification of created imaginings—a necessary part of formulating a plan of action—is impossible until we are in a position (a context) to act. With respect to collective action, being in the context of action means being involved with others who hold divergent expressions, yet who are also resolutely on the way to formulating their own unique and divergent created imaginings. Why would we assume that individuals should have identical expressions of the world in which they find themselves? Joint action is contentious precisely because of the reality of contending expressions. Because joint action must ultimately result in but a single choice (coordinated and coincident action), contending expressions are inevitably confronted by contending created imaginings. Small wonder that collective action—public policy—is so difficult. The participants in that process bring differing expressions about the *status quo ante*, and different created imaginings about the prospects for the future.

E. Settled Belief

The final aspect of my approach concerns the idea of settled belief. By settled belief I mean the arrival at a point in the consideration of possible action that individuals can finally and honestly declare, “this seems the better thing to do at this time.” When we can say to ourselves (or to our colleagues in the legislature, administrative agencies, the politburo, or the court chambers) that we have reached a decision, it means that our settled deliberations have given us

a new coherent belief. And, as above, a belief is that upon which we are prepared to act. In effect, we have now found sufficient reason(s) to alter specific institutional arrangements in the interest of—for the purpose of—modifying particular behaviors and thus particular economic outcomes in the future.

Pragmatism offers conceptual guidance here through the ideas of warranted belief and valuable belief. Warranted belief arises from the settled belief emanating from a community of individuals thought to have special epistemic sanction to study, undertake research about, and then pronounce on, particular matters. Our term for this community of individuals is a scientific discipline. Whether astronomers, sociologists, economists, political scientists, historians, geneticists, or ichthyologists, the purpose of these epistemic communities is to tell the rest of us what we ought to believe about specific issues. Members of epistemic communities aspire to bring others to their side, so that together they will come to represent what the larger discipline believes. That is, the motivation in science is to be at the forefront of warranted belief. Individual and collective action will often be informed by consulting the assertions of a particular discipline. The usual term for this consultation with the “experts” is to see what the science says about this matter. Is genetic engineering a threat to naturally occurring plants and animals? Why am I feeling lethargic? How can we best address perceived problems with the long-run solvency of Social Security? Can I expect inflation to increase over the next year? For the most part, epistemic communities seek to offer warranted assertions.

But not all assertions from an epistemic community are warranted assertions. Specifically, only those assertions that enjoy widespread assent within a discipline earn the right to be regarded as warranted assertions. But even when an epistemic community issues warranted assertions, the rest of us are not mere passive vessels into which warranted belief is poured and

immediately acted upon. As sapient agents (*homo sapiens*) we have the obligation to consider pronouncements from scientific “experts” and decide for ourselves whether we will now hold to our prior belief—or change it. Valuable belief (or assertion) is a warranted assertion that can be justified to an audience of attentive sapient agents contemplating a particular action. A valuable belief is one upon which I am now prepared to act. Do I believe what the meteorologists tell me about the chances of rain on August 27? Do I believe what the geneticists tell us about genetically modified corn? Is this particular explanation of World War I compelling and plausible?

It should not surprise us that there will be times when the warranted belief of the experts will be found interesting, but not necessarily compelling. Not all warranted belief is valuable belief. In practical terms, the rest of us are under no special obligation, upon hearing the warranted belief of a particular disciplinary community, to stop what we are doing and immediately adopt that particular belief. We have the right to demand justification for discarding what we now believe. If the proffered justification by the experts is regarded as deficient, we have not yet been presented with valuable belief. Pragmatism insists that the choice of what to believe is ours, not theirs.

III. Volitional Pragmatism

The challenge here is to offer a theory of institutions and institutional change that stands in contrast to the mechanical approaches emerging from the “new” institutional economics associated with Douglass North and his collaborators. The approach being advanced here is very much in the spirit of the classical institutional economics associated with the writings of John R. Commons and Thorstein Veblen. Consider the following quote by Thorstein Veblen taken from

his 1898 article in the Quarterly Journal of Economics entitled “Why is Economics Not an Evolutionary Science?”

The economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the past process. His methods of life today are enforced upon him by his habits of life carried over from yesterday and by the circumstances left as the mechanical residue of the life of yesterday [1898 [1990], pp. 74-75].

Contemporary economics, indeed the economics that has dominated western thought for the past five decades, regards human action as predicated upon a tendentious account concerning free will and autonomy. Moreover, this idealized agent is said to know exactly what she wants and, based upon this implausible presumption, she undertakes the necessary calculations while suspended in some momentary and quite unpleasant disequilibrium. Soon enough optimality is revealed to her through careful calculation—and she acts. Many economists, and perhaps a few political scientists, find this story so compelling that it has been transplanted, unaltered, into accounts of how public policy ought to proceed (so that it matches the imagined account of what individuals are alleged to do). Coherence demands a different approach.

In Sufficient Reason I move policy prescriptions about what is best to do away from the flawed doctrines of welfarism, prescriptive consequentialism and logical positivism. I seek to make economic prescriptions about what is best to do in a particular policy setting more consistent with democracy. Pragmatism builds on Dewey’s notion that the acquisition of knowledge is a social activity—a democratic undertaking. Richard Posner reminds us that law is an activity (a verb) not the revealed truth of the sacred texts (a noun). Description is an activity concerned with getting our words and sentences to match the world out there. Prescription is an activity concerned with getting the world out there to match our words and sentences. Every

prescription is also a prediction—do *X* and *Y* will then happen. But the key issue here is precisely whose words and sentences shall provide the template against which the world is to be brought into conformance through prescriptions from economists (and others)?

Volitional pragmatism invites us to confront the **Myth of the Other**. In the beginning God was there to define for us what was good and right to do. Modernism pushed God aside and High Philosophy quickly stepped in to provide guidance. Philosophy became our new **Other**. When philosophers became justifiably uneasy with this burden the task was eagerly taken up in the middle of the 20th century by welfare economists with their pretensions about rationality and prescriptive consequentialism.

Volitional pragmatism suggests that we have now outgrown our need for external truth rules to reveal to us the better thing to do. The **Myth of the Other** concerns the idea that difficult and contentious choices cannot usefully be turned over to God, or to philosophers, or to welfare economists.

There is no **Other**—there is only us. Volitional pragmatism entails the working through of what we think we want by learning about what we seem able to have. Only then will we take responsibility for our decisions. When we have settled our deliberations, we will anoint those settled thoughts with the ultimate benediction—it seemed the best thing to do at this time. And we shall be happy with that decision...until the next surprise.

A credible theory of institutional change requires recognition that individuals undertake those actions for which they can, at the moment, marshal the most compelling reasons. This process conflates both the volitional and epistemic premises in a process of getting in touch with what we want by coming to grips with what we imagine we can get (have). Wanting is not some abstract and dreamlike lunging toward the infeasible. It is, instead, a process of reasoned

construction of created imaginings that are informed and constituted by their very feasibility. From this constructed realm of plausible futures, we then reflect on—and argue about—the various reasons why these plausible futures make more or less sense to us. We reason about what we want predicated on reasoning about what we come to believe we can have.

The human enterprise concerns coping with doubt and surprise, with impressions and expressions, and with prevalent behaviors and outcomes that please us, or that fail to do so. When we are not pleased with those outcomes we seek, through democratic structures and processes, relief. It is often tedious, and it can be contentious. But the process of seeking relief forces us—on all sides of suddenly contentious issues—to create imaginings about what constitutes relief. More importantly, we are forced to confront the reality of what constitutes plausible relief. The very act of accepting the adjective “plausible” brings us, as individuals, or as members of decision-making bodies, in direct contact with the pragmatic evaluation of truth. That is, what is better than what we now have? What would move us in an agreeable direction? What will it take to move us? Is it worth it? What will others seek?

We are, pragmatist point out, searching for new belief—those things upon which, once we have them, we are quite prepared to act. That is all there is.

References

- Bromley, Daniel W. 2006. Sufficient Reason: Volitional Pragmatism and the Meaning of Economic Institutions, Princeton: Princeton University Press.
- Commons, John R. 1924. Legal Foundations of Capitalism London: Macmillan.
- Commons, John R. 1934. Institutional Economics: Its Place in Political Economy London: Macmillan.
- Hands, D. Wade. 2001. Reflection Without Rules: Economic Methodology and Contemporary Science Theory, Cambridge: Cambridge University Press.

- Hoover, Kevin D. 1994. "Pragmatism, Pragmaticism, and Economic Method," in: Contemporary Issues in Economic Methodology, ed. by Roger Backhouse, London: Routledge.
- Lawson, Tony. 1997. Economics and Reality, London: Routledge.
- North, Douglass C. 1990. Institutions, Institutional Change and Economic Performance Cambridge: Cambridge University Press.
- Peirce, Charles Sanders. 1877 (1997). "The Fixation of Belief," in Louis Menand (ed.), Pragmatism, New York: Vintage Books.
- Peirce, Charles Sanders. 1878 (1997). "How to Make Our Ideas Clear," in Louis Menand (ed.), Pragmatism, New York: Vintage Books.
- Peirce, Charles Sanders. 1934. Collected Papers, Vol 5, Cambridge: Harvard University Press.
- Peirce, Charles Sanders. (ed. by Vincent Tomas). 1957. Essays in the Philosophy of Science, New York: The Liberal Arts Press.
- Ramstad, Yngve. 1990. "The Institutionalism of John R. Commons: Theoretical Foundations of a Volitional Economics," in: Research in the History of Economic Thought and Methodology, ed. by Warren Samuels, Boston: JAI Press.
- Raz, Joseph. 1997. "Incommensurability and Agency," in Incommensurability, Incomparability, and Practical Reason, ed. by Ruth Chang, Cambridge: Harvard University Press.
- Satz, Debra and John Ferejohn. 1994. "Rational Choice and Social Theory," The Journal of Philosophy, 91(2):71-87.
- Sen, Amartya. 1977. "Rational Fools: A Critique of the Behavioral Foundations of Economic Theory," Philosophy and Public Affairs, 6:317-44.
- Shackle, G.L.S. 1961. Decision, Order, and Time in Human Affairs, Cambridge: Cambridge University Press.
- Veblen, Thorstein. 1898. "Why is Economics not an Evolutionary Science?" The Quarterly Journal of Economics, 12(4):373-97, July. Reprinted in: Thorstein Veblen, The Place of Science in Modern Civilization New Brunswick, NJ: Transaction Publishers, 1990.