REFLECTIONS

Knowledge Flat-Talk

A Conceit of Supposed Experts and a Seduction to All

DANIEL B. KLEIN

bout 1917, the eminent English economist Alfred Marshall wrote the following words intended for publication: "But the more I studied economic science, the smaller appeared the knowledge which I had of it, in proportion to the knowledge that I needed; and now, at the end of nearly half a century of almost exclusive study of it, I am conscious of more ignorance of it than I was at the beginning of the study" (qtd. in Keynes 1951, 138). Marshall tossed the sheet with those words into the wastebasket, from which it was retrieved by Mrs. Marshall but remained unpublished. Perhaps Marshall had the impulse to confess his ignorance of "economic science" as a way of highlighting something central to economic wisdom but lost his nerve.

F. A. Hayek famously spoke of the division of knowledge or dispersed knowledge or diffused knowledge, but even these expressions may not go far enough. Knowledge is not merely divided, like a sandwich cut down the middle, or dispersed, like the members of a crowd formerly amassed. Hayek's talk of knowledge was unfortunate in a way, for it allowed some to see the matter as one merely of asymmetric information. Like a jigsaw puzzle, the knowledge is out there, but the pieces are scattered around. Besides the adjectives *divided*, *dispersed*, and *diffuse*, we need *disjointed*. People perceive and pursue their own overlapping jigsaw puzzles, and only in

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a vague and abstract way can we talk about all of the jigsaw puzzles as a vast concatenation and judge its merits. A full appreciation of Hayek's oeuvre makes it altogether natural and proper to see Hayek as an expositor of knowledge's richness. In his talk of the division of knowledge, he was all along driving at deeper insights—not merely about articulate knowledge, but also about tacit knowledge; not merely about asymmetric information, but also about *asymmetric interpretation*—but he did not always clarify the deeper dimensions of knowledge.

Michael Polanyi (1962, 1967) explained that knowing how to ride a bicycle, "know-how," is highly inarticulate or tacit, even inarticulable; it hardly merits the designation "information." Meanwhile, articulate knowledge—"knowledge that"—is often designated as "information." Polanyi explained that articulate knowledge resides in and emerges from tacit knowledge.

In this article, I do not focus on subterranean, inarticulate knowledge. I work primarily within realms of articulate knowledge, but I criticize certain ways of talking about such knowledge and suggest a richer formulation that makes us more mindful of the tacit. Here, I usually drop the word *articulate* when I speak of articulate knowledge.

Knowledge Entails Information, Interpretation, and Judgment

In treating of knowledge, my approach is not foundational, but pragmatist, contextual, and formulated in terms of levels of frame within which "we" are situated and our discourse embedded. In communicating, we generally proceed from a working interpretation of matters. "Information" is what we call the facts we see within the working interpretation. Meanwhile, these "facts" reside in a more basic interpretive frame, in which "factual" statements are presumed acceptable to all parties of the communication. When Jane and Amy "argue over the facts," they are, as it were, revisiting what they propose to treat as factual for purposes of the conversation. If the argument is unresolved, Jane may be deciding that she and Amy are not a "we" and may instead be drawing a circle of "we" with some of the auditors to her exchange with Amy that does not include Amy. (However, although the facts remain unresolved between Jane and Amy, Amy may later reconsider matters and imaginatively enter the circle that Jane draws.)

Consider a situation in which we have no trouble agreeing to "we"-ness in our apprehension of the "facts." Suppose we sit down together with a telephone book. We call the ink markings on the page "the facts." Neither of us considers disputing statements about the printed patterns on the pages. We then proceed to talk plainly of them as *phone numbers*. We often forget this working lens—interpreting the facts as phone numbers—because we see through it. But one of us may propose another interpretation: Might the list of "phone numbers" contain secret knowledge encoded by spies?

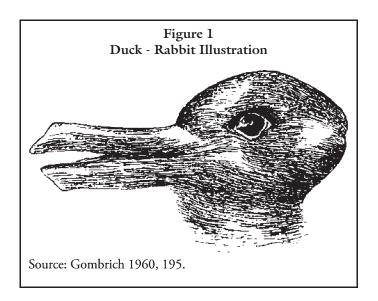
Thus, we have multiple interpretations of the ink markings that some understand as "phone numbers." Here the quotation marks make the enclosed words

mean: what the facts are called when they are seen through the working interpretation. But such quotation marks can be terribly distracting and confusing, and we often omit them. We often likewise just speak of *multiple interpretations of the information* (as opposed to multiple interpretations of the facts). Rather than interpretively pivoting off the "fact"-level interpretation—that the line reads 678-3554—I formulate things so as to pivot interpretively off what I have called "the working interpretation"—that 678-3554 is a phone number—a level *up* from the factual, and there the pivot turns: "Maybe the phone number is a secret encoded message?" This proceeding works because I build universal acceptance among the "we" into "the facts." That is, by construction, at the factual level no pivoting is necessary—none of us disputes that the line says 678-3554. Put differently, wherever you want to accommodate interpretive pivoting, move "factual" to somewhere down from there.

Figure 1 shows a drawing associated with Ludwig Wittgenstein's discussion of a duck-rabbit illustration in his *Philosophical Investigations*. Working within the duck interpretation, we could cover up some of the pixels. Maybe you see only the "beak" and I see only the "back" of the head—asymmetric information. Beyond issues of information, however, is another interpretation: Maybe what we need to see is not all the pixels, but the other interpretation of them—that they represent a rabbit.

The illustration has two notable interpretations, but in human affairs, things evolve, and there is usually opportunity for further and better interpretation. Michael Polanyi notes the "peculiar opportunity offered by explicit knowledge for reflecting on it critically" (1963, 15). Interpretations evolve in dialectical fashion, each advance giving rise to further advance. New interpretations keep coming.

Meanwhile, life rolls on. The ball races toward the plate. If the batter waits for a better interpretation, he may be called out on strikes. The action facet of knowledge is



judgment, our taking stock in an interpretation by acting on it—though this "action" may be only the act of *deciding* and not involve much muscular activity.

As speakers, we judge of judgments—those both of our interlocutors and of agents existing within the descriptions we give of things. We convey our judgments of their judgments using judgmental terms. Favorable, approving terms, or commendations, include *true*, *unbiased*, *right*, *better*, *superior*, *wise*, *good*, *enlightened*, and so on. Unfavorable, disapproving terms, or pejoratives, include *untrue*, *biased*, *wrong*, *worse*, *inferior*, *unwise*, *bad*, *unenlightened*, and so on.

In sum, articulate knowledge consists of more than information: it also includes interpretation and judgment.

Common Knowledge

Theorists often make a particular move in their descriptions of things so as to ensure that interpretation is final and symmetric, a move that also makes it common to the agents existing within the description. This move is to assume that the working interpretation, or at least critical parts of it, is *common knowledge* (Lewis 1969, 52ff.; Chwe 2001).

When teaching a course in game theory in a classroom of students seated in an inward-looking circle, I demonstrated the idea by holding up a large blue marker and announcing: "I am holding up a blue marker." It was then common knowledge that I had held up a blue marker. What made it common knowledge was not that everyone knew I had held up a marker, but that everyone knew that everyone knew, and everyone knew that everyone knew that everyone knew, and so on. That which is common knowledge might also be a condition of asymmetric information. When we play poker, it is common knowledge that we look at our own hand and not at one another's.

Game theory and economic equilibrium models generally assume that the model's conditions are common knowledge to the agents within it. That is mainly how equilibrium model building proceeds in professional economics. Information may not be symmetric—I don't see your cards—but interpretation of it is.

Perhaps, however, the assumption of common knowledge is misplaced. Market participants are not like subjects gathered in an inward-looking circle. If the economy is a cosmos of disjointed knowledge, involving asymmetric interpretations, a vocabulary and idiom rooted in common-knowledge precepts and instincts may overlook important facets of the problem.

^{1.} Here are quotations from some game-theory textbooks: "Game theorists usually assume that the rules of the game and the preferences of the players are common knowledge" (Binmore 1992, 150); "For clarity, models are set up so that information partitions are common knowledge. . . . Making the information partitions common knowledge is important for clear modeling" (Rasmusen 1989, 51); "in this book, complete information games are restricted to games in which complete information is common knowledge" (Friedman 1986, 11).

Flattening Knowledge Down to Information

Suppose we are discussing a matter and working from a common frame of understanding. Now suppose that someone brings a new and seemingly better interpretation to the matter, transcending our working frame. Perhaps the categories of the previous frame can be recoded according to the new frame's scheme. Thus, one array of information is transformed into a new array of information. It is pernicious, however, to proceed in a fashion that suppresses awareness of the pervasive potential for interpretive transcendence and of the dialectics of interpretational evolution.

Israel Kirzner has argued that entrepreneurial discovery is often, as it were, a matter of seeing the rabbit when everyone else sees only the duck. Perhaps a new opportunity is discovered not because the one making it acquired new information, but because he apprehends a new interpretation.

An example of suppressing this deeper dimension of knowledge appears in an extremely negative review of Kirzner's book *Competition and Entrepreneurship* (1973) by Benjamin Klein: "although the problem of decentralized co-ordination of economic activity in an environment of transaction and information costs is complicated, there is certainly no reason why maximization techniques cannot and should not be used. . . . We just must assume a richer informational background under which individual maximizing decisions take place" (1975, 1307–8).

Much of professional economics has made it a point of honor to flatten knowledge down to information—dubbed "flat-talk" in this article. The suppressive attitude is the following hypothetical response: "Your pet terms such as *interpretation* and *judgment*, your distinctions between decision and choice, between knowledge and information, between motivation and incentive, and your notion of 'error' do not really amount to anything because any time someone brings a new true interpretation to a matter, we then make it scientific by recoding as necessary to bring it all into a system of information, probabilities, search costs, and optimization."

George Stigler, in particular, insists on seeing all behavior as maximization and all knowledge as information; he maintains that the concept of error has no place in economic theorizing (Stigler 1976). Because interpretation is effectively symmetric and final, economists are silly when they propose to influence political tastes (Stigler 1982). He even chides Adam Smith for violating these organons (Stigler 1971). Part and parcel, his views lend a hand in the subversion of a proper understanding of liberty (Stigler 1978).

Flat-Talk Subverts Liberalism

Stigler and Benjamin Klein generally favored freedom of enterprise, but the strictures they practiced and promulgated are wrongheaded and unhealthy to liberty. Their flat-talk gives the false sense that the theorist has or can have a composite master interpretation of things that subsumes the interpretations, present and future, of those within the system. Flat-talk is self-flattering, a hubris common in self-styled scientists and do-gooders. It also plays well with deep-seated yearnings for a sense of common knowledge and common experience, which is a universal human weakness. Intellectuals and politicians themselves are prey to this weakness, but they also consciously or unconsciously exploit it in their publics. Hayek speaks of a concurrence between the intellectuals' pretense of knowledge and certain primordial human instincts, a sort of tacit alliance against the enlightened norms and sensibilities of liberal civilization (Hayek 1976; 1978; 1979, 153-76; 1988). I take his and Adam Smith's view to be that liberal civilization should be in part a project to teach everyone to subdue and redirect certain primordial yearnings and penchants so as to accept voluntarism as a basic operating system and to learn to make natural its otherwise startling and upsetting commotions and seeming enormities. More than anyone else, Smith morally authorized voluntarism and its commotions, and that authorization probably figured significantly in the acceleration of economic growth that began about the time of his death in 1790²

An interpretation is "right" only in the sense that it is better than the relevant alternative. It is not "right" in the sense of final or definitive. Once the government starts to act on an interpretation, it tends to become ossified. Every interpretation spurs its own transcendence. Even if the government seizes on a defensible interpretation of what's going on now, it is likely to cling to that interpretation long after it should have been superseded. Moreover, governmentalization of interpretation tends to regiment social affairs and to repress the evolution of interpretation. Rather than fitting interpretations to the world, it tries to fit the world to its interpretations. It attempts to legislate interpretation—sometimes seeking to impose what Roger Koppl (forthcoming) calls epistemic monopoly. If our expert understanding of things is not common knowledge, well, we will see to it that it becomes common knowledge.

I should add, however, that even government operatives often do not really believe in and act according to official interpretations. The shoddiness of government interpretation gives rise to all manner of interpretative falsification, dissonance, and confusion. By nature, government is Orwellian, and we should thank heaven for cynicism and enlightened corruption.

The renowned economist Kenneth Arrow is a knowledge flattener and man of the Left. As shown by the petitions he signs, Arrow regularly supports interventionist causes. Speaking of his upbringing, he writes, "my family was politically and social liberal," and he describes himself as a "socialist sympathizer" in his youth (1992, 43, 44). A left-leaning family upbringing is common to many Nobel economists,

^{2.} Deirdre McCloskey (2010) expounds the view that the Industrial Revolution happened where and when it did in large part because of the cultural and rhetorical changes that expressed social approval of the pursuit of honest profit.

including Paul Samuelson, Robert Solow, Joseph Stiglitz, George Akerlof, and Paul Krugman.³

In a technical paper, Arrow writes:

In this chapter I want to survey some aspects of the effects of information on the markets for contingent goods, by means of a toy example studied under different informational assumptions. . . .

First, some definitions. By "information," I mean any observation which effectively changes probabilities according to the principles of conditional probability. The prior probabilities are defined for all events, an event being described by statements about both the variables that are relevant to the individual welfare and those that define the range of possible observations. Given an observation, there is a conditional or posterior distribution of possible values of the welfare-relevant variables. (1984, 199)

In the "toy example," information means an observation that changes probabilities over a set of variables that matter. It all exists within a predetermined scheme the toy builder neatly sets out.

You might think that toy builders know the difference between toys and human society, and surely they do, yet they fall back on their mastery of toys, often their only claim to expertise, when treating of human society.

I edit a journal called *Econ Journal Watch*. To get people talking about the distinction between knowledge and information, I invited scholars to write essays on the topic (the symposium appears in the journal's April 2005 issue). When I asked Arrow to participate, he replied in a letter that I published online with his permission: "Thank you for the invitation to participate in a symposium on the distinction between knowledge and information. I am afraid the topic does not inspire me. In my old-fashioned positivism, concepts have meaning only in the context of a model (which may be very general), and I can't think of one which will accommodate this distinction. Of course, there are many kinds of information and different modes of transmission and apprehension, e.g., tacit vs. coded knowledge (which is a very important distinction)" (Arrow 2003).

I am inclined to concur that no model can well accommodate the distinction between knowledge and information, but what of the claim that "concepts have meaning only in the context of a model"? Is this claim itself a concept? If so, has this concept been couched within the context of a model? In the letter, Arrow does not provide a model, nor does he refer to one in the literature. I wonder what such a

^{3.} I have named six American left-leaning Nobel economists of Jewish background. I wonder if there is any validity in the idea that American Jewish leftist intellectuals have often sought to enter and ascend U.S. officialdom and cultural governance as a way of making themselves unquestionably American and thereby overcoming their otherness as Jews. The occurrence of such striving would be only a subhypothesis, however, of more general conjectures about statism among intellectuals.

model would look like—that is, a model expositing the concept that a concept has meaning only in the context of a model.

If Arrow were to concede that there is no model contextualizing the claim, would he admit that his belief that "concepts have meaning only in the context of a model" has no meaning? If he does make that admission, why did he make the claim in the first place? Why set down a string of words that is meaningless?

Perhaps Arrow would object to my identifying the statement "concepts have meaning only in the context of a model" as a concept. Perhaps he would say it is not a concept, but rather merely a notion, idea, or belief. But then I may reply: a distinction between knowledge and information is a notion, idea, or belief. Notice that Arrow affirms a "distinction" between tacit and coded knowledge. Does he have a model for that distinction? Notice further how he switches from "information" to "knowledge." If there is no distinction between information and knowledge, why vary terms?

It seems that both he and I are practicing discourse beyond models. But Arrow declines to join the conversation. He adds: "I realize you have asked for a weekend's reflection, but my general view is that it is easier to write a 25-page paper replete with formulas and footnotes than an expressive 5 pages" (Arrow 2003).

Arrow knows that information is asymmetric—that is one reason why markets fail. Does he claim that the government can acquire the information? He once wrote: "It will be necessary to increase the intensity of observation. Along the lines of the investment surveys of the Securities and Exchange Commission, it may well be possible to find out by direct interrogation to what extent investment and consumption projects have been curtailed by the interest rate changes" (1984, 51). This kind of thinking helped to inspire the Sarbanes-Oxley Act.

Arrow's chief error, however, is not his confidence in government interrogation. He writes about government's inability to acquire information (1984, 159ff.). His error concerns the asymmetry of interpretation. Economics ought to teach us to subdue our yearning for common knowledge, a yearning both primordial and too often culturally inculcated. Rather than teaching others to overcome it, economists such as Arrow have been prey to it, and they have even worked to authorize it by promulgating a supposed science that gratifies it.

Their chief error is the one exposed by Smith and Hayek, the error of being too ready to believe that one knows well enough to intervene in a way that conduces to superior coordination in the vast concatenation. The classical-liberal philosophy sees a nexus of verities that give a strong presumption to liberty. Exceptions to liberty should be regarded as exceptional and bear the burden of proof. The liberal position is *not* that the powerful—rulers, politicos, and influential intellectuals—*never* know enough to intervene beneficially, but that they rarely do. Most of the interventions to which we have become accustomed cannot bear the burden of proof. One reason that some

intellectuals think otherwise is that they flatten knowledge down to information. They fail to admit the flimsiness and arrogance of governmental interpretations and the comparatively healthy interpretative dynamics of voluntary society—an open system of disjointed and open interpretations.

Consider the deliberations of the Justice Department's Anti-Trust Division in deciding whether a practice or merger is "anticompetitive." In many ways, the issue turns on interpretation: how we define the good or service, how we define the industry, how we define the term anticompetitive, what we count as "evidence," and so on. Each of these matters depends on such things as how widely or narrowly we conceive the category—ballpoint pens, ink pens, writing implements, means of communication, and so on. Competition takes many forms; substitutes are everywhere. Every story of demand and supply depends, for example, on interpretations of hypothetical time to reaction ("long run" versus "short run"). Every thought experiment makes myriad assumptions about what happens (or does not happen) in the meantime. The stories vary with the myriad interpretations. If you think that economists have anything like a standard for arriving at definitive interpretations, definitive stories of "the X market," much less a standard for estimating the parameters of such stories, you are gravely mistaken. In the end, "anticompetitive" may be nothing more than a loose, vague judgment that certain forms of government intervention would conduce to overall betterment. Official antitrust reports, rulings, and documents have a strong Kafkaesque quality, as does much of the scholarly literature authored by supposed experts. Life within heavily politicized realms is often Kafkaesque.

In regard to advertising, consider how flat-talk may breed illiberal thinking. Two flat-talking economists, William S. Comanor and Thomas A. Wilson, write in their book *Advertising and Market Power*, "If we could be assured that advertising provides no misinformation and thereby promotes consumer choices that are more in accord with those that would be made with full information, then we could argue that there is a positive gain to the consumer associated with his revised preferences. Although this may be the case in many circumstances, we cannot rule out the prospect that some forms of advertising lead consumers further away from choices based on full information" (1974, 250). The authors write as though each new model car or brand of shave cream has a definitive set of qualities. When advertisements show some of them, the consumer comes closer to the possession of "full information." When an ad shows few of the product's qualities, appealing instead to extraneous associations and impulses, it is persuading rather than informing, and therefore it is wasteful. By departing from the true matrix of qualities, the advertisement might misinform.

However, there is no definitive interpretation of the product and its qualities. The advertisement is providing interpretations and may be creating value. Comanor and Wilson, with their "full information" talk, mislead people about the economics of advertising (cf. Hayek [1961] 1967).

Fit to Judge?

In *The Wealth of Nations*, Smith speaks of people's being "fully informed." The passage speaks volumes about his understanding of knowledge: "But though the interest of the labourer is strictly connected with that of the society, he is incapable either of comprehending that interest, or of understanding its connection with his own. His condition leaves him no time to receive the necessary information, and his education and habits are commonly such as to render him *unfit to judge even though he was fully informed*" ([1776] 1976, 266, emphasis added). Unfit to judge, even though fully informed. But if a person were fully informed, what could possibly make him unfit to judge? His education, his habits, says Smith. That is, his impoverished understanding of interpretations, his bad judgment.

The economist Donald Wittman assures us that the citizen is fit to judge. Practicing flat-talk, he assures us of democratic efficiency:

It would be foolish to argue that voters are perfectly informed about political markets. However, efficiency does not require perfectly informed voters any more than efficient economic markets require all stockholders to know the intimate workings of the firms in which they hold stock or all principals to perfectly monitor their agents. A voter needs to know little about the actions of his congressman in order to make intelligent choices in the election. It is sufficient for the voter to find a person or organization(s) with similar preferences and then ask advice on how to vote. For example, people who like to hunt are more likely to read the literature from the National Rifle Association than from an organization attempting to ban guns, and one can always ask advice from a more politically knowledgeable friend with similar tastes. Voters can also look at the list of campaign contributors (who typically make their campaign endorsements public) and infer the characteristics of the candidates' policies (pro or con). That is, interest group endorsements are like signals in the market and provide strong cues about candidates' preferences. Furthermore, competitors for public office need provide only the information when there are discrepancies between the voters' preferences and the political outcome, not all the unnecessary detail. (1989, 1400–1401)

Wittman expanded this argument into an influential book, The Myth of Democratic Failure: Why Political Institutions Are Efficient (1995).

Were interpretation common, final, and reasonably enlightened—were the common-knowledge assumption to hold—the argument would have considerable force. The voter would know his preferences, and he may look to those people with "similar preferences" or "similar tastes" who are better informed. In this imaginary world, each of us knows wherein lies our well-being, and we all have a final, satisfactory

interpretation of how things work. We need not mind the "unnecessary detail" because we leave the details to experts. They tell us which politician best advances our well-being, just as doctors tell us which medicine does.

The chief problem with Wittman's story is that, among us, interpretation is not common, final, and reasonably enlightened. By instinct and culture, people systematically take to unenlightened interpretations of how things work and what should be done—indeed, even of wisdom, virtue, and their own selfhood. In medicine, the system of expertise works pretty well because the individual patient and the individual doctor have strong individual motivations to come to more enlightened interpretations, making for healthy dialectics in medical knowledge. Wittman, Arrow, and others act out and promulgate an unsophisticated image of social doctoring that elides the matter of interpretative dialectics by presupposing a condition of common knowledge, symmetric interpretation, and by attributing it to an officialdom—chosen by the people, led by politicians, advised by experts and university scientists—that administers the polity's great cooperative organization. This approach has a seductive appeal to intellectual and layman alike: not only will we improve the coordination of affairs within this organization, but we all may have a sense of shared experience and sentiment in our jointly doing so.⁴

Knowledge flat-talk creates a mirage of reducing the matter to information, search cost, probabilities, and incentives. It gives the illusion that political man is fit to judge, that governmentalization does not introduce great epistemic problems. It therefore subverts much of the basis for the call to degovernmentalize social affairs.

Meanwhile, in economic discourse, flat-talk keeps out the vocabulary of entrepreneurship, enterprise, discovery, insight, interpretation, and judgment. These rich words speak of comparative merits of freedom not well illuminated by the flat-talk. The defense of liberal verities is stronger when discovery, adventure, and the spirit of enterprise are accentuated. Such rich talk makes us mindful that articulate knowledge resides in tacit knowledge. As Don Lavoie (1985) showed, such mindfulness makes the value of freedom more persuasive.

References

Arrow, Kenneth J. 1984. The Economics of Information. Vol. 4 of The Collected Papers of Kenneth J. Arrow. Cambridge, Mass.: Belknap Press of Harvard University Press.

———. 1992. I Know a Hawk from a Handsaw. Reprinted in *Eminent Economists: Their Life Philosophies*, edited by Michael Szenberg, 42–50. New York: Cambridge University Press.

^{4.} Bryan Caplan (2007) offers an extensive and influential critique of Wittman. His critique is one that I basically embrace and applaud, but rather than calling the median voter's positions "wrongheaded," "foolish," "unwise," "unenlightened," (or even "ignorant"), he calls them "irrational," which I find unhelpful. Then, by juggling several definitions of "rationality" (including a tacit one: what Caplan thinks enlightened), Caplan goes on to call this "irrationality" "rational." Also, he leads the reader to believe that the extent to which professional economists share his judgments is much greater than it really is. For my thoughts on Caplan, see Klein 2007; for an interesting four-part exchange between Caplan and Wittman, see Caplan (2005) and follow the links.

- 2003. Letter to Daniel Klein, October 21. Econ Journal Watch 2, no. 1. Available at: http://econjwatch.org/articles/symposium-on-information-and-knowledge-arrow-correspondence.
- Binmore, Ken. 1992. Fun and Games: A Text on Game Theory. Lexington, Mass.: D. C. Heath.
- Caplan, Bryan. 2005. From Friedman to Wittman: The Transformation of Chicago Political Economy. *Econ Journal Watch* 2, no. 1: 1–21. Available at: http://econjwatch.org/articles/from-friedman-to-wittman-the-transformation-of-chicago-political-economy.
- ———. 2007. The Myth of the Rational Voter: Why Democracies Choose Bad Policies. Princeton, N.J.: Princeton University Press.
- Chwe, Michael Suk-Young. 2001. Rational Ritual: Culture, Coordination, and Common Knowledge. Princeton, N.J.: Princeton University Press.
- Comanor, William S., and Thomas A. Wilson. 1974. *Advertising and Market Power*. Cambridge, Mass.: Harvard University Press.
- Friedman, James W. 1986. *Game Theory with Applications to Economics*. New York: Oxford University Press.
- Gombrich, E. H. 1960. Art and Illusion: A Study in the Psychology of Pictorial Representation. New York: Pantheon Books.
- Hayek, Friedrich A. [1961] 1967. The Non Sequitur of the "Dependence Effect." Reprinted in *Studies in Philosophy, Politics, and Economics,* 313–17. Chicago: University of Chicago Press.
- . 1976. The Mirage of Social Justice. Vol. 2 of Law, Legislation, and Liberty. Chicago: University of Chicago Press.
- ———. 1978. The Atavism of Social Justice. In *New Studies in Philosophy, Politics, Economics, and the History of Ideas*, 57–68. Chicago: University of Chicago Press.
- ———. 1979. *The Political Order of a Free People*. Vol. 3 of *Law, Legislation, and Liberty*. Chicago: University of Chicago Press.
- . 1988. The Fatal Conceit: The Errors of Socialism. Chicago: University of Chicago Press.
- Keynes, John Maynard. 1951. Essays in Biography. New ed. London: Rupert Hart-Davis.
- Kirzner, Israel M. 1973. Competition and Entrepreneurship. Chicago: University of Chicago
 Press
- Klein, Benjamin. 1975. Review of Kirzner's Competition and Entrepreneurship. Journal of Political Economy 83 (December): 1305–9.
- Klein, Daniel B. 2007. The Myth of the Rational Voter: Towards a Future Edition—Remarks on Bryan Caplan. Available at: http://econfaculty.gmu.edu/klein/Assets/Caplan_critique.doc.
- Koppl, Roger. Forthcoming. The Social Construction of Expertise. Society.
- Lavoie, Don. 1985. National Economic Planning: What Is Left? Cambridge, Mass.: Ballinger.
- Lewis, David K. 1969. Convention: A Philosophical Study. Cambridge, Mass.: Harvard University Press.
- McCloskey, Deirdre N. 2010. Bourgeois Dignity and Liberty: Why Economics Can't Explain the Modern World. Chicago: University of Chicago Press.

Polanyi, Michael. 1962. Personal Knowledge: Towards a Post-critical Philosophy. Chicago: University of Chicago Press.
. 1963. The Study of Man. Chicago: University of Chicago Press.
———. 1967. The Tacit Dimension. New York: Doubleday.
Rasmusen, Eric. 1989. Games and Information: An Introduction to Game Theory. New York: Blackwell.
Smith, Adam. [1776] 1976. An Inquiry into the Nature and Causes of the Wealth of Nations. Oxford: Oxford University Press.
Stigler, George. 1971. Smith's Travels on the Ship of State. <i>History of Political Economy</i> 3: 265–77.
. 1976. The Xistance of X-Efficiency. American Economic Review 66: 213–16.
. 1978. Wealth, and Possibly Liberty. Journal of Legal Studies 7: 213-17.
. 1982. The Economist as Preacher and Other Essays. Chicago: University of Chicago Press.
Wittman, Donald. 1989. Why Democracies Produce Efficient Results. <i>Journal of Political Economy</i> 97, no. 6: 1395–424.
———. 1995. The Myth of Democratic Failure: Why Political Institutions Are Efficient. Chicago: University of Chicago Press.
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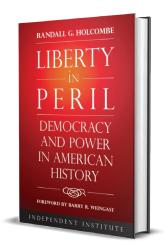
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