

THE PROBLEM OF AUDIENCE IN HISTORICAL ECONOMICS:
RHETORICAL THOUGHTS ON A TEXT BY ROBERT FOGEL*

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It is no shocker to assert that Robert W. Fogel's book on the economic history of American railroads works rhetorically. As any attempt at persuasion must, economic history has a rhetoric. But the conflict in Fogel between two official rhetorics of economic history—the historical and the economic—sharpens the edge of argument, one blade against another. The rhetoric stands out in plain view.

The word "rhetoric" is no insult. It means, classically and properly, "the art of probing what men believe they ought to believe, rather than proving what is true according to abstract methods"; it is "the art of discovering good reasons, finding what really warrants assent, because any reasonable person ought to be persuaded."¹ It is *not* "mere" rhetoric, a vulgar corruption of the word which can be traced to the separation in the Renaissance of reason (specialized to mean formal logic) from expression (specialized to mean style), leaving reasoning impoverished. Rhetoric is critical inquiry, not merely "giving effectiveness to truth but . . . creating truth."² It is persuasive reasoning, honestly and earnestly persuasive when good, that is, when the rhetor meets Cato's standard: *vir bonus dicendi peritus*. Mathematics has a rhetoric, that is to say, a set of customs about what counts as good reasons, what proofs are reckoned elegant and true. History has a rhetoric, no small matter: it limits the historian in what sorts of evidence and what sorts of logical appeals he can make if he wishes to retain an audience. And economics surely has a rhetoric.³ These points are to be illustrated using Fogel's book as a text, to make economic historians sensitive to their rhetorics. They will quarrel less if they know that they are all God's literary children.

* Robert W. Fogel, Philip Benedict, Gregory Clark, and Robert Higgs have commented on an earlier version of the paper. The form—close rhetorical study of one piece—was suggested by a paper by Charles Bazerman, "What Written Knowledge Does: Three Examples of Academic Discourse," *Philosophy of the Social Sciences* 11 (1981), 361–387, which analyzes in this manner three papers in molecular biology, sociology, and literary criticism.

1. Wayne C. Booth, *Modern Dogma and the Rhetoric of Assent* (Chicago, 1974), xiii, xiv.

2. Robert Scott, "On Viewing Rhetoric as Epistemic," *Central States Speech Journal* 18 (1967).

3. If such remarks seem odd, bear with me: the light will come; or turn to my "The Rhetoric of Economics," *Journal of Economics Literature* 21 (1983), 481–517.

I. THE TEXT

Railroads and American Economic Growth, published in 1964, was a revised version of Fogel's Ph.D. dissertation in economics at Johns Hopkins. It is relevant to its rhetoric that Fogel had started in the advanced study of economics relatively late in life, at thirty years of age, after a youth devoted to radical politics. By his own account the events of 1956, a year of rethinking by the left, turned him towards the academic as against the political study of economic-historical problems. The book was his second: he had published his Columbia M.A. dissertation as *The Union Pacific Railroad: A Case in Premature Enterprise* (1960). He was by 1964 well-known among "cliometricians," a then-tiny band of economists such as Douglass North, William Parker, Brinley Thomas, Rondo Cameron, Robert Gallman, Lance Davis, and J. R. T. Hughes trying to reinvent economic history as economics. The book made him more widely known to historians and economists, although the center of its argument had already stirred specialists in economic history at conferences, and had been published by itself two years before ("A Quantitative Approach to the Study of Railroads in American Economic Growth: A Report of Some Preliminary Findings," *Journal of Economic History* 22 [1962], 163-197). What stirred them was its powerfully argumentative form and its startling conclusion—that railroads did *not* have very much to do with American economic growth.

The conclusion was in the air. Albert Fishlow published the next year his own Ph.D. dissertation, from Harvard, which made a point for the 1850s very similar to the one Fogel made for his year, 1890. The simultaneous discovery was motivated by W. W. Rostow's assertion a few years before that railroads had fueled America's "take-off into self-sustained growth." Some wit observed that Rostow's assertion inspired a "take-off into self-sustained controversy." Fogel and Fishlow led the fighters attacking Rostow's bomber. Fogel wrote his dissertation under the premier student of national income, Simon Kuznets, and began the study, again by his own account, expecting Rostow's enthusiasm for the railroads to be confirmed. It was not, and with characteristic vigor Fogel turned to attacking it.

The vigor displayed itself in dense argument and massed statistics. Though Fishlow's book made effectively the same point, was better written than Fogel's, used techniques of persuasion more familiar to historians, and was reviewed much more genially, it was in the end less influential. Fogel's novelty of argumentative form attracted the attention of the young and the anger of the old, a combination of stimuli bound to succeed in intellectual life. The attention and anger inspired methodological declarations and denunciations. Fogel was the Napoleon of the cliometric revolution in economic history, fast rising to a marshal's baton in the armies formed in the late 1950s. Napoleonic precepts adorned the study walls of his troops: "an army of economic historians marches on its computer"; "the career of historian is open to mathematical talent"; and, with double significance, "there is only one step from the sublime to the ridiculous." Barry Supple, noting in 1970 the spread of Général Fogel's army to Britain and the world, recalled those lines on the French Revolution

as it appeared to enthusiasts: "Bliss was it in that dawn to be alive,/But to be young [and numerate] was very heaven!"

Fogel's book is the archetype of cliometrics. Through twenty years it has worn well, and still inspires imitators and respectful critics.⁴ It was more than a methodological advance. The theme that one innovation cannot explain much of economic growth has converted many from *simpliste* romanticism about the Iron Horse, or the Big Steel Mill.

Its argument is simple, concentrated in a brilliant display in the first fifty pages of the book. The enemy is the "axiom of indispensability," that is, the notion that the railroad could not be dispensed with. The assault proceeds so: On pages 10 and 11 Fogel translates the axiom into an assertion that the coming of the railroad increased national income. He points out on page 12 that if there were good substitutes for the railroad then its coming might have increased income very little. A good substitute—say a canal—might still require a big shift in the location of production, Denver declining and St. Louis rising, but if it was indeed a good substitute the impact on the whole would have been small. On pages 19 and 20 he labels the increase of income the "social saving" from the railroad. On page 20 and in the long footnote on that page he notes that forcing hypothetical canals to carry goods in the same pattern as on the railroads would make his measure a lower bound on the truth. By an argument *a fortiori*, then, if he finds the measured social saving from the railroad to be small, the true social saving would be smaller still. On pages 22, 23, and 24 he examines the substitutes for rail—namely, wagon and water—arguing that if water was widely feasible the social saving would be very small. After a diversion into linear programming (page 26) and another *a fortiori* argument that his procedure gives a lower bound (page 28), he turns to estimating the costs of water (pages 44–47), breaking the cost into its parts. The cost of the higher stocks of grain and meat that would be required when the water froze in winter, for instance, is only a small amount (pages 44–46). Page 47 modestly describes these ruminations as "casual," yet feels able to put forward a sharp conclusion: on this score railroads increased national income by only six-tenths of one percent.

The figure relates to transport among the major regions of the nation, most particularly between the granary of the Midwest and the cities of the East and Europe. In chapter 3 Fogel calculates the amount that was saved within the Midwest. It too was small. In chapter 4 he argues (*contra* Rostow) that the secondary effects of railroad construction were small, not large. In chapter 5 he attacks in particular the Rostovian idea that the demand for railroad iron greatly stimulated the iron industry. Chapter 6, finally, is a concluding movement *allegro*, filled with crescendo and cymbal clash, which draws wide conclusions about the role of theory and statistics in history. The core of the book,

4. The critical and imitative literature is large and well surveyed in Patrick O'Brien, *The New Economic History of Railroads* (London, 1977) and Fogel's own presidential address to the American Economic History Association, "Notes on the Social Saving Controversy," *Journal of Economic History* 39 (1979), 1–54.

however, is the first fifty pages: it was this exercise that most stimulated the imagination of imitators and most infuriated the critics. Fogel published much of it as a separate article before the book arrived. In a few pages Fogel showed to the satisfaction of some that the railroad did not dominate American economic growth, and to most that the question needed rather more study than was earlier believed. It is a characteristic bit of Fogeliana, and of cliometrica.

II. THE RHETORICAL PUZZLE

Contrary to a line of thought much favored since Plato studied mathematics in his middle age, persuasiveness does not inhere in the proposition itself. The good man speaking well, not an inherent verity, persuades an audience, and this by no mere trickery. The apparently hardest case makes the point most economically, namely, that even standards of mathematical proof vary radically from time to time and from one audience to another.⁵ All the more will the character of the audience affect the persuasiveness of economics or history. The puzzle arises from this fact: to an audience consisting of a certain species of professional economist (though emphatically not all economists) the entire point of Fogel's book, and one of the two main points made in Fishlow's book, comes down to a three-line proof.⁶ It goes as follows:

(1) Railroads are supposed to have been a large factor in American growth.

(2) From rough-and-ready observations, however, one can see that railroads were about half as costly as the alternative and carried half the transport; transport is 10 percent of national income.

(3) If Adam Smith is in heaven and all is right with the world, then a (50 percent cost saving) \times (1/2 of transport) \times (10 percent of national income) = two-and-a-half percent of national income, no large factor.

A suitably trained audience, to repeat, will consider such an argument persuasive. Virtually in this form the three-line proof of smallness (known to some economists as Harberger's Law) was crafted by Peter McClelland to apply to the economic history of the Navigation Acts, for example. It has become a cliometric routine.⁷

The puzzle is, why did Fishlow and Fogel go beyond the three-line proof? To ask the question is to answer it: no one except the prepared audience would have been persuaded by it, and even the preprepared audience would not have noticed it. A half page in the *American Economic Review* entitled "A Simple

5. See, for instance, Imre Lakatos, *Proofs and Refutations* (Cambridge, Eng., 1976), *passim*; Mark Steiner, *Mathematical Knowledge* (Ithaca, NY, 1975), chap. 3; and in a more popular vein, Philip J. Davis and Reuben Hersh, *The Mathematical Experience* (Boston, 1981), 354, 357; Morris Kline, *Mathematics: The Loss of Certainty* (Oxford, Eng., 1980), chaps. 5 and 24, and *passim*.

6. The other point in Fishlow's book was in a way more important, though neglected outside of economic history, namely, that the problem of spillovers in benefits from railways could be solved, and in the event was solved, by local initiative. *Sic transit* all manner of interdependencies in investment decisions, about which Scitovsky, Rosenstein-Rodan, and Chenery have worried.

7. Peter D. McClelland, "The Cost to America of British Imperial Policy," *American Economic Review* 59 (1969), 370-381.

Proof of the Insignificance of Railways to American Economic Growth" would have looked idiotic in the rhetorical world of economics c. 1964 (it is indicative of change, for better or for worse, that it would look less idiotic c. 1984). In the rhetorical world of mathematics or biology, by contrast, such brevity has weight: the paper by Watson and Clark announcing the structure of DNA ("announcing," to be sure, not "demonstrating") was two pages long, a fair amount of it given over to thanking the agencies that funded the research. In other words, the rhetorical world that Fogel and Fishlow inhabited determined how much and what exactly they felt impelled to write. If they were to succeed they had to go well beyond the three-line proof. Their success, in other words, was a rhetorical matter, not written in the stars or the Nature of Science.

A related puzzle is, why did Fogel have more impact than Fishlow? Both are hefty books filled with much craft and art. But only Fogel's has spawned a large literature, arrayed recently by Patrick O'Brien and by Fogel himself.⁸ If at bottom the two books have the same point, and if the point is so simple, and if both are skillfully done, why did Fogel's hit harder? For anyone familiar with the case, this question, too, answers itself: it is a matter of the rhetoric of Fogel's book, or rather a matter of the differences in rhetoric between the two. In general, then, the solutions to the puzzles lie in rhetoric. To be particular—and the particulars are illuminating—one must study Fogel's rhetoric.

A rhetorical study of a piece of argument is not necessarily hostile. But the traditions of intellectual life demand it so strongly that a declaration of allegiance will perhaps be useful: I am wholly sympathetic with Fogel's methods and conclusions. I choose Fogel's piece as one of several in a forthcoming book to show that even good economics is rhetorical, and choose an example from economic history to show how important multiple audiences are. No condescension is involved. Had modesty not forbidden I might have chosen an example from my own historical work, which is similar to Fogel's in rhetorical style and about which I can hardly condescend. The example is purposely chosen as one of which I wholly approve from the pen of a man with whom I have been associated in the vulgar mind for a decade and a half.

The problem is that an unsympathetic rhetorical analysis is liable to cheapen the meaning of "rhetoric" into "evil rhetoric," a cheapening I wish especially to avoid.⁹ But someone who was unsympathetic to Fogel's book could easily arrive at the same observations about its rhetoric. Understood as the art of argument, the "charge" that a piece is "rhetorical" is not a charge at all, but a remark true of all speech acts. To note that in making his point Fogel uses legal procedures, scornful asides, scientific jargon, statistics, simulation, thought experiment, and the traditions of economic argument does not bury or even praise him. It describes him, and anyone else who tries to move the reason. Rhetoric in the sense used here is reason writ large.

8. See footnote 4.

9. Albert Hirschman points out to me that an ideological analysis has the same difficulty: if "ideology" is something only those other people do (poor fools), then the notion will never be developed coolly and fully.

Yet even Fogel, more sophisticated than most in such matters, is not entirely at ease with the rhetorical analysis to follow, and should not be imagined to agree with all of its conclusions. In correspondence he distinguished between "these pages [of his] and the evidential portions of the book" [Nov. 16, 1983, p. 1], not noticing that the portions analyzed here include the calculation of interregional social saving. He argued modestly that he does "not believe that the introductory chapter [through page 16: seventy percent of the passages discussed below come from pages 17 ff.] constitutes a proof of anything; it merely attempted to demonstrate that certain widely held views involved implicit magnitudes that had never been measured." Certainly the length of the book attests to Fogel's sincerity in this opinion: if the case was settled by page 16, or even by page 47, there would have been no point in going on to re-engineer hypothetical canals and re-estimate iron output. The opinion is mistaken, though, if it wishes to separate question-raising from question-answering. Both contribute to conviction, arguably in quite similar ways. Distinguishing the "context of discovery" from the "context of justification" is a well worn figure of scientific rhetoric, but it is not very persuasive.¹⁰ In some hands (surely not Fogel's) it is an excuse to slip arguments in without justifying them in detail—after all, the message goes, they are mere airy figments of the context of discovery, even if they do bear eighty percent of the weight of conviction.

Fogel worried, too, that any selection, and especially a selection analyzed rhetorically, would suggest "that the evidence does not matter much, that it is all just clever argument." Any righting of the balance against the rhetorical superficialities of Science will suggest as much. The rhetoric of *The Experiment* and *The Evidence* is unbalanced but not therefore without weight. Galileo *did* turn out to be right about gravitational acceleration, even though it is doubtful that he performed all the experiments he described and even though much of the persuasive force of his *Dialogo* came from then more conventional rhetoric. Let me here attest, in short, that Fogel's argument discussed below is very clever indeed, but so too are his later pages (and pages) of calculation (much of it, to be sure, otiose, but no science or art can claim perfect economy). Its truth is a good part of its beauty.

III. THE RHETORICITY OF THE TEXT

The rhetoric of the piece is so varied and thick that it obscures itself. One cannot see how the argument persuades or fails to persuade without disentangling the rhetorical pieces from each other, laying them out for separate inspection. The insights into how we believe may perhaps justify the bother.

The first point about Fogel's rhetoric is that it is unusually aware of itself as rhetoric. The rhetoric of the book is rhetorical. The prose has many charms

10. Compare Thomas Kuhn's remark in *The Structure of Scientific Revolutions*, 2nd ed. (Chicago, 1970), 9: "For many years I took [such distinctions] to be about the nature of knowledge, and . . . yet my attempts to apply them . . . have made them seem extraordinarily problematic."

and a few flaws, but above all it has force: no urbane indirection here; just bang, bang, bang. It announces its purpose repeatedly, signaling the use of this or that argumentative form. "The implicit assertion" is one thing; the "crucial aspect" is another; such and such "is beyond dispute"; "but the axiom is not primarily about" X, "it is about" Y; and "if the axiom . . . merely asserted" Z "there would be no reason to question it." These remarks *about* the argument and its enemies occur in one paragraph on page 10. Right to the end the arguments keep this self-referential character: the calculation is "casual" and "subject to considerable error," a self-deprecating description preparatory to emphasizing nonetheless that "there are grounds for having confidence in the result" (page 47); the estimates "may be too low," but even if they were raised they would not amount to much; "indeed"—an argumentative word itself, like "in fact" or "nonetheless"—even an absurdly generous concession to the opposition leaves the estimate low. The book smells of the court or debating society. In such places, unlike the laboratory or the corporate board room, rhetoric is not disdained, concealed beneath claims of being free from it. It is relished. In such places, and in Fogel's prose, it is the whole point, places where the whole point is not to announce results or to be powerful but to have a point.

The subject in Fogel, then, is the argument. He does not write merely about The Past. He writes more about the reasonings of History and Economics in the 1960s than about how people earned their living in olden days. On page 11, appealing to a common meta-argument in economics, he notes in other historians' arguments a "fallacy of composition"; in the same place he talks about whether proposition X follows from proposition Y, whether one historical argument is implied by another. One page 28—to pick another page at random, for most exhibit it—a remark about the argumentative "importance" of alternatives to the railroad starts the case. A "fact does not, of course, imply" such and such. "What makes this problem interesting" is that so and so "is far from obvious." An event "by no means implies" a certain conclusion. "Consider a hypothetical case." "Clearly, the implication" is thus and such. "Yet" the figure is "much too small . . . to justify" the opponent's case. It is like wrestling with Daniel Gable, the great wrestling coach at the University of Iowa and a great wrestler as well, hearing him whispering descriptions of his moves as he ties you into knots. Fogel goes on and on and on about the argument, inexhaustibly talking about it while doing it.

The rhetorical contrast with Fishlow's book is sharp. Though also a first-rate professional economist using at bottom the same economic reasoning as Fogel did, Fishlow sought to persuade with an historian's devices, singing sweet songs, evoking scenes in rounded phrases and apt choices of instance, and keeping all the while an ironic distance between the putative facts—or "facts"—as any sophisticated historian would wish always to write it—and the tale imposed on the facts. Fishlow's work is historical; Fogel's is historiographical.

The distinction does not damn Fogel, unless it damns many good historians, who spend time arguing about how one should argue about the rise of the English gentry or the economic origins of the American constitution. The notion

that it damns him became prominent in the immense and ill-tempered controversy over a later book, written with Stanley Engerman. It was thought to be a clever remark about *Time on the Cross: The Economics of American Negro Slavery* (1974) to say that it was "static"—a snapshot rather than a moving picture—and that even as a snapshot it was "not a rounded portrait of the system."¹¹ But in his contribution to the history of slavery as to the history of American railroads Fogel was not portraying the past in all its life and incident. He was making a point in a scholarly conversation about a portrait to be drawn in full later.

The heavily rhetorical rhetoric of the book inaugurated a new style of economic history, a forensic style that has become important in cliometrics.¹² The book made it fashionable and persuasive in economic history to use the argument *a fortiori* (itself an aggressive rhetorical figure), to which Fogel returns again and again, and to which we shall return presently. But along with this self-consciously methodological innovation came a style more suited to the courtroom than to the study, and widely imitated by younger scholars. Notions of demonstration in the West are permeated by courtroom analogies. As Wayne Booth remarks, "the processes developed in the law are codifications of reasonable processes that we follow in every part of our lives, even the scientific."¹³ Fogel's *Essays in Econometric History* became a casebook for the young economic attorneys defending the British entrepreneurs of the late nineteenth century or prosecuting the owners of country stores in the post-bellum South. It was a book about rhetoric in economics and history as much as about American railroads.

IV. WHY ITS RHETORICITY SUCCEEDED OR FAILED

The personal sources of Fogel's forensic tone are relevant insofar as they illuminate why the rhetoric persuades or does not persuade. Many literary intellectuals share his love of disputation—the horror of disputation among mathematical intellectuals (though Fogel is also one of these) determines their rhetoric, too.¹⁴ Many of the *literati* have the same personal history as Fogel: secondary-school involvement in clubs spent arguing over poetry, politics, and God; university lectures in rhetoric, or a debating society. Fogel was raised in New York City and went to Cornell University. Rhetoric in the ancient sense

11. Thomas L. Haskell, "The True and Tragical History of 'Time on the Cross,'" *New York Review of Books* (2 October 1975), 33–38.

12. Fogel disagrees. He argues (personal correspondence, Nov. 16, 1983, p. 1f) that the forensic rhetoric is confined to cases in which the cliometricians face a reader whose mind must be pried open in a more or less forceful way. It would appear that they judge many minds to be closed.

13. Booth, 157.

14. Even Paul R. Halmos, a reflective mathematician with a fine literary style, nonetheless admonishes young mathematicians to shun *ad hominem* remarks and literary frills: Norman E. Steenrod, *et al.*, *How to Write Mathematics* (New York, 1973), 19–48. The "unrhetorical" style (to be "unrhetorical," it should be clear by now, is an impossibility) was a creation of late seventeenth-century science.

has long prospered among the cerebral yeomen of the American Midwest, where to this day it is a common course of study among thirteen-year olds. The East now confines it mostly to universities.¹⁵ But like Latin and other parts of a genuine education it was more widely spread in the East in the 1940s.

Fogel's later experience gave him plenty of practice in openly rhetorical argument. When he finally moved on to American economic history he brought to a distinctly right-wing and *goyische* field the traditions of flamboyantly Talmudic disputation characteristic of New York Jewish intellectuals, especially left-wing intellectuals. The combination of a somewhat heated tone and the methodical treatment of every imaginable point—known anciently as *indignatio*, *diasýrmus*, *digéstion*, and *diállage*—was not invented by Fogel out of nothing. Marx especially used it, down even to the self-identification with science, and it has been one stream of social scientific rhetoric since him. In the 1940s one sees it in the cases prepared by labor union intellectuals about such mundanities as the construction of cost-of-living indices.¹⁶ These are pieces of science, but tough, argumentative, lawyerly science. So in Fogel. That Fogel had turned away from Marxist politics when he wrote the book does not run against the point but with it. As a recent convert to liberal capitalism he saw deeper into its rhetoric than would one raised in the faith. The literary critic Kenneth Burke admired Augustine's treatment of the rhetoric of St. Paul: St. Paul, like Augustine himself, was "a master of apologetics, and like him one of the twice-born whose sensitiveness to communicative problems was sharpened by the memory of harsh conflicts within, of inner voices at one time opposing each other like rivals in a debate."¹⁷

The forensic style has consequences for Fogel's persuasiveness. All attempts at persuasion—that is to say, all scholarship—depend in part on what the Aristotelean tradition calls the "ethical appeal." It appeals to the character (*ethos*) of the speaker as perceived by the audience. "This interaction between speaker and speech," assert Perelman and Olbrechts-Tyteca in *The New Rhetoric: A Treatise on Argumentation*, "is perhaps the most characteristic part of argumentation as opposed to demonstration." They continue:

The statement made is in fact not the same coming from one person as from another; its meaning does change. There is not just a simple transfer of values, but a reinterpretation in a new context, which is provided by what one knows of the presumed author. . . . The speaker's life, insofar as it is public, forms a long prelude to his speech.¹⁸

Had Einstein's letter to Roosevelt asserting the possibility of a nuclear bomb

15. It is not trans-Appalachian chauvinism or the airfare to Salt Lake City that explains why universities in states with an Atlantic coast accounted for only 11 percent of the 119 participants in the Third Summer Conference on Argumentation, sponsored jointly by the Speech Communication Association and the American Forensic Association. These states have nearly a third of the four-year colleges in the United States, but weak traditions of rhetorical studies.

16. I am indebted to personal correspondence with Hugh Rockoff for this point.

17. *Rhetoric of Motives* (Berkeley, 1969), 75. Augustine was a professional teacher of rhetoric.

18. Chaim Perelman and L. Olbrechts-Tyteca, *The New Rhetoric: A Treatise on Argumentation* [1958], transl. J. Wilkinson and Purcell Weaver (Notre Dame, IN, 1969), 317, 318, 320.

been written by Harvey Einstein of 3226 Flatbush Avenue, Brooklyn instead of by Albert Einstein of 112 Mercer Street, Princeton, it would probably have received less attention. Like most other species of argumentation the ethical appeal is commonly subordinated to *logos*, reason, and its hopeless but apparently inexhaustible quest for certainty. Common though it is in the intellectual traditions of the West, the subordination is not obviously correct either as description or as advice. Joseph Wenzel has recently argued that the subordination might well be put the other way around. In the works of Aristotle, and of Jürgen Habermas, he argues, "logos may be construed as a subsidiary category of ethos. One exhibits good sense [and therefore good, believable character] by speaking 'truth.'"¹⁹

In any event, the ethical appeal is an important, ancient, and legitimate argument. The most important of the ethical appeals Fogel wishes to make is to the character of the Scientist. There is no question that Fogel had the appeal in mind. All his methodological papers have promoted what he calls scientific history, though he has recently emphasized the considerable merit in other kinds.²⁰ The language of the book has many scientisms: "the hypothesis can now be stated" (p. 19) and "tested" (p. 22); "the objective standard for testing the hypothesis stated above" is such and such (p. 20); we have in a properly scientific way some "estimates" (p. 22 and *passim*), an "inference" (p. 22), "available evidence" (p. 22), an "order of magnitude" (p. 23), a "method" requiring "the following data" (p. 26), and so forth. The talk of hypothesis testing uses words appropriate to rolling balls down inclined planes (or, it might be, claiming to have rolled balls down inclined planes without actually having done so). The appeal is: "I am a Scientist: give way."

The form and force of an ethical appeal will depend on the audience addressed. Like all cliometricians Fogel addresses audiences that have two very different notions of what constitutes good scholarly character, economists and historians. The appeal to The Scientist has some force with both, or to anyone participating in our science-loving civilization. Fogel appeals to historians in particular with his conspicuously displayed mastery of government documents and trade publications relevant to railroads, no trivial bibliographical feat (see footnotes 53 and 55 on pp. 44-45). The soothing words of caretaking that he sprinkles around each number are part of an ethical appeal to the character of an historical scholar: "the preceding argument is based on a [merely] hypothetical case" (p. 12); "the calculation is very crude" (p. 23); the estimate is "subject to considerable error" (p. 47). Some historians are deeply suspicious of numbers and like to be told of their frailties. All are impressed by scrutiny of the methods used to construct them, which Fogel delivers in quantity. And the

19. Joseph W. Wenzel, "Ethical Proof: A Reexamination of Aristotelean Theory" in *Argument in Transition: Proceedings of the Third Summer Conference on Argumentation*, ed. D. Zarefsky, M. O. Sillars, and J. Rhodes (Annandale, VA, 1983), 51.

20. Robert William Fogel and G. R. Elton, *Which Road to the Past?* (New Haven, 1983), esp. 65-70.

sheer length of the book is an ethical appeal in historical circles, contrary to the ethical appeal of elegance and brevity in less discursive subjects.

But Fogel mainly appeals to economists, presenting the *ethos* of The Sharp Economist. The necessities of academic politics required it. There were and are no departments of economic history in North America, the field being divided between economics and history. Economic history in 1964 was on the defensive in American departments of economics, dismissed as antique by the new technocrats strutting about the camp in their gleaming armor (they hadn't done any fighting in it yet and therefore hadn't discovered that it didn't cover much). It was essential that young economic historians prove themselves technically able. For this reason the same Albert Fishlow, and Paul David, in the midst of the time they were doing their historical dissertations at Harvard, wrote together a highly technical piece on the general equilibrium theory of second best. Fogel repeatedly displays the brightness of his economic armory. On p. 44, for instance, he expresses false doubt (*aporía* in Greek rhetorical terminology) that the cost of time lost in winter on waterways can be calculated. Then he shows elegantly and quickly in the next two paragraphs how it in fact can.

Economists have anxieties as well as pride about their scientific rank. Aristotle wrote that "people always think well of speeches adapted to, and reflecting, their own character," or, one might better say, reflecting what they wish their character to be.²¹ Economists therefore delight in scientific talk, the closer to physics the better, and Fogel provides ample delectation. The most delightful case is also the most obviously ornamental in character, and probably the most calculated (thought least calculable), namely, the proposal to apply to the problem of simulating a counterfactual system of canals "a relatively new mathematical technique—linear programming" (p. 26; the technique was some twenty years old at the time). The proposal is made, discussed as a proposal for two pages, then suddenly and permanently dropped, having served its function of establishing the scientific *ethos* of the writer.

The ethical appeal, then, stands out in Fogel's piece. Yet it did not succeed, except perhaps among the most important audience a scholar can convince, young scholars without convictions ready to commit themselves to a novel faith. The annoyance and fear that Fogel inspired in older scholars came from his very mastery of rhetoric. The audience is not being told a story, soothing and uncritical, the aegis protecting the historian. Nor is it witnessing a cute trick, ironically amused by the magician and by its own reaction, as an audience of economists prefers. Fogel's implied audience listens instead as a jury to F. Lee Bailey laying out the case; or, worse, as a team of prosecuting attorneys whom Fogel/Bailey is grinding to bits. Fogel's relentless progress through each point and his decisive language at each conclusion puts the audience on the defensive, as in a trial. Perelman and Olbrechts-Tyteca write, "the attitude of the speaker can indicate his respect for the audience: discretion, re-

21. *Rhetoric*, transl. W. R. Roberts, Bk. II, chap. 13, 1390^a 25.

straint, refusal to pronounce on a point in which he is knowledgeable, and brevity in presentation can all serve as tokens of esteem for his audience."²² These are decidedly Gallic tokens. In America such taciturnity would more often be given the other possible interpretation, not shy modesty but closed-mouthed disdain. The point in any case is that Fogel's fullness of argument, unrelieved as it is by the ironic self-deprecation so important for establishing good character in Britain and North America, overwhelms most audiences, who in defense remain stoutly difficult to persuade.

Some audiences, indeed, do not wish to be persuaded. The doubt that long arguments inspire by their very length, the ignorant suspicion in even very learned minds that rhetoric is after all mere trickery, the belief, nurtured in our society by the lamentable split of fact and values, that most of the important matters are unarguable anyway—all these produce, as Robert Scott remarks, "the feeling that undertaking to persuade others is not quite right."²³ The odd result is that the Announcement, the more bald, unargued, and authoritarian the better, is the favored form of scholarly communication. The authors in *Science* or *Nature* use a rhetoric of astonishing brevity to announce world-shaking results: there it is; take it or leave it. One wonders why unargued cases are accepted more readily than argued ones, even among professional arguers. One would think that in professional writing aimed at a jury of peers the prose of the attorney submitting evidence and argument would be more pleasing to the audience, especially to a mature one, than that of the judge handing down unargued conclusions. But it appears not.²⁴

The same is true of history, as Fogel himself notes in a recent discussion of historical method, using as one might have expected a courtroom analogy:

The traditional historian [Fogel's term for the alternative to his "scientific" historian so prone by his own account to controversy and over-elaborate proofs] often comes before his colleagues . . . as an expert witness . . . and his book or paper constitutes his expert testimony. . . . Thus distinguished traditional historians sometimes depart from the monographic pattern of documenting each statement in their study by footnotes. . . . An attack on the credibility of the historian qua witness, and many of the attacks are *ad hominem*, has the same force as an attack on a witness in court.²⁵

22. Perelman and Olbrechts-Tyteca, 321.

23. Scott, 9. Impatient with lengthy arguments not his own, George Stigler, whose works are a reliable codex of modernist values, once wrote in jest that "there are not ten good reasons for anything" ("Does Economics Have a Useful Past?," *History of Political Economy* 1 [1969], 226).

24. To take the risk of arguments requires a different personality than taking the risk of results. That is one possibility. The other is the external condition under which science operates. It is said that most of the results produced by even very good scientists turn out to be wrong or, more commonly, irrelevant to anything of import. Perhaps the decisiveness with which this weeding out occurs in science makes the emotional investment of explaining why one believes something too large for most people to make. In fields with fewer clear failures—history, for instance, or literature—the investment entailed by close argument is emotionally possible. In science one distances oneself from a result, making it emotionally possible to put it forward, by treating it as just that—a mere "result," no wondrous thing, advanced with seemly diffidence, and probably, after all, explicable by the Fifth Law of Thermodynamics: "No experiment gives quite the expected result." (cf. Thomas Kuhn, *The Essential Tension* [Chicago, 1977], 184).

25. Fogel and Elton, 54.

That is, even professional historians sometimes prefer history to be presented as the announcement of an Authority, as it actually was (*wie es eigentlich gewesen*), not as some argument in tiresome detail, and most assuredly not as some argument for which there is another side. Fogel reminds the audience repeatedly that history and economics do not fit the epistemology of simple folk who believe that what is, is. His rhetoricity mightily irritates, undermining the *ethos* he seeks to portray by the very excess of enthusiasm in its portrayal.

V. HOW THE TEXT USES THE COMMON TOPICS

Exhibiting the details of Fogel's ethical appeal, then, shows in one way the rhetorical complexity of his case. Another way is to exhibit his use of the arguments themselves. The word is "topics" (Greek *topoi*, or places, as in English "commonplaces" and Latin *loci communes*), the forms of argument that the rhetor can take down from the shelf. Fogel's prose gives the impression of using an unusually wide variety of topics, stacked prettily. The impression can be tested against some easy case elsewhere in economics—John F. Muth's "Rational Expectations and the Theory of Price Movements" (1961)²⁶ (tests only work for easy cases: the skill is to choose easy ones that are interesting). A selection from the more obviously argumentative parts of Muth's paper contained about 800 words. The first 800 words of the selection from Fogel run down through the fatal phrase "3 percent of gross national product" at the end of the fifth paragraph. Among the classically recognized rhetorical figures of argument, Fogel uses in these two pages the following:²⁷

The whole is *didllage*, the piling up of arguments on one point, the point being that what matters is how good a substitute there was for railroads. In detail Fogel uses these:

Repeatedly, he uses *paramológia*, that is, conceding a minor point the better to achieve a larger:

"If the axiom of indispensability merely asserted [X] . . . there would be no reason to question it" [first paragraph].

"Although the evidence demonstrating that the eruption of a boom psychology . . . is considerable. . . ." [third paragraph].

26. *Econometrica* 29 (1961), 315–335, on which I have written an essay forthcoming in *History of Political Economy*.

27. The naming of parts to follow helps see the parts, as one can only see—really see—a house when equipped with a vocabulary of pediment and arch and gable. I do not wish to appear an enthusiast for "the flinging of Greek-fed, polysyllabic bullshit" that Wayne Booth deplores in literary criticism (*Critical Understanding: The Powers and Limits of Pluralism* [Chicago, 1979], 277). That Fogel fits the Greek is a point of substance. As it was once profoundly put by an important figure in rhetorical studies, Michael Calvin McGee, "rhetoric is bullshit." The list against which Fogel was compared is in Richard A. Lanham, *A Handlist of Rhetorical Terms: A Guide for Students of English Literature* (Berkeley, 1968), section 3.11, "Techniques of Argument" and surrounding sections on figures of style, supplemented a little for omissions (e.g. *reductio ad absurdum*, *a fortiori*, rhetorical question [*hypophora*]). In later work I plan to use Perelman and Olbrechts-Tyteca on *The New Rhetoric*, which is more directed towards modern argument.

"Even the demonstration that railroads produced effects that were both unique and important. . . ." [fourth paragraph].

The concession is part of his most characteristic rhetorical figure, in which he says, in effect, "Even if I concede to my opponents such-and-such a point, my argument goes through."

Repeatedly, he draws attention to what he claims is the important aspect of a case. At the end of the first paragraph, the importance of substitution is emphasized by the figure of *anáphora* at the beginning of the next sentence: "The crucial aspect. . . The crucial aspect." The two alternative expressions of the same idea are repeated for effect: *commoratio*. Each of the two sentences has internally a strongly parallel structure, balancing the phrases in the first sentence (*isocolon*), leaving off phrases in the second (*ellipsis*, as this sentence left off the second occurrence of "sentence"). The beginning of the second paragraph repeats the point again; the second sentence still again: four repetitions of the point in different words (*tautología*), bordering on *pléonasm*. But it is the main point of the book, and one difficult for much of his implied audience to grasp. If any point warranted emphasis, this one — *a fortiori* — did. The third through the fourth paragraphs draw attention to the central point by attacking its alternatives, that is to say, alternative definitions of what it might mean for railroads to have been "indispensable": the figure is *apóphasis*, the orderly rejection of all the alternatives except one.

Repeatedly, he disparages opposing arguments (*diasýrmus*) — a technique so obviously forensic that historians use it gingerly if at all. Fogel, with other economists, has no such scruples.²⁸ In the second half of the second paragraph, for instance, he is scandalized by the lack of scientific evidence concerning the allegedly unique contribution of the railroad. One can see the indignation by deleting the words that impart it: "almost exclusively"; "systematic"; "virtually"; "questionable"; "rather than on demonstrated fact." In the fourth paragraph (p. 11), again, he adopts an ironic tone to disparage the indispensability of block signals and track walkers, by *reductio ad absurdum*.

Repeatedly, he notes the absence of decisive evidence. He appeals again to the ideally modernist historian/scientist, who does not take an umbrella without a certified prediction of light rain. The "evidence" so often mentioned is quantitative: the figure is therefore a modern one, little used in the nonquantitative civilization that thought most carefully about the means of persuasion.

A derivative of the modernist enthusiasm for properly modernist evidence is the figure in the third paragraph (p. 10f): "no evidence has been supplied. . . . And it is doubtful such evidence can be supplied." Anyone will recognize the figure as one of the common topics — the usual, general topics — of modern intellectual life, carrying conviction among all who pretend to intellectuality. The

28. Compare paragraph 17. The rhetorical question evokes a similarly strong reaction. It is rare among historians, but common among cliometricians (here paragraphs 10 and 13; or any work by Jeffrey Williamson, *passim*).

example at the end of page 11 is simulation (a Fogelian favorite, occurring again throughout, as on pages 23, 24, and 47), one of the special topics in economics and in other quantitative subjects. These carry conviction only among experts.

One can fit the argument of a paper like Muth's much less readily than Fogel's into the classical categories. Muth, with most economists, seems seldom able to carry a rhetorical turn to its conclusion. He says, "It is rather surprising that X is so," but this beginning of a good, old-fashioned bout of ironic *thaumásmos* (expression of wonder), which Fogel would have teased out to a paragraph, is immediately abandoned in favor of an appeal to "theoretical reasons." They turn out in the next sentence to be appeals to aesthetic standards, Occam's Razor in particular. And in the next the American Question is asked: if you're so smart at expectations, why aren't you rich? The argument is *ad hominem*, that is to say, suitable only to persuading economists, by their very character. The argument makes it difficult for an economist—one who presumably believes economics, as some half of them do—to claim to be able to predict the economy. (Perelman and Olbrechts-Tyteca limit the term *ad hominem* "to arguments which the speaker knows would be without weight for the universal audience, as he conceives it.")²⁹ But Muth drops quickly even this use of the common topics crucial to his case: he indulges in no fourfold repetition and elaboration, no *commoratio*, *tautología*, and *apóphasis* here.

So it goes with a rhetorical analysis of the usual technical articles in economics. Unlike Fogel's work, they fit badly into the recognized figures of rhetoric, classically defined, though this does not by any means imply that they are "not rhetorical." They are clearly rhetorical, or seeking to persuade. That something is thinly and disjointedly argued does not mean it is unargued. What divides the rhetoric of Fogel from the mainstream of economics is Fogel's heavy use of the standard-issue, *common* topics of argument. Using these heavily will inspire a charge of "mere rhetoric," such as Fogel faced for his trouble; using mainly the uncommon, *special* topics that appeal mainly to economists or historians will inspire a commendation for eschewing mere rhetoric, the rhetoric disappearing from view behind the mask of the economic or historical scientist.

By far the most important of Fogel's rich array of common topics, of course, was his argument from lower or upper bounds. The book consists of an attempt to find the least upper bound on the benefit from railroads. If the upper bound is small, *a fortiori* the true effect is small. He draws on the argument very frequently (for instance, on pp. 20, 23, 28, 45, and 47), biasing the case against himself. The puzzlement with which the ploy was greeted in historical circles can be explained by its melding of two rhetorical traditions quite foreign

29. Perelman and Olbrechts-Tyteca, 111. The term for personal attacks on the opponent is *ad personam*.

to history: "least upper bound" is in fact a term from a field of mathematics known as analysis; the aggressive use of arguments *a fortiori* characterizes left-wing politics (or right-wing politics: in any case the wings, not a center unable to argue from a radical stance). A recent convert from active political life returning to mathematical analysis, as Fogel was in 1958, would see that the mathematical and the political rhetorics were in fact identical. Science and politics meet in their forms of argument.

The argument is widely used. Rogue Riderhood in *Our Mutual Friend*, for instance, used it in attempting to frame Gaffer Hexham by perjured affidavit:

He says to me, "Rogue Riderhood, you are a man in a dozen" — I think he said in a score, but of that I am not positive, so take the lower figure, for precious be the obligation of an Alfred David.³⁰

Technically speaking, the argument from upper and lower bounds combines elements of *paramológia* (conceding a smaller point to gain a larger) and argument *a fortiori*. Consider the following progression from one to the other:

A) *Paramológia*: Even if I admit factor X, which runs against my case, the case that T is small is true.

B) *Least Upper Bound*: Even if I take a very large overestimate, E, of T, E is small, and therefore T is bound to be small.

C) *A Fortiori*: The estimate E is bound to be larger than the truth T; E is small; all the more reason to believe (*a fortiori*) that T is small.

Fogel's use of this common one of the common topics led many graduate students to take up careers of under- and overestimating things. The usual rhetoric of history in such matters (and of economics, though less prominently displayed) demands "accuracy." An estimate of the population of fifth-century Athens must be "accurate"; a description of the American economy as competitive is to be judged for "accuracy." Any physicist would attest that the word is meaningless without bounds on the error; and any literary critic would attest that the accuracy necessary to the argument depends on the conversational context. There is no absolute sense of "accuracy," as Oskar Morgenstern once argued to economists in a neglected classic using the rhetoric of applied mathematics, *On the Accuracy of Economic Observations*.³¹ Fogel's method attracted converts because it responded to such remarks. Neither conventional econometrics nor conventional historical method do. The neophyte adopting Fogel's rhetoric could now make estimates that bore on real conversations of scholarship. By recognizing that "accuracy" depends on how much accuracy is needed to persuade, she could advance the conversation, building a case on purposely "inaccurate" estimates (for example, small but overstated estimates of something it is desired to prove small).

30. I thank Professor Barry Supple for bringing this piece of evidence to my attention.

31. Oskar Morgenstern, *On the Accuracy of Economic Observations*, 2nd ed. (Princeton, 1963). The neglect of Morgenstern's book says much about the weak grasp of rhetorical issues in economics.

VI. HOW THE TEXT USES THE SPECIAL TOPICS

Fogel's contribution to economic method, then, is classically rhetorical, drawing on the common topics. But of course like any economist—indeed, partly in order to make the ethical appeal that he *was* like any other economist—he used also the special topics of economic discourse. Special topics are potted thoughts for specialists, ready to be taken from the shelf by the economist and displayed prettily to other economists for some argumentative purpose.³² By now it need hardly be emphasized that it is not an attack on a set of arguments to label them special topics in a rhetoric. Alongside appeals to symmetry, which is a common topic, mathematicians use the special topic of “for-every-epsilon-greater-than-zero-there-exists-a-delta-greater-than-zero-such-that-X.” Alongside appeals to the good story, which is a common topic, history uses the special topic of “the-facts-here-are-derived-from-primary-sources-that-I-have-personally-examined.” The one appeals to reasons that most people can appreciate, the other to reasons that only specialists can. Though special topics are often called “jargon” and sometimes are, they serve a legitimate function. Not every argument can be made attractive to one's mother.

The test of the specialness of the topics is how they affect noneconomists. Noneconomists either will not react to them at all, viewing them as mere unintelligible knots in the prose, or will misunderstand them, giving them more or less weight than they warrant. If you are not familiar with the history of a conversation you will misunderstand the remarks made in it and if you are bold will make remarks of your own that do not bear on the subject. Fogel speaks for example on page 11 of the “opportunity to profit from unexpected changes in the value of land” consequent on an improvement in transportation. An historian reading this, unless a genius of untutored perspicacity like Frederick Maitland or Marc Bloch, is unlikely to realize that profits in the sense of capital gains must be unexpected if they are to exist. Few without training in economics will realize that if a rise in land values is expected to happen it is no longer an opportunity for profit, because the value of the land will have risen immediately. The force of the word “unexpected” escapes the noneconomist entirely. Here Fogel is speaking to his economist colleagues, as though in an aside.

Again, he speaks on page 10 of the “incremental contribution over the next best alternative.” To an economist the phrase is familiar poetry, bringing to her mind an apparatus of thought in handsome graphs. She accedes to the metaphor. The noneconomist, on the other hand, does not understand why the “next best alternative” would be relevant at all. Even if he understands it, to believe it he needs to believe that people do things for good reasons. He believes he knows they often do not: he can easily believe they would sometimes pick walking or carts rather than efficient canals when deprived of their beloved railroads. And “incremental,” if it means anything to him at all, is equally for-

32. I offer the Greek words, *idioi topoi*, to anyone who wishes to make use of them.

eign to a noneconomist's way of thinking, which sees the railroad as immense and lumpy, no "increment" at all. The special topics evoke special responses in the economist. They are quick little arguments. But of course they leave noneconomists cold.

The ringing declaration on the bottom of page 12 that "the issue can only be settled empirically" will strike the historian as simply absurd. He does not know any other way to settle disputes about the way things are. The associated remark that "large equity effects do not necessarily imply large changes in the productive efficiency of the economy" will strike him as absurd in another way. The notion that all that matters is the net effect will please economists but not many other people. Talk that belittles the so-called "equity effects" strikes them as odd, even immoral. And truth to tell, based as it is on hypothetical compensation never actually forthcoming, it probably is.

So the special topics can hardly be expected to persuade noneconomists. Regrettably, they repel them. The opportunity cost of enchanting one's fellow economists is alienating the rest. There is no such thing as a free argument. But the thing needed to be done if Fogel was to convince his closest colleagues—though it should be noted that Fogel was at Rochester, Chicago, and Harvard a professor of history, too. A desire to speak to economists explains the sudden turn of the argument at the top of page 13, a pretty pirouette. He speaks to historians when patiently explaining just before why manipulations of rates by railroads did not necessarily cause a loss of income to the whole nation. The economist asks, But what if the manipulation leads to monopoly? Another economist shoots back (dropping Schumpeter's name: *commemoratio*), Monopoly can be good for you. Speculation is met with counterspeculation. It's the scholar's way of saying "So's your uncle."

The discussion of the special topic of adding a constraint is another instance of conversing with economists, this time more extensively. Fogel argues on page 20 that forcing traffic to take the route suitable to a railroad when the railroad has been imagined out of existence will lead to expensive transportation. The advantage of the railroad will appear all the greater, giving all the more reason, *a fortiori*, to think its advantage small if the calculation does prove small. Economists know the topic in other applications: at its most abstract, a maximizing system can only be hurt by the addition of a constraint. Fogel spends a good deal of time on it, more time, for example, than on the topic next door to this one in the row of arguments, the "next best alternative." All of page 20 talks of it, and it is mentioned elsewhere. The elaborate footnote 10 attached to the argument, the longest in the book, takes the form of dividing the possible indexes and discussing each, the figure *diéresis*, for which Fogel's teacher at Johns Hopkins, Fritz Machlup, was famous.

Some of the special topics are so special that they are not topics. That is, they are not intelligible even to most economists on first reading. If repeated enough in a scholarly conversation they would take on a topical character. Fogel anticipates criticism and wards it off with many such cryptic little arguments (the figure is *procatalépsis*). A comparatively lengthy example is the talk without

evidence in paragraph 16 about the marginal cost of canals. Canals have to be able to take easily the extra burden imposed on them in Fogel's counterfactual world without railroads. "The available data" suggesting they could take it easily turns out to be unelaborated common knowledge. But seeing the implications of the common knowledge is not easy even for an economist.

Another such argument forestalling a criticism that later grew into a substantial literature is the clause on page 12 (cf. footnote 17; and note that in both cases the remark is made in connection with the three-line proof): "given the historical stability of the aggregate saving and capital-output ratio." The given fact was announced by Fogel's mentor, Simon Kuznets. If true (it is not if human capital is included), it parries a possible thrust, one delivered indeed some years later by Jeffrey Williamson. Williamson's case for the railroad causing a big rise in savings rates looks a lot less formidable if savings rates did not rise during or after.

Fogel crams a good deal of economics into each page, more than is usual even in densely argued theoretical works. Page for page it is good stuff, a point not lost on the committee that elected this historian to one of the first economics memberships in the American National Academy of Sciences. Fogel plays the economic audience well; and no blame attaches. That is what special topics are for.

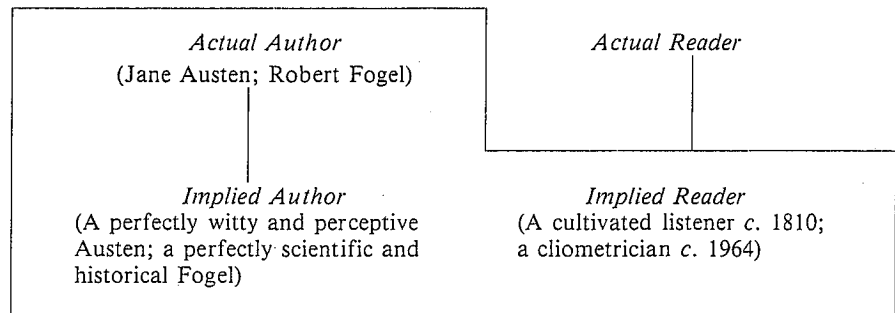
VII. HOW THE TEXT INVENTED AN AUDIENCE

The talk of special and general topics presupposes a division in the audience between specialist and generalist. Rhetoric above all emphasizes the audience. It rejects a view of speaking that imagines politicians and poets and even economists to be speaking into a void, or to themselves. We must choose an audience for our productions. The teacher of composition emphasizes that a writer does not have the choice to abstain from the choice, yet most of her students try anyway, or fail to try. Whether consciously or not, further, the writer does more than merely choose an audience from the existing population: in his mind's eye, or his writing's tone, the readers become not merely his choice but his creation.

The ideal is that of Kenneth Burke, Walker Gibson, Wayne Booth, and other exponents of rhetorical criticism.³³ The author of *Emma*, to take Booth's favorite example, creates an authorial persona, an "implied author" who speaks to another of her creations, the "implied reader." The actual reader must adopt the role of the implied reader if he is to enjoy or believe the book. Look at the diagram:

33. Kenneth Burke, *A Rhetoric of Motives*, *passim*; Wayne Booth, *The Rhetoric of Irony* (Chicago, 1974) 11, 14, *passim*; Booth, *Critical Understanding*, 268ff.; Walker Gibson, "Authors, Speakers, Readers, and Mock Readers," *College English* 11 (1950), 265-269, reprinted in *Reader-Response Criticism: From Formalism to Post-Structuralism*, ed. Jane P. Tompkins (Baltimore, 1980).

FIGURE 1

The Author Creates an Implied Reader and an Implied Author

The author's domain is everything within the lines.³⁴ The reader comes along for the ride: the actual readers "assume, *for the sake of the experience*, that set of attitudes and qualities which the language asks us to assume." "A bad book," continues Walker Gibson, "is a book in whose mock reader we discover a person we refuse to become, a mask we refuse to put on, a role we will not play."³⁵ The implied author in this little drama, of course, has the floor. He delivers an oration to the implied reader. That is why it is a matter of rhetoric.

Fogel would seem to require two implied readers, both close to contradictions in terms, the Historically Interested Economist and the Economically Sophisticated Historian. Fields under dispute between two methods, as American economic history was during the 1960s, cannot have one reader. Yet much writing, Fogel's included, presupposes one alone, able to appreciate every nuanced remark about fixed capital-output ratios or the wisdom of the Joint Traffic Association, *Proceedings of the Board of Managers*, 1896. At the time Fogel wrote there were few actual readers who could take on the role of his ideal implied reader.

But the excellence of his work and the work of other pioneers created in time actual ideal readers, the cliometric movement. Fogel was an orator setting up his soapbox in Hyde Park, gathering after a while a crowd capable of appreciating his speech. This is how scholarly discourse changes: the crowd gathers bit by bit around a different orator with a different assumed audience. The audience is not so much selected as trained, trained by repeated attempts to imagine itself as the implied reader. Something of the sort appears to have occurred in modern mathematics. Hilbert's program of formal rigor has been

34. Which is how this notion differs from more recent reader-response criticism. Among the Barthes/Fish tribe the reader is ruler of the domain. The author is *auctor*, perhaps, but no *auctoritas*: he merely produces a text, which a fanciful reader uses as she will. It helps understand them both to notice that in the United States the two approaches dwell even in different academic departments, the one Communications and Theatre Arts (or Rhetoric), the other English (or Comparative Literature). Incidentally, the older "New Criticism" removed the reader completely.

35. Gibson, 1, 5; italics supplied.

pushed so far that present-day mathematicians only understand formal rigor of a Hilbertian sort. An audience of mathematicians is merely puzzled, even confused, by attempts to give physical or other motivation to mathematical argument. An audience has been assembled deaf to certain forms of talk.

Fogel created an implied reader more definite than merely a generalized historical economist. His reader is an earnest fellow, much impressed by Science, in love with figures and the bottom line, a little stubborn in his convictions but open to argument and patient with its details. Such an implied reader is less attractive than the more common ones in successful academic prose. Fishlow's book creates one more distant and disengaged, one sensitive to ironies, amused by verbal rotundities, impatient with closely argued economics but very patient indeed with narrative indirection. It is something like the implied reader of the best history.

The implied reader of the best economics shuttles gracefully among algebraic, geometric, and literary arguments. Fogel, though perfectly capable in all three, sticks to prose. The economical reader, even if a socialist, needs no factual proof of the efficacy of markets. The belief impelled socialist economists in the 1930s to invent an oxymoronic theory of "market socialism." Fogel, though well educated in such mysteries, spends much of his book amassing evidence that markets do in fact work—an inquiry that in part by his example became a leading *topos* of cliometrics. Above all the economical reader delights in the simplest argument available. Economists shave dangerously close with Occam's Razor. If some apparently complex behavior can be reduced to a slogan or a three-line proof the economist can be relied upon to seize it. Fogel, though well aware that to the right audience his point could be made in three lines, felt it necessary to write 9000 more.

The three-line proof draws on all the peculiarities of the implied reader of modern economics. It translates a literary remark about the indispensability of railroads into algebra, then draws on the logic of markets to make the simplest available inference. Look back at it. To the implied reader that economists invite their actual readers to become the proof is persuasive. Fogel gives it on page 11, repeating it in a slightly different form on pages 23 (where he states the opposite case the better to knock it down) and 24. But it could not persuade the reader Fogel wished to create, and whom by his eloquence he did in time create.

Fogel, then, accomplished a good deal with his rhetoric. Style, the genre, the audience are not "mere matters of form." In economic scholarship, as in philosophical scholarship, they are a good part (not all) of the substance:

Conviction is often carried by a charismatic, authoritative style: its clarity and condensation, the rhythms of its sentences, and its explosive imagery. But often the form of a work assures its legitimation: a dedication indicating continuity of descent, a *nihil obstat*, the laying on of hands by footnotes acknowledging the advice of established authorities, the imprimatur of publication by a major university press. The apparatus

of footnotes, appendixes, graphs, diagrams, formulas, used with measure and discretion, indicate a proper sobriety. . . . Sobriety, attention to detail, care without obsession, the right balance of generality and attention, an easy rather than a relentless use of imagery and metaphor—these are integral to philosophical legitimation.³⁶

But Fogel was doing more than working within an existing scholarly genre. He made up a new one. Kuhn's notion of revolutions of thinking in physics as shifts in paradigms has been of course grossly overworked, applied mindlessly to shifts far from revolutionary in fields far from physics. The case of Fogel and cliometrics, however, does make the point that the shifts are not only or even largely shifts in syllogism or fact, but in ways of talking. Fogel changed the subject of the conversation and changed its rules.

The metaphor of scholarship as a conversation is more capacious even than that of speechmaking. It not only allows the audience a role but lets it speak back, heckling or, better, voicing sober objections to some Socrates. Conversations use language; and it is impossible to have a language of one's own, untouched by tradition or by the rest of the conversationalists. Knowledge in history or in economics, as in physics or literature, is a social event, like a coronation or a day in the wheat pit. It is often a new style of conversation, a new way of speaking. Much had economic historians travel'd in the realms of gold / And many goodly states and kingdoms seen. / Yet did they never breathe its pure serene / Till they heard Fogel speak out loud and bold. Science, even the science of the countinghouse and the railroad station, speaks with the golden rhetoric of physicists and poets.

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36. Amelie Oksenberg Rorty, "Experiments in Philosophical Genre: Descartes' *Meditations*," *Critical Inquiry* (March 1983), 546.