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*The Achievements of the Cliometric School*

THE members of the Association must be sick to death of "The Achievements of the Cliometric School." The health of a field, it is said, is inversely proportional to the percentage of essays on method, by which standard cliometrics itself was sick to death in childhood and is only just now recovering. The few essays on method appearing nowadays are usually commissioned, lack revolutionary fervor, and have become as sportswriting: gee whiz, how extraordinary has been the growth of cliometrics; cliometrics, of course, is gravely limited by its attachment to neoclassical economics; do not be alarmed by counterfactuals.<sup>1</sup> Essays on method, like articles on the sportspage, irritate the players (nobody loves a critic), flatter the owners (in whose pay he sometimes labors), and hearten the loyal fan (with the written equivalent of the chant "We're number one"). They foreshadow the post-season banquets and their awards: Most Valuable Scholar, Best Book Reviewer (Golden Glove), or, in another mode, Best Historian in a Supporting Role, and Farce of the Year.

The most important of their social roles is to enable busy people to speak wisely of the game without putting in the hours at the park. Sad to say, many historians and economists get their knowledge of cliometrics from the academic sportspage: articles in the "Tasks" issue of this JOURNAL, scholarly and not so scholarly book reviews, or, to descend to the ridiculous, the *New York Review of Books*. The fatuities that result are those of wholly theoretical sportsmen. A fine historian sympathetic towards counting and the social sciences, for example, felt competent after perusing his sportspage to deliver in 1975 the following judgment on cliometrics (described as "coming out of the American Midwest"):

There are grave doubts whether counterfactual history . . . is of much practical use

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I have benefited here from the Workshop in Economic History at the University of Chicago and the wisdom of: Trevor Dick, Rolf Dumke, Stanley Engerman, Stefano Fenoaltea, Robert Fogel, David Galenson, Henry Gemery, Robert Higgs, Thomas Huertas, John Komlos, Robert Lucas, Michelle McAlpin, Jacob Metzger, Joel Mokyr, Joseph Reid, Richard Steckel, and Gary Walton. The acknowledgement does not imply, to put it mildly, that these people agree with what is said.

<sup>1</sup> This, by the way, will be the first essay on cliometric method not to discuss counterfactuals. The possible discussions lack point.

to historians, who are concerned with what happened, not with what might have happened but didn't. . . . There are even graver doubts whether the very shaky statistical data surviving even for periods as late as the nineteenth century are firm enough to form a solid foundation for the fragile and sophisticated superstructures which the "cliometricians" . . . delight in building. . . . One of the difficulties with applying economic theory to history is that it works best on problems where the variables are small and therefore manageable; but these problems are often so narrow as to be trivial. Another is that it deals with a world where choice is always free and always rational and is never distorted by personal prejudice, class bias, or monopoly power; but no such world has ever existed.<sup>2</sup>

Such suspicions that cliometrics is impossible survive independent of the game itself, passing from one newspaper column to the next like rumors of a new salary for Reggie Jackson or a new club for Tom Seaver. That the suspicions have survived dozens of cliometric successes casts doubt, surely, on the pedagogic value of academic sportswriting.

What follows, then, assumes that historians and economists unfamiliar with cliometrics will better spend their time if they now close this JOURNAL and visit instead one of the games being played at their local library. They will be astonished by the range and quality of actual play: in the twenty years or so that cliometrics has had an organized league the number of articles and books has expanded to several hundreds, growing exponentially. This essay, in the manner of *Sporting News*, speaks instead to economic historians of some experience, whether cliometricians or cliologists, well-tanned from repeated sojourns on the field or in the bleachers. It selects a random few out of the hundreds of strike-outs, home-runs, routine grounders, shut-outs, and world series to recall to these veterans, for their off-season amusement, how the game was played.

#### ECONOMIC THEORIES IN HISTORY

None of the three "schools" under discussion here are schools of preselected conclusions. Bloch, Marx, or Adam Smith could conclude that open fields were insurance, that the proletariat was becoming

<sup>2</sup> Lawrence Stone, "History and the Social Sciences in the Twentieth Century," in Charles F. Delzell, ed., *The Future of History: Essays in the Vanderbilt University Centennial Symposium* (Nashville, 1977), pp. 24-25. Compare p. 30, a summary of, among several, Haskell's (but not C. Vann Woodward's) review in the *New York Review of Books* of *Time on the Cross*; or p. 33. It is an irony of historiography that the same volume contains a witty and penetrating yet generous assessment of *Time on the Cross* by someone knowledgeable (most would agree) in the field, Woodward himself (pp. 144-47).

miserable, or that tariffs were pernicious without their students following them in more than method. Economic theory, as Keynes said, "Is a method rather than a doctrine"; it is the possession of this method that distinguishes the cliometrician from other economic historians. The misapprehension embodied in its name (and worse: "econometric history") that cliometrics is merely quantitative has permitted two irrelevant responses from outsiders: sage doubts that old statistics are reliable; and astonishment at the lack of historical perspective in the claim to have given counting to history. Not counting but economic theory, especially the theory of price, is the defining skill of cliometricians, as of other economists. A cliometrician is an economist applying economic theory (usually simple) to historical facts (not always quantitative) in the interest of history (not economics).

The first and least creative accomplishment of the cliometric school follows nicely from the definition: rethinking bad economics and reshuffling misused numbers. Although it is not an accomplishment of the highest intellectual order to rethink the thoughts and reshuffle the numbers of others in the light of economic theory, it is an important preliminary to higher things. The opportunities have been great because the prevailing standard of economic thinking has been low. The man in the street, and too often the historian in the study, reckons that because he participates in an economy and has watched others do so, supplemented by a course on economics in 1949 and the ability to read a simple table, he knows enough economics to trust his own opinions. He views economics as mere mumbo-jumbo, consisting of a few pieces of jargon (such as "micro/macro," "monopsony," or "perfect competition" comically misunderstood) mixed with economic ideology. In common with journalists, politicians, lawyers, and other educated men, he is master of Ersatz Economics: the supply of iron outruns its demand; wages chase prices in a vicious spiral; war creates jobs; larger demand for cotton textiles permits each firm to experience economies of scale; more machinery is more efficient. He cannot believe that genuine (Echt) is better than Ersatz Economics, that it is more reasoned and reasonable.

It has been child'splay to make such foolishness look foolish. Embarrassingly obvious as the points are, they are usually confined to instruction of the young or sharp comments at conferences; but sometimes they see print. Richard Ippolito's intervention in a debate on the significance of large harvests in eighteenth-century Britain is a

good example.<sup>3</sup> One historian had argued that large harvests, by driving down the price, increased the real incomes of consumers and therefore caused industrial demand to rise; another had argued that large harvests, by driving down the price, reduced the real income of farmers (demand was inelastic), and therefore caused industrial demand to fall. Ippolito pointed out that as a first approximation the two effects cancel each other out, for the consumer's gain is in fact the farmer's loss; and that as a second approximation, contrary to both sides of the debate, the large harvests probably caused little change in industrial demand at all. Peter Temin's article on labor scarcity in America is a similar example of the unassisted exercise of economic reasoning, as is Robert Fogel's subsequent comment.<sup>4</sup> The unsatzlich premise on which this little debate took place was that, certainly, efficiency is not the same as mechanization. Likewise, whatever the disagreements among Fishlow, Fogel, their imitators, and their economist reviewers may be on the significance of railways for economic growth, they all agree on what the layman does not—that the relocation of production (the growth of Chicago or Birmingham) is not necessarily new production. The agreed premise of cliometric analyses of trade and growth is that exports are not income, the hardy mercantilism of press and professors to the contrary.<sup>5</sup> The agreed premise of cliometric analyses of inflation is that relative and absolute prices are to some degree disjoint, vulgar Keynesianism to the contrary.<sup>6</sup> And so on.

The custom is to scorn such ordinary rethinking of arguments and reshuffling of numbers, as a doctor trained to transplant organs scorns general practice. The custom has the merit of encouraging loftier

<sup>3</sup> "The Effect of the 'Agricultural Depression' on Industrial Demand in England, 1730-1750," *Economica* (1975), 298-312. As will be the case elsewhere in the paper, Ippolito's is one hit chosen at random from many. The literature of cliometrics is by now so various and so large that the sportswriter is required to confine attention to a small sample. Even on the present narrow topic—models of general equilibrium applied to British growth in the eighteenth century—other cliometricians, Hueckel and Crafts in particular, have done important work. A complete bibliography of cliometrics is in preparation at the University of Chicago.

<sup>4</sup> Temin, "Labor Scarcity and the Problem of American Industrial Efficiency in the 1850s," this JOURNAL, 26 (1966), 277-98; Fogel, "The Specification Problem in Economic History," this JOURNAL, 27 (1967), 283-308.

<sup>5</sup> For example, Joel Mokyr, "Demand in the Industrial Revolution," this JOURNAL, 37 (Dec. 1977); and R. E. Caves, "Export-Led Growth and the New Economic History," in J. N. Bhagwati, ed., *Trade, Balance of Payments, and Growth* (Amsterdam, 1971).

<sup>6</sup> D. L. Gadiel and M. Falkus, "A Comment on the 'Price Revolution'," *Australian Economic History Review*, 9 (1969), 9-16; and R. A. Kessel and A. A. Alchian, "Real Wages in the North During the Civil War: Mitchell's Data Reinterpreted," *Journal of Law and Economics*, 2 (1959), 95-113. On the latter, contrast (but by no vulgar route) Stephen DeCanio and Joel Mokyr, "Inflation and the Wage Lag During the Civil War," *Explorations in Economic History*, 14 (1977), 311-36.

ambitions. Yet it is based on a faulty assumption, namely, that any fool can make a Marcus Welby, but only God can make a Christiaan Barnard. More cases of historical nonsense are cured by applying opportunity cost and common observation than by applying the more elaborate devices of economic medicine. The patients, alas, often do not believe their cure until treated by input-output, general equilibrium, and instrumental variables; or, considering their usual background, by massed archives, footnotes, and pellucid prose. The additional treatments are in many cases mere placebos: the cure is effected by a simple regimen of economic sense—an admirable achievement.

#### QUANTITATIVE FACTS IN HISTORY

The second and more difficult achievement has been the extension to history of modern economic counting:

- Boswell: Sir Alexander Dick tells me, that he remembers having a thousand people in a year to dine at his house; that is, reckoning each person as one, each time that he dined there.
- Johnson: That, Sir, is about three a day.
- Boswell: How your statement lessens the idea.
- Johnson: That, Sir, is the good of counting. It brings every thing to a certainty, which before floated in the mind indefinitely.
- Boswell: But *Omne ignotum pro magnifico est*: one is sorry to have this diminished.
- Johnson: Sir, you should not allow yourself to be delighted with error.<sup>7</sup>

The cliometrician has not on the whole been delighted with error. The phrase-turner in economic history, yearning for romance in the countinghouse and factory, delights in verbal play with big events and big machines—foreign trade was Britain's lifeline; the steam engine powered the industrial revolution; the Civil War nurtured industry; foreign investment dominated Russian growth in the 1890s. In their dismal way, cliometricians have introduced meters into the playground, measuring these metaphors and finding them misleading.<sup>8</sup> Scholarly chatter about "vital factors" and "it-is-difficult-to-exaggerate-the-importance-of" has ceased in American economic history and is quieting elsewhere. True, chatter hath charms to soothe the savage meternik. An economist eager to civilize himself is apt to

<sup>7</sup> Boswell's *Life* (Everyman ed.; London, 1949), vol. II, p. 456 (A.D. 1783, Aetat. 74).

<sup>8</sup> S. L. Engerman, "The Economic Impact of the Civil War," *Explorations in Entrepreneurial History*, 2nd ser., 3 (1966), 176-99; F. V. Carstensen, "American Multinational Corporations in Imperial Russia: Chapters on Foreign Enterprise and Russian Economic Development," this JOURNAL, 37 (1977), 245-48.

decide that tautology, eclecticism, and metaphor is fine stuff, after all; and he has his own profession's chatter to fall back on. One of the leaders in applying economics to history, W. W. Rostow, is a case in point, moving from metaphor smashing in his *British Economy of the Nineteenth Century* (1948) to metaphor making in *The Stages of Economic Growth* (1960) and beyond. Indeed, attacks on his aerodynamic metaphors were among the most popular amusements of early cliometrics. Deane and Habakkuk disagreed with his timing of the rise in the British savings ratio and in the course of disagreeing began to measure it.<sup>9</sup> Paul David disagreed with his timing of the "take-off" in America, and measured it.<sup>10</sup> Robert Fogel and Albert Fishlow disagreed with his assessment (and Schumpeter's) of the importance of the railway, and measured it.<sup>11</sup> If the ruling metaphor in Rostow's non-communist manifesto was an error, it was a fruitful one.

From the beginning of cliometrics—the countings (or, as it turns out, miscountings) of the first 1,945 British steamships by two young professors at Purdue, and of the rate of return on slaves by two young professors at Harvard<sup>12</sup>—the cliometrician has had a passion for answering the questions that most other historians find dull beside the fine phrase and generous sentiment: "how large? how long? how often? how representative?" Purdue and Harvard represented for some time different attitudes towards statistical facts, Purdue collecting new facts from archives but being bashful about exploring the more remote implications of its haul, Harvard taking the first number in a book in the nearest library but thinking about it with great subtlety.<sup>13</sup> The gap, first bridged by Johns Hopkins and Pennsyl-

<sup>9</sup> H. J. Habakkuk and Phyllis Deane, "The Takeoff in Britain," pp. 63-82, in W. W. Rostow, ed., *The Economics of Take-off Into Sustained Growth* (London, 1964). Recent work by Charles H. Feinstein (forthcoming, *Deo volente*, in Volume VII of the *Cambridge Economic History of Europe*) puts the measurement on a much firmer base and, in fact, reinstates to some degree Rostow's conclusion ("Capital Accumulation and Economic Growth in Great Britain, 1760-1860").

<sup>10</sup> "The Growth of Real Product in the United States Before 1840: New Evidence and Controlled Conjectures," this JOURNAL, 27 (1967), 151-97.

<sup>11</sup> Fogel, *Railroads and American Economic Growth: Essays in Econometric History* (Baltimore, 1964) and Fishlow, *American Railroads and the Transformation of the Antebellum Economy* (Cambridge, 1965).

<sup>12</sup> J. R. T. Hughes and Stanley Reiter, "The First 1,945 British Steamships," *Journal of the American Statistical Association*, 53 (1958), 360-81; A. H. Conrad and J. R. Meyer, "The Economics of Slavery in the Antebellum South," *Journal of Political Economy*, 66 (1958), 95-130.

<sup>13</sup> Compare *Purdue Faculty Papers in Economic History* (Homewood, Ill., 1967) with, say, the first half of Henry Rosovsky, ed., *Industrialization in Two Systems: Essays in Honor of Alexander Gerschenkron by a Group of His Students* (New York, 1966). It would not be wholly mischievous to suggest that the two approaches, still alive today, take these mottoes: for the

vania, is now closed. The notion that cliometrics is a mere parasite on real research historians is now as mistaken as the notion that cliometrics is mere numerology. The characteristic catalyst is, again, economic theory. Economic theory dominates the cliometric counting of the unknown as it dominates the cliometric rethinking of the erroneous. Even the simplest (and most useful) statistic of the economist—national income—embodies theoretical convictions about the consumers' equilibrium, non-market activities, depreciation, and index numbers. It is therefore no accident that the best work bringing new quantitative facts to economic history has consisted of filling such empty economic boxes. Richard Easterlin, Robert Gallman, William Parker, Franklee Whartenby, and Terry Anderson, among others, have pushed the measurement of American income and its composition back before the years considered by the incomparable Simon Kuznets and his many colleagues at the National Bureau of Economic Research.<sup>14</sup> Phyllis Deane, W. A. Cole, and Charles Feinstein re-measured income and especially capital formation in the United Kingdom back to 1854, 1830, and, most recently, 1760.<sup>15</sup> And the measurement of past income is not an exclusively Anglo-American accomplishment: Australia, Austria-Hungary, Canada, Denmark, France, Germany, Italy, Japan, The Netherlands, Norway, and Sweden have income estimates for the nineteenth century, and still more countries have estimates of the industrial or commodity share of income.<sup>16</sup> Nor is income the only object of measurement. The role of

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one, "Where speculation ends—in real life—there real, positive science begins . . . . [O]ur difficulties begin only when we set about the observation and the arrangement—the real depiction—of our historical material" (Karl Marx and Friedrich Engels, *The German Ideology* [1846, ed. of N.Y., 1963], p. 15); for the other, "[I]n theoretical sciences like philosophy or economics . . . there is no empirical research; all must be achieved by the power to reflect, to meditate, and to reason" (Ludwig von Mises, *Human Action: A Treatise on Economics* [New Haven, 1949], p. 869). Method makes strange bedfellows.

<sup>14</sup> Easterlin, "Interregional Differences in Per Capita Income, Population, and Total Income, 1840-1950," in W. N. Parker, ed., *Trends in the American Economy in the Nineteenth Century*, Conference on Research in Income and Wealth, Studies in Income and Wealth, Vol. 24 (Princeton, 1960); Gallman, "Gross National Product in the United States, 1834-1906," in D. Brady, ed., *Output, Employment, and Productivity in the United States after 1800*, Studies in Income and Wealth, Vol. 30 (New York, 1966); William Parker and Franklee Whartenby, "The Growth of Output Before 1840," in Parker, ed., as cited; Terry Anderson, "The Economic Growth of Seventeenth Century New England: A Measurement of Regional Income" (unpubl. Ph.D. diss., Univ. of Washington, 1972; publ. now by the Arno Press); Simon Kuznets, *Capital in the American Economy, Its Formation and Financing*, N.B.E.R. (Princeton, 1961).

<sup>15</sup> Deane and Cole, *British Economic Growth 1688-1959* (Cambridge, England, 1964); Deane, "New Estimates of Gross National Product for the United Kingdom, 1830-1914," *Review of Income and Wealth*, 14 (1968), 95-112; Feinstein, *National Income, Expenditure and Output of the United Kingdom, 1855-1965* (Cambridge, England, 1972); Feinstein, "Capital Accumulation, 1760-1860," as cited above.

<sup>16</sup> Paul Bairoch, "Europe's Gross National Product: 1800-1975," *Journal of European Eco-*

theory in the collection of statistics on prices and foreign trade is not as obvious, which may explain the comparative lack of interest cliometricians have had in their improvement—James Shepherd and his collaborators aside.<sup>17</sup> It is more obvious in the collection of statistics on money and on productivity, and these have flourished. Money lies at the center of an economic controversy about the causes of depressions. A study of its past is likely to have a present economic purpose.<sup>18</sup> Productivity lies at the center of several historical controversies—about economic growth generally, its causes and prevention. A study of its past is likely to have a historical, not economic, purpose. It is in pursuit of facts on productivity, usually from the perspective of a single industry, that cliometricians have been most likely to enter the historian's holy of holies—the unexplored archive. Charles Hyde and C. K. Harley, for example, explored the archives of British firms in iron in the eighteenth century and shipbuilding in the late nineteenth century in search of evidence of Britain's relative rise and decline.<sup>19</sup> Early on in the cliometric movement Douglass North and his students studied productivity in shipping from original sources.<sup>20</sup> The alternative to productivity change—the mobilization of capital—has long attracted cliometric work on firms in the United States, especially from Lance Davis and Paul McGouldrick.<sup>21</sup> And short of the dusty ledger and wage book is the manuscript census of American manufacturing and agriculture, a rich source ignored by earlier historians (the ones committed, you may recall, to examining *all* the sources) but now being mined by cliometricians. The Parker-Gallman sample from the 1860 agricul-

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*economic History*, 5 (1976), 273-340, attempts to collate some of these. His list on pp. 329-31 is one source for the assertion in the text. Others are: Simon Kuznets, *Modern Economic Growth: Rate, Structure, and Spread* (New Haven, 1966), esp. p. 64; J. D. Gould, *Economic Growth in History* (London, 1972), esp. p. 22; and works cited in these.

<sup>17</sup> J. F. Shepherd and G. M. Walton, *Shipping, Maritime Trade, and the Economic Development of Colonial North America* (Cambridge, England, 1972); P. R. P. Coelho and J. F. Shepherd, "Regional Differences in Real Wages: The United States, 1851-1880," *Explorations in Economic History*, 13 (1976), 203-30.

<sup>18</sup> See the review article by Michael D. Bordo and Anna J. Schwartz, "Issues in Monetary Economics and their Impact on Research in Economic History," in Robert Gallman, ed., *Recent Developments in the Study of Economic and Business History: Essays in Memory of Herman E. Krooss*, supplement 1 to *Research in Economic History* (Greenwich, Conn., 1977).

<sup>19</sup> Hyde, *Technological Change and the British Iron Industry, 1700-1870* (Princeton, 1977), and Harley, "Shipping and Shipbuilding in the Late Nineteenth Century" (unpubl. Ph.D. diss., Harvard Univ., 1972), and related articles.

<sup>20</sup> For example, North, "Sources of Productivity Change in Ocean Shipping, 1600-1850," *Journal of Political Economy*, 76 (1968), 953-70.

<sup>21</sup> The most convenient collection of Davis' early work, as for other products of the Purdue School, is *Purdue Faculty Papers in Economic History*, as cited above. McGouldrick's book is *New England Textiles in the Nineteenth Century: Profits and Investment* (Cambridge, 1968).



tural census has been followed by Soltow's linking of statistics on wealth from 1850 to 1870, the post-bellum sample of Southern farms taken by Ransom and Sutch, and a series of studies by Bateman, Foust, Weiss, and others on samples from manufacturing and agriculture, north and south.<sup>22</sup> The largest fact-gathering mine in America has been Fogel and Engerman, Inc., first working on the slavery lode and now on American mortality. The company's size and ambitions have irritated its rivals, but collaborative projects similar to it are in fact common in other histories, especially European. Hans Christian Johansen at the University of Odense, for example, is directing a project reducing the facts on 230,000 ships passing through the Sound between Denmark and Sweden, 1784-1807, to computer tape; likewise, a project is under way to index the fire insurance policies issued by the major British companies in the eighteenth century, and to reduce to tape the details of a large sample of them; and the Cambridge Group for the Study of Population and Social Change has nearly completed a massive reconstruction of the demographic history of dozens of English parishes from the sixteenth to the nineteenth century.

The limits on curiosity about the economic past set by the available facts are few, and cliometricians—bemused by production functions and demand curves and a lunatic belief that they can actually measure them—have led the way in pushing the limits further.

#### REINTERPRETATIONS OF ECONOMIC HISTORY

The third (and last) achievement is the accumulation of the rethinking and remeasurement around major historical issues; that is, the reinterpretation of American (and recently other) economic history. The breadth of the research confutes the view that cliometrics is narrow. Here again economic theory dominates the research, giving it coherence, not conclusions. True, the conclusions have often been variations on the theme, "The Market, God Bless It, Works,": that the settlement of the American frontier was not a matter of mere theft or speculation; that free banking called forth to tame the wildcats a

<sup>22</sup> Parker, ed., *The Structure of the Cotton Economy of the Antebellum South* (Washington, D. C., 1970) uses the Parker-Gallman sample; see also Lee Soltow, *Men and Wealth in the United States, 1850-1870* (New Haven, 1975) and (among many others by the same authors) F. Bateman, James Foust, and Thomas Weiss, "Profitability in Southern Manufacturing: Estimates for 1860," *Explorations in Economic History*, 12 (1975), 211-23. The study by Bateman and Jeremy Atack of the accuracy of the published relative to the manuscript census is a good example of high standards of historical veracity in cliometrics ("Northern Agricultural Profitability: Some Preliminary Estimates," *Research in Economic History*, 4 [1978], forthcoming).

market in information on the credit-worthiness of banks; or that the Navigation Acts affected colonial America like a small and ordinary tax.<sup>23</sup> But economic theory is varied in its premises: it treats monopoly as well as competition. The findings of Davis and Sylla on the convergence of western and eastern interest rates in the late nineteenth century, now heavily revised by Smiley and James, can be read as a tale of monopoly and barriers to entry; the findings of Kolko and MacAvoy on the origins of the Interstate Commerce Commission, now heavily revised by Haddock and Ulen, can be read as a tale of cartels and conspiracies.<sup>24</sup> Nor are the uses of economic theory confined to rationality. If lower returns cannot explain worse education and worse training for blacks in the late nineteenth century, then discrimination has been identified and measured.<sup>25</sup> If economic interests cannot explain Britain's enthusiasm for the abolition of slavery and of the slave trade, then some other interest—perhaps, after all, idealistic altruism—has been identified and measured.<sup>26</sup> Irrationality leaves footprints in the snow of informed selfishness. The cliometrician interpreting the footprints has revised the history of capitalism and slavery, of the strange career of Jim Crow, and of other irrationalities.

Furthermore, these reinterpretations are not dogmas but findings; not shell games with definitions but falsifiable assertions. The best proof that they are falsifiable is that they have on occasion been shown to be false, at least to the satisfaction of the falsifier. The finding by Fishlow and, especially, Fogel that the coming of the railway was no epoch-making event in American economic history provoked a minor industry of gainsaying, a case of intellectual linkages forward and back. The finding by Fogel and Engerman (extending earlier research) that slaves were capital goods has provoked more than an

<sup>23</sup> Stanley Engerman, "Some Economic Issues Relating to Railroad Subsidies and the Evaluation of Land Grants," this JOURNAL, 32 (1972), 443-63, and works cited there; Hugh Rockoff, "The Free Banking Era: A Reexamination," *Journal of Money, Credit and Banking*, 6 (1974), 141-67; P. D. McClelland, "The Cost to America of British Imperial Policy," *American Economic Review*, 59 (Supplement, 1969), 370-81.

<sup>24</sup> Gene Smiley, "Interest Rate Movements in the United States, 1888-1913," this JOURNAL, 35 (1975), 591-620; John A. James, "The Development of the National Money Market, 1893-1911," this JOURNAL, 36 (1976), 878-97. David D. Haddock, "The Advent of Federal Regulation of Railroads," (unpubl. Ph.D. diss., Univ. of Chicago, 1978); Thomas Ulen, "The ICC as a Railroad Cartel Regulator: Was It Necessary?" (unpubl. chap. of Ph.D. diss., Stanford Univ., 1977).

<sup>25</sup> Robert Higgs, *Competition and Coercion: Blacks in the American Economy, 1865-1914* (Cambridge, 1977); Edward Meeker and James Kau, "Racial Discrimination and Occupational Attainment at the Turn of the Century," *Explorations in Economic History*, 14 (1977), 250-76.

<sup>26</sup> E. P. LeVeen, "British Slave Trade Suppression Policies, 1821-1865: Impact and Implications" (unpubl. Ph.D. diss., Univ. of Chicago, 1971), and related papers.

industry—it is a calling, a vocation. The debate on whether southern sharecropping was mutually advantageous exchange or a system of exploitation has yet to reveal fully its character, whether generous or mean-spirited. It will probably be as intense as the others, protecting the outsider from bad merchandise but also feeding his suspicion that economists cannot agree on what is good. Yet the correct moral to be drawn from the controversies is quite the opposite: in the debate on slavery, for example, Sutch could dispute Fogel and Engerman in detail because their case is built on factual and logical detail, not on unreproducible *verstehen*; Fogel and Engerman could then reply in kind. The debates go on (and on and on) because they are so fruitful in suggestions for new experiments, refining the first results. Debates between historians and economists, by contrast, are sterile. The deep agreement underlying the superficial disagreement in the fratricide of cliometrics is agreement on the methods of economics.

For the first decade and a half or so of its self-conscious life cliometrics pondered with this method the history of economic growth in nineteenth-century America. If the *Annales* school is characteristically French, and the Marxist school characteristically German, the cliometric school is characteristically American. The monument to the work (a monument, be assured, and not a tombstone; the work goes on) is *American Economic Growth: An Economist's History of the United States*.<sup>27</sup> Lately cliometrics has turned to subjects other than economic growth, during centuries other than the nineteenth, and in countries other than the United States. These novelties have not for the most part congealed into reinterpretations, although there are a number in the making. The most finished is the denial of entrepreneurial failure in Victorian Britain. The denial was accomplished by measuring what earlier writers had airily assumed, namely, slow productivity growth and tardy adoption of new techniques. Similar methods—obvious, but unavailable to the historian innocent of economics—are now revising the neat formula that around 1800 Britain had an industrial but not a political revolution and France a political but not an industrial revolution.<sup>28</sup> The Lemma of Dispensibility—if a sector is a small part of national income, then even large changes in it will have small national

<sup>27</sup> Lance E. Davis, Richard A. Easterlin, William N. Parker, et al. (New York, 1972). A competing monument, handsome despite some cracks, is Jeffrey G. Williamson's *Late Nineteenth-Century American Development* (Cambridge, England, 1974).

<sup>28</sup> Richard Roehl, "French Industrialization: A Reconsideration," *Explorations in Economic History*, 13 (1976), 233-81; P. K. O'Brien and C. Keyder, *Economic Growth in Britain and France, 1780-1914*, forthcoming.

consequences—has had fruitful applications, first to railways in many places from England to Russia,<sup>29</sup> then to tariff policy in Central Europe.<sup>30</sup> It is no small matter to know that railways did not utterly dominate economic change in the nineteenth century; or that the tariff, however momentous its politics, was no magic key to economic change in German-speaking Europe.

What is known and unknown is less clear in other areas. The cliometric history of America has been pushed back to the origins of slavery and indentures (after Fogel and Engerman)<sup>31</sup> and forward to the Great Depression (after Friedman and Schwartz).<sup>32</sup> It has a broader range, moving away from a fascination with Rostow's vision and its flaws to historical questions unconnected with industrialization: political economy, the distribution of income, the micro-economics of population.<sup>33</sup> Just begun, these researches are necessarily tentative. So, too, in other countries. Tales of the adventures of *homo economicus* in unlikely places are beginning to accumulate, in nineteenth-century India,<sup>34</sup> for example, or medieval Europe<sup>35</sup> or

<sup>29</sup> G. R. Hawke, *Railways and Economic Growth in England and Wales, 1840-1870* (Oxford, 1970); Jacob Metzger, "Railroad Development and Market Integration: The Case of Tsarist Russia," this JOURNAL, 34 (1974), 529-50. Hawke, it should be noted, disputes the axiom.

<sup>30</sup> Scott Eddie, "The Terms and Patterns of Hungarian Foreign Trade, 1882-1913," this JOURNAL, 37 (1977), 329-57; and a recent series of dissertations by Thomas Huertas, Rolf Dumke, Steven Webb, and John Komlos.

<sup>31</sup> R. P. Thomas and R. N. Bean, "The Fishers of Men: The Profits of the Slave Trade," this JOURNAL, 34 (1974), 885-914; David Galenson, "Immigration and the Colonial Labor System: An Analysis of the Length of Indenture," *Explorations in Economic History*, forthcoming.

<sup>32</sup> Peter Temin, *Did Monetary Forces Cause the Great Depression?* (New York, 1976). Economists who imagine themselves immune from historiographical influences, by the way, should consider how completely Friedman and Schwartz broke the cake of intellectual custom on the Great Depression. Views on its history, and therefore on economics, that could be dismissed with a sneer in the early 1960s had now to be taken seriously. The extent to which forbidden thoughts may now be thought is well illustrated by an emerging interpretation of high unemployment in Britain during the 1920s as a result of—are you ready?—the dole: Daniel K. Benjamin and Levis A. Kochin, "Searching for an Explanation of Unemployment in Interwar Britain" (unpubl. paper, Univ. of Washington); and Stephen Easton, "The English Poor Law and Unemployment during the Late 19th and Early 20th Centuries" (unpubl. Ph.D. diss., Univ. of Chicago, 1977).

<sup>33</sup> A very small sample of a now very large literature might include, in addition to works mentioned elsewhere, Lance Davis and D. C. North, *Institutional Change and American Economic Growth* (Cambridge, 1971); J. D. Reid, Jr., "Understanding Political Events in the New Economic History," this JOURNAL, 37 (1977), 302-28, and his contribution to this volume; Peter Lindert and Jeffrey Williamson, "Three Centuries of American Inequality," in *Research in Economic History*, 1 (1976), 69-123; and R. D. Lee, ed., *Population Patterns in the Past* (New York, 1977).

<sup>34</sup> M. D. Morris, ed., "Symposium on Economic Change in Indian Agriculture," in *Explorations in Economic History*, 12 (1975), 253-331, with papers by John Hurd II, Michelle McAlpin, and Tom Kessinger. The *Cambridge Economic History of India*, Vol. II (Cambridge, forthcoming—*Brahma volente*) will contain more.

<sup>35</sup> Douglass North and R. P. Thomas, *The Rise of the Western World* (Cambridge, 1973) and S. Fenoaltea, "Risk, Transaction Costs, and the Organization of Medieval Agriculture," *Explorations in Economic History*, 13 (1976), 129-51.

declining Rome.<sup>36</sup> But it would be premature to announce his conquest of those places. Still, the frontier of cliometrics is the wide world beyond America, or indeed, beyond Europe. Cliometrics has at least begun in the histories of Canada, Mexico, Brazil, Australia, Japan, China, India, Russia, West Africa, Israel, Italy, France, Central Europe, the Low Countries, Scandinavia, Ireland, and England.<sup>37</sup> The opportunities are immense, because the facts are unknown but knowable, the historical questions are dominated by scarcity, and the existing understandings—except when they are the

<sup>36</sup> Gerald Cunderson, "Economic Change and the Demise of the Roman Empire," *Explorations in Economic History*, 13 (1976), 43-68.

<sup>37</sup> To give some examples, occasionally exhaustive but more usually a scant handful representing many other works: Canada: Trevor O. Dick, "Frontiers in Canadian Economic History," this JOURNAL, 36 (1976), 34-39, and works cited there. Mexico: John Coatsworth, *An Economic History of Mexico* (New York, forthcoming), and works cited there. Brazil: Nathaniel H. Leff, "Long-Term Brazilian Economic Development," this JOURNAL, 29 (1969), 473-93; Pedro de Mello, "The Economics of Labor in Brazilian Coffee Plantations, 1850-1888" (unpubl. Ph.D. diss., Univ. of Chicago, 1977). Australia: Noel G. Butlin, *Investment in Australian Economic Development 1861-1900* (Cambridge, 1964), and recent issues of the *Australian Economic History Review*. Japan: H. Rosovsky and K. Ohkawa, *Japanese Economic Growth—Trend Acceleration in the Twentieth Century* (Stanford, 1973); Kozo Yamamura, *A Study of Samurai Income and Entrepreneurship* (Cambridge, Mass., 1974), among many works from the same hand; A. C. Kelley and J. G. Williamson, *Lessons from Japanese Development* (Chicago, 1974). China: Dwight Perkins, ed., *China's Modern Economy in Historical Perspective* (Stanford, 1973); Alexander Eckstein, *China's Economic Development* (Ann Arbor, 1975); Ts'ui-jung Liu and J. C. H. Fei, "An Analysis of the Land Tax Burden in China, 1650-1865," this JOURNAL, 37 (1977), 359-81; the richness of Chinese historical statistics by comparison with European is astounding. India: see note 34 above. Russia: Arcadius Kahan, *The Sokha, the Spindle and the Knot: Essays in the Economic History of Eighteenth Century Russia* (forthcoming), and "The Growth of Capital in Russian Industrialization," forthcoming in the *Cambridge Economic History of Europe*, Vol. VII, as cited above. West Africa: H. A. Gemery and J. S. Hogendorn, eds., *The Uncommon Market: Essays in the Economic History of the Atlantic Slave Trade* (forthcoming). Israel: Nachum Gross and Jacob Metzger, "Public Finance in the Jewish Economy in the Interwar Period: The Expenditure Side," in *Research in Economic History*, 3 (forthcoming, 1978). Italy: Jon S. Cohen, "The 1927 Revaluation of the Lira: A Study in Political Economy," *Economic History Review*, 2nd ser., 25 (1972), 642-54; Stefano Fenoaltea, *Italian Industrial Production, 1861-1913 and Public Policy and Italian Industrial Development, 1861-1913: A New Economic History* (both forthcoming); Gianni Toniolo, ed., *Lo sviluppo economico italiano 1861-1940* (Bari, 1973); R. T. Rapp, *Industry and Economic Decline in Seventeenth-Century Venice* (Cambridge, Mass., 1976). France: George Grantham, "Scale and Organization in French Farming, 1840-1880," in W. N. Parker and E. L. Jones, eds., *European Peasants and Their Markets: Essays in Agrarian Economic History* (Princeton, 1975), itself a collection of cliometric work on European agricultural history; Paul Hohenberg, "Change in Rural France in the Period of Industrialization, 1830-1914," this JOURNAL, 32 (1972), 219-40. Central Europe: Rainer Fremdling, "Railroads and German Economic Growth," this JOURNAL, 37 (1977), 583-604; and works cited in footnote 30 above. The Low Countries: Franklin F. Mendels, "Agriculture and Peasant Industry in Eighteenth-Century Flanders," in Parker and Jones, eds., as cited above; Jan de Vries, *The Dutch Rural Economy in the Golden Age, 1500-1700* (New Haven, 1974); Joel Mokyr, *Industrialization in the Low Countries, 1795-1850* (New Haven, 1976). Scandinavia: recent issues of the *Scandinavian Economic History Review*. Ireland: Barbara L. Solow, *The Land Question and the Irish Economy 1870-1903* (Cambridge, Mass., 1971); Cormac Ó Gráda, "Supply Responsiveness in Nineteenth-Century Irish Agriculture," *Economic History Review*, 2nd ser., 28 (1975), 312-17. Great Britain: Cambridge University Press will be publishing in 1979 a collaborative *New Economic History of England, 1700-Present* that summarizes and extends cliometric work on Britain.

products of untutored geniuses of perspicacity like Maitland and Bloch—are models of Ersatz Economics. Barry Supple, with some assistance from W. Wordsworth, has put it this way:

Bliss was it in that dawn to be alive,  
But to be young [and numerate] was very Heaven!

He was speaking of the first cliometrics conference at Purdue in 1960. In truth the dawn is just now breaking.

#### THE DUAL STANDARD

The dawn, however, has come up like thunder, especially on the American side of the bay. The violence surrounding *Time on the Cross* is only the latest and largest in a series of intellectual muggings. Cliometrics has been prone to controversy, especially on the disputed turf of black history: if monetary economics, say, is the Detroit and Houston of economics, cliometrics is its New York and the cliometrics of slavery its South Bronx (in several senses). The receptions of *Did Monetary Forces Cause the Great Depression?*<sup>38</sup> itself an assault on Friedman and Schwartz, and of *One Kind of Freedom*<sup>39</sup> promise to be similarly violent, with some shifts of muggers to the ranks of mugges. In common with street crime, political purges, and scholarly controversy in other fields, the violence is greatest among the closest neighbors. The study of the Indo-European language was obstructed for years in the late nineteenth century by an absurd quarrel between one Brugmann and his teacher, the comically misnamed Curtius. Similarly, the cliometrician reserves his foulest eyegougings (for example, "This is a term paper, not a professional paper") for his closest colleagues, not—as the non-climetric victims sometimes mistakenly believe—for the non-climetric historian or economist. The cliometrician embraces the nonsense of the fact-blinded historian and, still more commonly, of the theory-crazed economist the better to assail the mistaken footnotes or errors in notation of the cliometrician next door.

And even aside from its violence, American cliometrics has favored internal criticism worthy of the Red Guard over creation. The book review—whether the normal size or the review essay so inadvisedly encouraged by editors these days or, at the extreme, the review

<sup>38</sup> Peter Temin, as cited above.

<sup>39</sup> Roger Ransom and Richard Sutch (Cambridge, 1977).

puffed up to a book in itself—has become common. A reviewer's job is to raise plausible doubts, which is trivially easy for any moderately intelligent reviewer assigned to any moderately complex subject. He needs only to suppose the biases to go the other way (it does not matter whether he has evidence that they do go that way) or to devise a set of market failures vitiating the argument (it does not matter whether he has evidence that the set assumed is a true one). Two results follow. First, there is a proliferation of untested hypotheses. Second, there is an intrusion of high-brow doubts into low-brow controversies. The doubts are that neoclassical economics is able to explain economic growth; or that the application of economics to the study of property rights has been sufficiently subtle; or that anything can be proven, really. The reviewer's temptation to take the high road, which makes for a less tiring journey, may help explain the violence of the reviews, high-brow agnosticism about methods lending incongruous fervor to low-brow agnosticism about facts. The violence in other but related fields of the attacks on, say, Christopher Hill or Milton Friedman probably have such a source. Convictions about the unprovable distract the critic from his duty to offer proof.

Yet the passion for reviewing, even violent reviews, has its virtues. A reviewer of the achievements of the cliometric school cannot urge with much enthusiasm that all reviews be committed to the flames. The critic is always open to the malicious joke applied to Walter Pater's relationship with Botticelli: in our field, "We are all very thankful to Fogel and North for having inspired those fine pages by Paul David, Peter McClelland, and Stefano Fenoaltea." The joke is unfair. The critic is often sincere in his worrying about the present state of economics (say); even when he does not apply them to his own work, he maintains standards; and he enlivens the scene. Better to burn with a hard, gemlike flame than to slip into the somnolent habits of most historians or economists.

The explanation for the violence of the controversies in cliometrics, indeed, is at bottom this position the cliometrician takes up between two disciplines. The vices and the virtues have a common root. Like the fox who would rather be a hedgehog, the cliometrician is an economist who would rather be a historian—without sacrificing any of his foxy skills (or salary). The best cliometrics is both first-rate economics and first-rate history, publishable in either the *American Historical Review* or the *Journal of Political Economy*. That it is not easy to think of cases in point meeting this dual standard is simply a measure of how very difficult it is to meet the lofty professional

standards that inspire scathing reviews of cliometric work. The acrobat meets with applause only when he not merely bicycles on a tightrope across Niagara Falls, but does it blindfold with an eel balanced on the end of his nose; the cliometrician gets unstinted praise for his accomplishment only when he satisfies to the full the historian's lust for fact and the economist's lust for logic. Small wonder the critics are ill-tempered, with such a standard before them.

But the dual standard has great advantages. It is a protection against the mediocrity that so often characterizes interdisciplinary work. And it is a protection against the more conventional mediocrity of too narrowly disciplined work. The *raison d'être* of cliometrics is avoiding the absurdities of economic history without economics. Set off in a discipline of his own the economic historian could once ignore the scholarly standards of economics. Now he cannot: such is the past achievement of cliometrics. The opposite achievement is also attainable: of persuading the economist that there are worthwhile scholarly standards other than the narrow discipline of the dull-normal science into which econometrics, mathematics, and positive economics have led him. Cliometricians are among the most vigorous applicers of economics, but their balancing devotion to historical standards makes them careful of facts and mindful of milieu to an extent honored in economics only in presidential addresses.

The pressures of training and employment work against the balance. The reasonable-sounding requirement that the young economic historian be a "real economist," for example, puts pressure on him to play the parlor games with the specification of error terms and the simulation of general equilibrium models that his colleagues in less serious fields think clever. And a cliometrician who complained (mistakenly) that cliometrics uses economic tools uncritically was nonetheless able to assert that "*theory tells us* [my italics] that population in the face of common property resources would have no tendency to develop a homeostatic relationship."<sup>40</sup> "Theory tells us" is as foolish in its own way as "the facts say." Yet he that is without sin among you, let him first cast a stone. The cliometrician should feel uncomfortable writing more than a page without a precise theory and a page without a particular fact (reviews and methodological essays excepted, of course), but this is a counsel of perfection. The opportunity of the cliometric school is to combine theory and fact. The best of its achievements have nearly matched its opportunity.

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<sup>40</sup> Douglass C. North, "Economic Growth: What Have We Learned from the Past?" (unpubl. MS.), p. 3.