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HOW TO DO A RHETORICAL ANALYSIS, AND WHY

Donald N. McCloskey

Start with an example, taken from a book with which I largely agree, the first edition of Richard Posner's *Economic Analysis of Law*:

Our survey of the major common law fields suggests that the common law exhibits a deep unity that is economic in character The common law method is to allocate responsibilities between people engaged in interacting activities in such a way as to maximize the joint value . . . of the activities [T]he judge can hardly fail to consider whether the loss was the product of wasteful, uneconomical resource use. In a culture of scarcity, this is an urgent, an inescapable question.

(Posner 1972: 98f.)

The argument in the passage is carried in part by the equivocal use of economic vocabulary: 'allocate', 'maximize', 'value', and 'scarcity' are technical words in economics, with precise definitions, but here they are used also in wider senses, to evoke a sense of scientific power, to claim precision without necessarily using it. The sweetest turn is the use of 'uneconomical', which is not a technical word in economics, but encapsulates the argument that in their courtrooms the judges follow economic models because to do otherwise would be 'wasteful'. The 'economical/uneconomical' figure of speech supports the claim that economic arguments (arguments about scarcity) are pervasive in the law. The claim is hammered home by treble repetition (technically, *commoratio*): first in this word 'uneconomical'; then in the reference to a culture of scarcity (a nice echo of 'a culture of poverty', that, from the other side of the tracks); and finally in the repetition of 'urgent, inescapable'.

People involved mutually in automobile accidents or breaches of contract are said to be 'engaged in interacting activities'. The interaction, however, does not extend to the political or moral systems of the society. A rancher and a railroad 'interact', but a judge does not 'interact' with people who think that big enterprises like railroads are blameworthy. A vocabulary

of 'engaging in interacting activities' makes an appeal to the character of Scientist or Observer (technically, an 'ethical' argument).

Again, the passage uses the metaphor of 'deepness' in unity, as do other arguments trying to change the way we categorize the world. A critical legal theorist will tell you that the 'deep' structure of law is an apology for capitalism. The legal economist will tell you, as here, that the 'deep' structure is on the contrary a celebration of capitalism.

As I say, I come down on Posner's side. But that does not make him, or me, or Milton Friedman, immune from rhetorical scrutiny. The rhetorical reading is at least richer than the reading invited by the passage itself, which claims to merely represent the World.

WHY 'RHETORIC'?

Science is writing with intent, the intent to persuade other scientists, such as economic scientists. The study of such writing with intent has been called since the Greeks 'rhetoric'. Until the seventeenth century it was the core of education in the West and down to the present it remains, often unrecognized, the core of humanistic learning. A science like economics should be read skilfully, and if so the reading needs a rhetoric, the more explicit the better. The choice is between an implicit and naive rhetoric or an explicit and learned one, the naive rhetoric of significance tests, say, or the learned rhetoric that knows what it is arguing and why.

Rhetoric could of course be given another name – 'wordcraft', perhaps, or 'the study of argument'. The book that in 1987 began the 'rhetoric of inquiry' was subtitled 'Language and argument in scholarship and public affairs'. Yet it revived the old R word in the main title, *The Rhetoric of the Human Sciences*. Why? The word 'rhetoric' after all is used by newspapers as a synonym for the many words in English that sneer at speech: ornament, frill, hot air, advertising, slickness, deception, fraud. Thus the *Des Moines Register*, 'Senate campaign mired in rhetoric'.

But the newspapers vulgarized, too, the word 'pragmatism' shortly after its birth, by understanding it as unprincipled horse-trading. They defined 'anarchism' as bomb-throwing nihilism. They defined 'sentiment' as cheap emotionalism, 'morality' as prudery and 'family values' as social reaction. They defined 'science' as something no scientist practises. Scholarly usage should not be decided by the newspapers, or else their view will be all we have. We need a scholarly word for wordcraft. The ancient and honoured one will do.

The point of a 'rhetorical' analysis is merely to read with understanding. Attending graduate school will educate an economist to read some, supplying her with an implicit rhetoric for understanding. But the rhetoric in graduate school is incomplete and the understanding partial, a beginning but not the whole of economic science. What distinguishes good from bad

economists, or even old from young economists, is additional sophistication about the rhetoric. Robert Solow or Milton Friedman or Herbert Stein do not know anything of classical rhetoric – they grew up at the nadir of rhetorical education – but they can spot when a formal assumption is being used well or badly, and can sense when this or that verbal device is appropriate. And the wordcraft that the best economists exercise by instinct can be taught, at least a little.

Classical rhetoric was merely a list of terms with some thinking attached. A classical architecture without terms for architrave, echinus, guttae, mutule, quoin and triglyph cannot see the Old Capitol in Iowa City (a Doric temple with Corinthian capital) as anything other than vaguely pretty (Summerson 1963: 16, 47–52). Likewise we need terms to describe scientific argument, or else we are reduced to the vague and unexamined aesthetics of 'deep', 'rigorous', 'elegant', 'convincing' in seeing an economic argument. Gerard Debreu, for example, uses such terms in defending abstract general equilibrium analysis on the grounds that it 'fulfills an intellectual need of many contemporary economic theorists, who therefore seek it for its own sake'; 'simplicity and generality' are 'major attributes of an effective theory'; 'their aesthetic appeal suffices to make them desirable ends in themselves for the designer of a theory' (Debreu 1984). The aesthetics here is vague, unlearned, inexplicit. Debreu's is a dress-designer's vocabulary for scientific argument.

A rhetorical vocabulary is more rigorous, though it is still merely a list with some thinking attached. Literary thinking is like that. The best introduction to the schools of criticism is called *Critical Terms for Literary Study* (Lentricchia and McLaughlin 1990), listing among others Structure, Narrative, Figurative Language, Author, Value/Evaluation, Determinacy/Indeterminacy, Canon, Ideology and Rhetoric. The best way to understand the Rhetorical school 427 BC to the present is to supply oneself with a copy of Richard Lanham, *A Handlist of Rhetorical Terms* (1991) and an example of using it on a familiar text, such as George A. Kennedy, *New Testament Interpretation Through Rhetorical Criticism* (1984). The best comprehensive modern treatment is Edward P. J. Corbett, *Classical Rhetoric for the Modern Student* (1992), which is a thoughtful list of terms with readings attached. The best use of rhetorical criticism to make an argument is Wayne C. Booth, *Modern Dogma and the Rhetoric of Assent* (1974), but coherent as it is it does not approach the axiomatic style of modern economics. Booth, too, works with the mere handlists dating back to Aristotle and Cicero.

That's encouraging for beginners like you and me. By contrast, to do a useful piece of economic analysis one needs to have finished the course. The non-economists imagine it's enough to have some first-week idea of what 'oligopoly' means. Economics is in fact a good example of the 'hermeneutic circle': one needs to know the argument overall to understand

the details and the details to understand the argument. But many literary techniques, and in particular the techniques of rhetorical analysis, come piecemeal, item by item, and can be put to use at once even by tyros. In this they are like some of the empirical methods of economics, such as national income analysis. Obviously a master like Booth or Lanham (compare Kuznets or Denison) is going to do a better job than you or me. But even you and I can start.

I am not suggesting that educated people come equipped to do a rhetorical analysis without study. The results of attempting to are as embarrassing as criticizing economics without knowing any. The point is simply that in rhetorical analysis even students can do useful work almost immediately. A rhetorical analysis can start with any part of 'writing with intent' and proceed. It is like unravelling a sweater: start with a loose bit of yarn and keep pulling. A student is unlikely to find a literary sweater that a professor of English cannot unravel blindingly quicker. But sciences like economics are frayed sweaters waiting to be unravelled, the better to be understood, and in some respects a professor of economics is likely to know better where to pull.

Here then is A Partial and Preliminary Handlist of Rhetorical Terms for Students of Economic Literature.

ETHOS

Ethos, the Greek word simply for 'character', is the fictional character an author assumes. It is the same as Latin *persona* or the modern 'implied author'. No one can refrain from assuming a character, good or bad. An author without good character will not be credited. The exordium, or beginning, of any speech must establish an ethos worth believing. An established ethos is the most persuasive of scientific arguments and scientists are therefore very busy establishing it. Consider for example the implied authors created by these opening lines in the *American Economic Review's* issue of March 1989:

Two decades of research have failed to produce professional consensus on the contribution of federal government civil rights activity to the economic progress of black Americans.

(Heckman and Payner 1989: 138)

The implied authors here are policy-oriented, precise but awkward (look at the nominal phrase 'federal government civil rights activity'), aware of the longer trends in scholarship, scholarly (with a Latinate vocabulary), dignified yet decisive, men who will succeed where others have 'failed'. The reader has to be an economist for the sentence to have these effects, just as the listener had to be a fourth-century Athenian for Demosthenes' appeals to ethos to have their effects.

Or:

After a period of intensive study of optimal indirect taxation, there has been a renewed interest in recent years in the problem of optimal income taxation, with particular emphasis on capital income taxation and economic growth.

(Howitt and Sinn 1989: 106)

Here the implied authors are modest (contrast the ringing 'Two decades of research have failed' above or the unconscious arrogance of 'Consider . . . the setting' below), concerned to fill gaps rather than assault once more the great questions of the age, academic rather than political ('renewed interest', as there might be renewed interest in the satellites of Jupiter), but again Latinate in vocabulary, anonymous, American academic writers.

Or:

Consider the following stylized setting.

(Lewis and Sappington 1989: 69)

These are mathematical, uninterested in facts, followers of a certain fashion, pretending to be direct but staying firmly in the lecture room, unaware of how funny the first sentence sounds to most economists. The writers of course need not be aware of every effect their writing has on the audience, no more than poets need be.

Or finally:

There is good reason to think that the market for single-family homes ought to be less efficient than are capital markets.

(Case and Shiller 1989: 125)

And these are candid, direct, practical, better writers than 'After a period of intensive study', interested in explaining an empirical phenomenon, up-to-date in financial theory.

Everyone makes an appeal to *ethos*, if only an *ethos* of choosing never to stoop to such matters as *ethos*. No speech with intent is 'non-rhetorical'. Rhetoric is not everything, but it is everywhere in the speech of human arguers.

It is a commonplace that formal complexity, for example, is a claim to the *ethos* of the Deep Thinker, a powerful one in modern economics. But any figure of speech can be pointedly reversed for ironic effect. Thus, complexity has been used in the literature on British economic 'failure' as the opposite of an authoritative *ethos*, as evidence of disauthority. A paper by the historical economist Stephen Nicholas in 1982 tries to cast doubt on calculations of total-factor productivity change in Victorian Britain. After a lucid prose survey of the debate on failure from Landes down to 1982, Nicholas 'explains' the calculation of total factor productivity. He says,

it is assumed [note at once the style borrowed from mathematics] that the economic unit is a profit maximizer, subject to a linear homogeneous production function and operating in perfectly competitive product and factor markets. Given these limiting assumptions, the marginal productivity theory of distribution equates marginal products to factor rewards. It follows by Euler's theorem . . . [etc., etc.]

(Nicholas 1982: 86)

To most of his readers he might as well have written 'it is assumed that the blub-blub is a blub maximizer, blub-blub blub-blub-blub and blub in perfectly blub and blub blub. Given these limiting assumptions, the blub blub blub blub blub blub blub. It follows by blub blub . . .'. The audience that can understand the argument is the audience of people who already understand it, leaving one to ponder why the argument was necessary. The people who do not understand it gain only the impression that 'limiting assumptions' are somehow involved (they are not, by the way). The rhetorical form of the passage is explanation; its effect in the pages of the *Economic History Review* is to terrify the onlookers, convincing them that the 'neoclassical' analysis makes a lot of strange and unconvincing assumptions. By the mere statement of the 'assumptions' said to underlie the 'neoclassical' calculation, one can cast doubt on the calculation in the eyes of all historians and many economists.

In replying to a sharp rebuttal by Mark Thomas in a later issue of the *Review*, Nicholas repeats the turn. The last sentence of his exordium makes the argument explicit: 'The long list of restrictive assumptions cautions the economic historians that, at best, the Solow index is a crude measure from which to draw conclusions about historical change' (Nicholas 1985: 577; emphasis added). The *ethos* here is of the Profound Thinker Defending the Innocents from Other Profound (but Irresponsible) Thinkers.

POINT OF VIEW

The implied author, in other words, chooses a vantage point, such as Huck in *Huckleberry Finn*, a first-person narrator who in this case is portrayed as not knowing what is happening beyond his sight; or the author in *Anna Karenina*, who can hear aloud what people are thinking and can travel from Moscow to St Petersburg without a ticket. In the modern novel the suppression of the authorial 'I' has resulted in a technique peculiar to literature, 'represented speech and thought'. Grammarians call it 'unheralded indirect speech', the French *style indirect libre*. Any page or two of Jane Austen serves, as in *Persuasion*: 'Sir Walter had taken a very good house in Camdenplace, a lofty dignified situation, such as becomes a man of consequence' (1818 [1965]: 107; Sir Walter's words ['dignified . . . a

man of consequence'] in Austen's mouth); 'Could Anne wonder that her father and sister were happy? She might not wonder, but she must sigh that her father should feel no degradation in his change' (108; Anne's words ['sigh . . . no degradation'] in Austen's mouth).

The parallel technique in science might be called 'represented Reality' or 'unheralded assertion' or '*style indirect inévitable*'. The scientist says: It is not I the scientist who make these assertions but reality itself (Nature's words in the scientist's mouth). The audience applauded Fustel de Coulanges's inaugural lecture at the University of Paris; he put up his hand for silence: 'Do not applaud me. It is not I who speaks, but the voice of History speaking through me.' Redoubled applause. Scientists, including economic scientists, pretend that Nature speaks directly, thereby effacing the evidence that they the scientists are responsible for the assertions. It's just there. The result is similar in fiction: 'We (as readers) cannot question the reliability of third-person narrators . . . Any first-person narrative, on the other hand, may prove unreliable' (Martin 1986: 142). Thus Huck Finn, a narrator in the first person, misapprehends the Duke and we the readers know he does. The scientist avoids being questioned for his reliability by disappearing into a third-person narrative of what really happened.

The sociologist Michael Mulkay notes in the epistolary arguments of biologists a Rule 11: 'use the personal format of a letter . . . but withdraw from the text yourself as often as possible so that the other party continually finds himself engaged in an unequal dialogue with the experiments, data, observations and facts' (1985: 66). The technique is similar in history: 'the plot of a historical narrative is always an embarrassment and has to be presented as "found" in the events rather than put there by narrative techniques' (White 1973: 20). It is widespread in economics, of course.

STYLE

The Romans divided rhetoric into Invention (the finding of arguments), Arrangement and Style (they included a fourth and fifth category, memory and delivery, too, but these have faded). 'Style versus content' is a rhetorical commonplace of our post-rhetorical culture, most common since the seventeenth century. But the modern premise that content can be split from expression is mistaken. The two are yolk and white in a scrambled egg. Economically speaking, the production function for thinking cannot be written as the sum of two subfunctions, one producing 'results' and the other 'writing them up'. The function is not separable.

Tony Dudley-Evans and Willie Henderson, for example, have studied intensively the style of four articles from the British *Economic Journal* over a century of publication. 'Taxation through monopoly' by C. F. Bastable (1891), for example, 'strikes one immediately as having been

written for a highly educated reader [the implied reader] who happens also to be interested in economic matters' (1987: 7). And Bastable, they note, 'frequently uses "and", "but" and "again" in initial position' (an ornament in modern English). Again, he in initial position uses 'elegant adverbial phrases', such as 'So much is this the case' or 'Alike in classical and medieval times' (ibid.: 8). Alike in his scientific and his journalistic work, 'Bastable based his writing not upon shared technical knowledge but on a shared understanding of an educated culture more widely defined' (ibid.: 15).

The style of John Muth's influential article of 1961 on rational expectations makes an ethical and emotional appeal, an appeal to his character as a Scientist and to the self-image of his audience. The word 'I' occurs twice only, in keeping with scientific conventions of impersonality. About a third of the sentences have their main clause in the passive voice. Amidst much that is self-confident and even cocky, Muth adds phrases of scientific modesty: 'as a first approximation', 'I would like to suggest', 'it is rather surprising', 'it often appears'. He introduces bits of 1950s-style philosophy of science, 'purely descriptive hypotheses', 'observed phenomena', 'prediction of the theory', and 'consistent with the relevant data'. Above all, he is obscure. He doubtless did not intend to be, but the paper is unreadable, and was for a long time unread. The obscurity of the style was necessary for its later success as an authoritative text. St Augustine, as the literary critic Gerald Bruns has noted, viewed the obscurity of the Bible as having 'a pragmatic function in the art of winning over an alienated and even contemptuous audience' (Bruns 1984: 157). Obscurity is not rare in religion and science. Bruns quotes Augustine (who might as well be justifying the obscurities of a mathematical economist proving the obvious): 'I do not doubt that this situation was provided by God to conquer pride by work and to combat disdain in our minds, to which those things which are easily discovered seem frequently to be worthless' (ibid.: 157).

APPEALS TO AUTHORITY

Economic style appeals in various ways to an ethos worthy of belief. For example, a text claiming authority uses the 'gnomic present', as in the sentence you are reading now, or in the Bible, or repeatedly in the historian David Landes's well-known book on modern economic growth, *The Unbound Prometheus*. Thus in one paragraph on p. 562: 'large-scale, mechanized manufacture requires not only machines and buildings... but... social capital... [t]hese are costly, because the investment required is lumpy... the return on such investment is often long deferred'. Only the last sentences of the paragraph connect the rest to the narrative past: 'the burden has tended to grow... has become a myth'.

The advantage of the gnomic present is its claim to the authority of

General Truth, which is another of its names in grammar. The gnomic present is Landes's substitute for explicit social scientific theory (of which he is innocent), a function the gnomic present serves in sociology and in much of the literature of economic development, too.

Note the tense in Landes's essay at p. 563, for example, after some *aporia* (rhetorical doubt) concerning whether it is true or not, 'Where, then, the gap between leader and follower is not too large to begin with... the advantage *lies* with the latecomer. And the more so because the effort of catching up *calls* forth entrepreneurial... responses.' That in general and as an economic law the advantage *lies* with the latecomer is offered as a deductive conclusion. And in truth it does follow deductively from the earlier assertions, themselves expressed in the gnomic present (for instance, p. 562, 'There *are* thus two kinds of related costs...').

The disadvantage is that it sidesteps whether it is asserting an historical fact (that in fact the return on 'such investment' in 1900 was by some relevant standard long deferred) or a general truth (that in economies of the sort we are talking about most such returns will be long deferred), or perhaps merely a tautology (that the very meaning of 'social capital' is investment of a generally useful sort with long-deferred returns). The one meaning borrows prestige and persuasiveness from the other. The usage says: 'I speak as a historian, the voice of History, who is telling you of the facts, this being one of them; but I am also a social scientist in command of the best and timeless theorizing on the matter; and if you don't like that, consider that what I assert is anyway true by definition.'

METAPHOR

The ancients spoke of 'figures' as all the surface of prose, dividing it into 'figures of ornament' (such as the parallelism in the present sentence) and 'figures of argument'. The most well known of the figures of argument is metaphor, which since the philosophers Max Black (1962a, b) and Mary Hesse (1963) thirty years ago has been recognized as synonymous with the scientist's 'model'. In trying to explain family size, for example, Gary Becker alighted on a metaphor of children as... well... durable goods. A child, you see, is very like a refrigerator: it is expensive to procure, delivers a stream of returns of a long period of time, has an imperfect secondhand market, and so forth. That the list of similarities eventually become dissimilarities - 'Children, like durable goods, are *not* objects of affection and concern' - is one reason, as Black argued, that 'metaphorical thought is a distinctive mode of achieving insight, not to be construed as an ornamental substitute for plain thought' (1962: 267).

An example is a book, *The Zero-Sum Solution* (1985), by Lester Thurow, an economist and dean of the business school at MIT. The book is sporting. 'To play a competitive game is not to be a winner - every competitive

game has its losers – it is only to be given a chance to win Free market battles can be lost as well as won, and the United States is losing them on world markets' (1985: 59). One chapter is entitled 'Constructing an efficient team'. Throughout there is talk about America 'competing', and 'beating' the rest of the world with a 'world-class economy'. Thurow complains that more people don't appreciate his favourite metaphor, and calls it a 'reality': 'For a society which loves team sports . . . it is surprising that Americans won't recognize the same reality in the far more important international economic game' (ibid.: 107). In more aggressive moods he slips into a military uniform: 'American firms will occasionally be defeated at home and will have not compensating foreign victories' (ibid.: 105). Foreign trade is viewed as the economic equivalent of war.

Three metaphors govern Thurow's story: this metaphor of the international zero-sum 'game'; a metaphor of the domestic 'problem'; and a metaphor of 'we'. We have a domestic *problem* of productivity that leads to a *loss* of the international *game*. Thurow has spent a long time interpreting the world with these linked metaphors. The we-problem-game metaphors are not the usual one in economics. The metaphor of exchange as a zero-sum game, in fact, has been favoured by anti-economists since the eighteenth century. The subject is the exchange of goods and services. If exchange is a 'game' it might better be seen as one in which everyone wins, like aerobic dancing. No problem. Trade in this view is *not* zero sum.

The example is not meant to suggest that metaphors are somehow optional or ornamental or unscientific. I disagree with Thurow's argument here. What is wrong, however, is not that he uses a metaphor – no scientist can do without metaphors – but that his metaphor is inapt, as could be showed in various ways statistical and introspective. The novice's mistake is to suppose that a rhetorical criticism is merely a way of unveiling Error. If we snatch away the veil of ornament, the novice thinks, we can confront the Facts and the Reality direct. The numerous books called 'Rhetoric and reality', such as Peter Bauer's collection of essays, commit the mistake.

True, devices of rhetoric such as metaphors *can* be veils over bad arguments. But they can also be the form and substance of good arguments. I agree, for example, with most of Gary Becker's metaphors, from criminals as small businessmen to the family as a little firm. Becker is an economic poet, which is what we expect of our theorists.

TROPES

The Greek word for 'figure' is 'trope', meaning 'turn'. The Four Master Tropes, also called the perspectival tropes, are Metaphor ('The White House laid an egg today'), Synecdoche (part for whole: 'The Presidency', one man standing for the whole administration), Metonymy (associated item stand-

ing in: 'The White House' for the Presidency), and Irony (saying *X* and meaning not-*X*: 'The White House had a wonderful day').

Robert M. Solow's famous paper, 'Technical change and the aggregate production function' (1957), illustrates the tropes in action. Solow was trying to understand the rising income of Americans from 1909 to 1949. He wished to know in particular how much was caused by more machinery, buildings and other physical 'capital' and how much by other things – chiefly the increasing ingenuity of people. He began:

In this day of rationally designed econometric studies and super input-output tables, it takes something more than the usual 'willing suspension of disbelief' to talk seriously of the aggregate production function The new wrinkle I want to describe is an elementary way of segregating variations in output per head due to technical change from those due to the availability of capital per head Either this kind of aggregate economics appeals or it doesn't. Personally I belong to both schools It is convenient to begin with the special case of neutral technical change In that case the production function takes the special form $Q = A(t)f(K, L)$ and the multiplicative factor $A(t)$ measures the cumulated effect of shifts over time.

The argument depends at once on a metaphor. The 'aggregate production function' which Solow introduces asserts that the making of our daily bread is like a mathematical function. The jumble of responsibility, habit, conflict, ambition, intrigue and ceremony that is our working life is supposed to be similar to a chalked curve on a blackboard.

The *L* and *K* in the equation are metonymies. The *L* reduces the human attentiveness in making bread to mere hours of work. The hour is an emblem. It is no more the substance of the matter than the heart is of emotions or a bottle is of the wine. The *K* reduces the material inheritance of the workplace to a pile of shmoo. Solow is aware of the boldness of the figure, though defending it as conventional: he 'would not try to justify what follows by calling on fancy theorems on aggregation and index numbers', referring in a footnote to Joan Robinson's exploration of 'the profound difficulties that stand in the way of giving any precise meaning to the quantity of capital'.

The identification of $A(t)$ with 'technical change' is a synecdoche, and on it the paper turns. The notation says that the multiplier *A* depends on time, rising as the technologists get smarter. But Solow admits that 'slow-downs, speedups, improvements in the education of the labor force, and all sorts of things' will also cause it to rise. Critics of the calculation, such as Evsey Domar, Theodore Schultz and Solow himself, have called it a mere 'measure of our ignorance'. Calling it 'technical change' as Solow does apologetically though persistently is a bold synecdoche indeed, taking the part for the whole and running with it.

IRONY

Irony is called the 'trope of tropes', because it plays off the others. Observe Solow's ironical bow to 'rationally designed econometric studies' (he knew as did part of his audience that the rationality was in doubt, though in 1957 the econometricians were humourlessly unaware). He describes his notion as a mere 'wrinkle' and as 'elementary', so elementary a wrinkle that no one had thought of it before, and after Solow an intellectual industry arose to exploit it. He protects himself from criticism by mocking the sobersides: 'Personally I belong to both schools'. The synecdoche of 'technical change' is protected by ironical quotation marks when in doubt, though the marks fall away as doubt fades.

Irony is the most sophisticated of the master tropes. As the historian Hayden White puts it:

It presupposes that the reader or auditor already knows, or is capable of recognizing, the absurdity of the characterization of the thing designated in the Metaphor, Metonymy, or Synecdoche used to give form to it. . . . Irony is in one sense metatropological, for it is deployed in the self-conscious awareness of the possible misuse of figurative language. . . . Irony thus represents a stage of consciousness in which the problematical nature of language itself has become recognized. It points to the potential foolishness of all linguistic characterizations of reality as much as to the absurdity of the beliefs it parodies. It is therefore 'dialectical', as Kenneth Burke has noted.

(White 1973: 37)

The most sophisticated economists and the most sophisticated novelists favour irony. Irony presupposes an existing conversation from which one can score; in this and in other ways it is mature. The economist George Stigler, for instance, wrote as follows about the guiding metaphor of why people purchase things: 'It would be of course bizarre to look upon the typical family - that complex mixture of love, convenience, and frustration - as a business enterprise. Therefore, economists have devoted much skill and ingenuity to elaborating this approach' (Stigler 1966: 21). The jest protects and persuades.

STORY

The word 'story' is not vague in literary criticism. Gerald Prince used some ingenious mental experiments with stories and non-stories to formulate a definition of the 'minimal story', which has:

three conjoined events. The first and third events are stative [such as 'Korea was poor'], the second is active [such as 'then Koreans educated themselves']. Furthermore, the third event is the inverse of the

first [such as 'Then Korea was rich'] [T]he three events are conjoined by conjunctive features in such a way that (a) the first event precedes the second in time and the second precedes the third, and (b) the second event causes the third.

(Prince 1973: 31)

Prince's technique isolates what it is about the tales that we recognize as stories. Is this a story?

A man laughed and a woman sang.

No, it does not feel like one - in the uninstructed sense we learned at our mother's knee (of course in a more instructed way, after Joyce and Kafka, not to speak of writers of French detective fiction, anything can be a story). The following sounds more like a story:

John was rich, then he lost a lot of money.

At least it has the claim of sequence or consequence, 'then'. And it has the inversion of status ('rich . . . poor'). But it doesn't quite make it. Consider:

A man was happy, then he met a woman, then, as a result, he was unhappy.

Right. It feels like a complete story, as 'generally and intuitively recognized' (Prince 1973: 5). Contrast:

John was rich and he travelled a lot, then, as a result, he was very happy.

Something is screwy. What is screwy is that his status is not inverted from what it was.

One can use Prince's examples to construct stories and non-stories in economics. Test the pattern:

Poland was poor, then it adopted capitalism, then as a result it became rich.

The money supply increased this year, then, as a result, productivity last year rose and the business cycle three decades ago peaked.

A few firms existed in chemicals, then they merged, and then only one firm existed.

Britain in the late nineteenth century was capitalistic and rich and powerful.

The pattern is story/non-story/story/non-story.

Stories end in a new state. If a 5 per cent tax on petroleum is said by some Congressman or journalist to be 'designed' to fall entirely on producers

the economist will complain, saying, 'It's not an equilibrium'. 'Not an equilibrium' is the economist's way of saying that he disputes the ending proposed by some untutored person. Any descendant of Adam Smith, left or right, whether by way of Marx or Marshall, Veblen or Menger, will be happy to tell you a better story.

Many of the scientific disagreements inside economics turn on this sense of an ending. To an eclectic Keynesian, raised on picaresque tales of economic surprise, the story idea 'Oil prices went up, which caused inflation' is full of meaning, having the merits that stories are supposed to have. But to a monetarist, raised on the classical unities of money, it seems incomplete, no story at all, a flop. As the economist A. C. Harberger likes to say, it doesn't make the economics 'sing'. It ends too soon, halfway through the second act: a rise in oil prices without some corresponding fall elsewhere is 'not an equilibrium'.

From the other side, the criticism of monetarism by Keynesians is likewise a criticism of the plot line, complaining of an ill-motivated beginning rather than a premature ending: where on earth does the money you think is so important *come* from, and why? Our jargon word is 'exogenous': if you start the story in the middle the money will be treated as though it is unrelated to, exogenous to, the rest of the action, even though it's not.

There is more than prettiness in such matters of plot. There is moral weight. Hayden White has written that 'The demand for closure in the historical story is a demand . . . for moral reasoning' (White 1981: 20). A monetarist is not morally satisfied until she has pinned the blame on the Federal Reserve. The economist's ending to the story of the petroleum tax falling entirely on producers says, 'Look: you're getting fooled by the politicians and lawyers if you think that specifying that the refiners pay the tax will let the consumers off. Wake up; act your age; look beneath the surface; recognize the dismal ironies of life.' Stories impart meaning, which is to say worth. A *New Yorker* cartoon shows a woman looking up worried from the TV, asking her husband, 'Henry, is there a moral to *our* story?'

The sense of adequacy in storytelling works in the most abstract theory, too. In seminars on mathematical economics a question nearly as common as 'Haven't you left off the second subscript?' is 'What is your story?' The story of the gasoline tax can be put entirely mathematically and metaphorically, as an assertion about where the gasoline tax falls, talking of supply-and-demand curves in equilibrium thus:

$$w^* = -(E_d / (E_d + E_s)) T^*$$

The mathematics here is so familiar to an economist that he will not need explanation beyond the metaphor. But in less familiar cases, at the frontier of economic argument, the economist will need an explanation. That is, he will need a story. Like the audience for a biologist explaining moulting

glands in crabs, at the end of all the mathematics he will ask insistently *why*. In seminars on economic theory 'What is your story?' has become a technical phrase. The question is an appeal for a lower level of abstraction, closer to the episodes of human life. It asks for more realism, in a fictional sense, more illusion of direct experience. It asks to step closer to the nineteenth-century novel, with its powerful and non-ironic sense of Being There.

DECONSTRUCTION AND OTHER TERRORS

When Richard Posner wanted in a recent book to terrify his lawyer-readers about reds in the English department, you can imagine the school of criticism he began with: 'Deconstruction and other schools of criticism' (1988: 211). Deconstruction, by merest chance the most frightening version of literary criticism that could be brought before conservative readers, is 'least well understood by lawyers, and . . . is therefore an appropriate starting point . . .' (ibid.: 211). Ho, ho.

Deconstruction, for all the calls to arms against it from the ignorant (and proud of it), constitutes only a tiny part of criticism. It is not even the most *recent* of fashions in literary theory (feminism and the new historicism are, with the new economic criticism on the horizon). It is merely one of a score of partially overlapping ways to do literary criticism. A partial list in historical order would include rhetorical, philological, Aristotelian, belletristic, hermeneutic, historical, new critical, psychoanalytic, neo-Aristotelian, mythological, neo-rhetorical, Marxist, reader-response, deconstructive, linguistic, feminist and new historicist criticism. In the same way you could divide economics into Good Old Chicago School, eclectic econometric macro, nouvelle Chicago, highbrow general equilibrium, policy-oriented micro.

But the journalistic interest in the word is so great that it cannot be ignored even in a brief list (a good treatment for economists is Rossetti 1990, 1992). One insight that the deconstructionists are properly to be credited with is the notion of verbal 'hierarchy'. The point is simply that words carry with them a ranking with respect to their opposites, as the word 'infidel' calls to mind 'Muslim'; and 'black' calls to mind 'white'. A sentence will achieve some of its effect through playing on these rankings. Noticing the hierarchies exposes the politics (so to speak) in writing.

In economics long ago, for example, Wesley Clair Mitchell wrote, 'it must never be forgotten that the development of the social sciences (including economics) is still a social process. Recognition of that view . . . leads one to study these sciences . . . [as] the product not merely of sober thinking but also subconscious wishing' (quoted in Rossetti 1992). The passage contains at least these half-spoken hierarchies ready for liberating deconstruction (reading back to front, the terms in square brackets being

those implied but not mentioned): sober/subconscious; thought/wishing; product/[mere ephemera]; sciences/[mere humanities]; study/[beach reading]; one/[you personally]; leads/[compels]; view/[grounded conviction]; sciences/[mere] processes; development/[mere chaotic change]; must/[can]. The first term of each is the privileged one – except that in the pairs leads/[compels] and view/[grounded conviction] they are in fact polite self-deprecation, with ironic force: Mitchell is on the contrary claiming the commanding heights of compelling and grounded conviction, not the soft valleys of mere gently leading 'views'. Literary people speak of 'deprivileging' the superior term in such pairs, which in economics would be, for example, 'microfoundations/macroeconomics' or 'general/partial' or 'rigorous/informal'.

In the vernacular, the economist Mitchell is playing mind games on us readers, and we'd better watch out. Mitchell, of course, is not special. It is easier to see the mind games played by writers long ago than in our own time, but you can depend on it that writing with intent plays them.

The deeper point that deconstruction makes is that among the mind games in which all writing participates is the claim that the writing is the world. The realistic novel is the plainest example, but scientific writing is another (for which see again Mulkay 1985). For example, the phrase 'it is obvious that' conveys certitude in mathematics and in economics. One eight-page article in the *Journal of Political Economy* (Davies 1989) uses expressions such as 'It is obvious that', 'obviously', 'it is evident', 'doubtless', 'easily seen', 'needs no discussion', 'we may expect' some forty-two times. But nothing is 'obvious' on a printed page except that certain marks have been made on a white field. The 'easily seen' is evoked in the mind's eye.

WRITING AS PERFORMANCE

The point is not peculiar to deconstruction. In a way it is one of the chief findings of humanism. Books do not 'reproduce' the world. They evoke it. Skilful fiction, whether in the form of *Northanger Abbey* or *The Origin of Species*, 'stimulates us to supply what is not there', as Virginia Woolf remarked of Austen. 'What she offers is, apparently, a trifle, yet is composed of something that expands in the reader's mind and endows with the most enduring forms of life scenes which are outwardly trivial' (1953 [1925]: 142). Remarkably on her remark in turn, the critic Wolfgang Iser put it this way: 'What is missing from the apparently trivial scenes, the gaps arising out of the dialogue – this is what stimulates the reader into filling the blanks with projections [the image is of the reader running a motion picture inside his head, which is of course why novels can still compete with television] . . . The "enduring form of life" which Virginia

Woolf speaks of is not manifested on the printed page; it is a product arising out of the interaction between text and reader' (Iser 1980: 110–11).

As Arjo Klamer (1987) has shown for the postulate of economic rationality, scientific persuasion, too, is like that. Persuasion of the most rigorous kind has blanks to be filled at every other step, whether it is about a difficult murder case, for example, or a difficult mathematical theorem. The same is true of a debate about economic policy. What is unsaid – but not unread – is more important to the text as perceived by the reader than what is there on the page. As Klamer puts it (1987: 175), 'The student of the rhetoric of economics faces the challenge of speaking about the unspoken, filling in the "missing text" in economic discourse.'

The running of different motion pictures in our heads is going to produce different texts as perceived. Todorov asks: 'How do we explain this diversity [of readings]? By the fact that these accounts describe, not the universe of the book itself, but this universe as it is transformed by the psyche of each individual reader' (Todorov 1975 [1980]: 72). And: 'Only by subjecting the text to a particular type of reading do we construct, from our reading, an imaginary universe. Novels do not imitate reality; they create it' (ibid.: 67f.). Economic texts also are made in part by the reader. Obscure texts are often therefore influential. The crafty John Maynard Keynes, for example, most influentially in *The General Theory of Employment, Interest and Money*, left many opportunities for readers to run their own internal motion pictures, filling in the blanks.

The argument can be pushed. An economist expositing a result creates an 'authorial audience' (an imagined group of readers who know this is fiction) and at the same time a 'narrative audience' (an imagined group of readers who do not know it is fiction). As the critic Peter Rabinowitz explains (1968 [1980]: 245), 'the narrative audience of "Goldilocks" believes in talking bears'. The 'authorial' audience realizes it is a fiction.

The difference between the two audiences created by the author seems less decisive in economic science than in explicit fiction, probably because we all know that bears do not talk but we do not all know that the notion of 'marginal productivity' in economics is a metaphor. The narrative audience in science, as in 'Goldilocks', is fooled by the fiction, which is as it should be. But in science the authorial audience is fooled, too (and so incidentally is part of the literal audience, the actual readers as against the ideal readers the author appears to want to have). Michael Mulkay, again, has shown how important is the inadvertent choice of authorial audience in the scholarly correspondence of biochemists. Biochemists like other scientists and scholars are largely unaware of their literary devices, and become puzzled and angry when their literal audience refuses to believe in talking bears (Mulkay 1985: ch. 2). They think they are merely stating facts, not making audiences. Small wonder that scientists and scholars disagree, even when their rhetoric of 'What the facts say' would appear to

make disagreement impossible. Science requires more resources of the language than raw sense data and first-order predicate logic.

It requires that which may be called the Rhetorical Tetrad. Fact and logic also come into the economics, in large doses. Economics is a science, and a jolly good one, too. But a serious argument in economics will use metaphors and stories as well – not for ornament or teaching alone but for the very science. Fact, logic, metaphor and story.

The reasons to do a rhetorical analysis of an economic text are various: to understand it, to admire it, to debunk it, to set it beside other works of persuasion in science, to see that science is not a new dogma but is thoroughly and respectably part of the culture. The tools are ancient. They need be mastered only at the level of an elementary book such as Corbett to begin to be useful. In the bibliographies attached here I give some suggestions for beginning study. Rhetorical sophistication is an alternative to reading scientific texts the way the implied reader does, a reader who believes, for example, in talking bears. If we are to get beyond nursery school as scientific readers we need such a rhetoric applied to economic science.

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