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# Commentary on: Jerry Petersen's "The failure of certainty: Why economics needs rhetoric"

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My commentary on Jerry Petersen's paper has a simple structure: First, I will point out themes in it that I appreciated and which I would have liked to see more thoroughly developed. Secondly, I have some reservations, all of which can be subsumed under one heading: I think Petersen advances over a front that is simply too broad, and that his campaign would have gained force if he had focused on fewer points of attack.

## 1. PSEUDO-DEDUCTIVE ECONOMICS

Petersen's main target is what we might call pseudo-deductive economics, i.e., the kind of economic theory or practice that posits one or a few axiomatic assumptions and proceeds as if everything that happens in the economic sphere and everything that ought to be done in the economy can be deduced from those axioms. They include, as is well known, the idea that economic behavior is driven by agents' attempts to maximize utility; that the marketplace, if left to itself, will automatically ensure the optimal supply of goods and services at optimal prices; and, essentially that this mechanism will automatically see to it that all individuals' needs and interests are optimally fulfilled.

The claim that the current economic crisis, as a whole or in part, ultimately resulted from decision-makers' unwarranted reliance on these doctrines is the point of departure in Petersen's paper, and in support of it he cites a statement by the former head of the Federal Reserve, Alan Greenspan. I find Greenspan's admission deeply interesting, and I would have liked more substantiation of the idea that decision-makers by their own admission used, or were seduced by, pseudo-deductivist economic rhetoric in implementing or recommending disastrous policies. That in itself would certainly deserve a paper or even a book.

## 2. ADAM SMITH: PSEUDO-DEDUCTIVISM AS ENGAGING RHETORICAL STRATEGY

Next, I am thrilled when Petersen points out that Adam Smith, who supposedly fathered the classic pseudo-deductivist doctrines, was in fact a much more nuanced or ambiguous thinker who took an "overtly rhetorical and less dogmatic approach in his *Wealth of Nations*," yet also "admired the use of first principles as a professor of

rhetoric and advocated it to his students.” Petersen, interestingly, quotes Smith as saying that it “gives us pleasure to see the phenomena which we reckoned the most unaccountable, all deduced from some principle.” Again, a paper or a book might build on this idea alone. And I would like it to tell us whether Smith the rhetorician pointed to pseudo-deductivism *as a powerful rhetorical strategy* precisely because, as he says, it gives “pleasure” (to the rhetor as well as to his audience, we might add), while at the same time, *as an economist*, he had the sense to see that unallayed deduction from “some principle” misrepresents the world? Petersen instructively illustrates the apparent contradiction between deductivism and inductivism in Smith. I would have liked Petersen to further explore the suggestion that Smith does not just expound a bit of each, but that deductivism is to him merely and precisely a *rhetorical strategy*; something like this seems to me to be indicated in Petersen’s other quote from Smith, which states that the method using “first principles” is “undoubtedly the most philosophical, and in every science, whether of Morals or Natural Philosophy, etc., is vastly more ingenious, and for that reason more engaging, than the other.” Notice the word “engaging.” Is this statement, as Petersen has it, really a “glowing appraisal of Newton’s method” – or is it rather a rhetorical assessment of the pseudo-deductive method’s enormous potential appeal to certain minds, its capacity to “engage” and perhaps even to seduce? And is pseudo-deductivism in fact Newton’s method? That question is one I will return to.

At any rate, we have here the seed of a hypothesis that might help explain why pseudo-deductivism in a discipline like economics has held the sway that it has: It holds a unique psychological appeal to those who expound it as well as to many of those who hear it or read it. Promising projects for rhetoricians here would be, first, to demonstrate through textual analysis that the “pleasure” derivable from deductivist doctrines in fact explains much of their power to “engage” and hence to persuade; second, to analyze the exact nature of this pleasure-yielding mechanism; and then, to discuss what sorts of personalities and what sorts of disciplines, in what sorts of situations, are in particular susceptible to this appeal.

### 3. SCIENCE AS INVENTION?

I also liked Petersen’s discussion of the Pluto’s exemplary demotion from planet status. I accept this story as showing that definitions in science are, in Alan Gross’s terms, inventions rather than discoveries: For example, scientists *choose* to define a planet as an object that has certain properties including ‘roundness,’ and furthermore they can and must decide, arbitrarily, how much of this vague property the object must have to qualify as ‘round.’ In short, the idea of a planet is not an immutable essence. Pluto refutes Plato.

But everything in science is not “invention” in the same sense as the definition of a planet. Science is made of other things as well, for example, observations. It is true that some observations are, as Petersen and Richard Rorty would say, “fudged” in order to fit definitions or deductive theories, and some observations are pure inventions – but some are not.

On the whole, I suspect that Petersen’s has chosen to proceed on an unduly broad front in his campaign to show that science belongs to those “uses of language

that persuade and construct a vision of reality.” An important reservation I have is that Petersen cites Newton as the great model for pseudo-deductivist theories. This may be true historically, but it is misleading to imply that Newton was a deductivist. He did not set up his laws as axiomatic first principles and then deduce everything from them. Newton was not Descartes. Newton’s laws are theories that he derived from empirical observations. Notice that Smith talks about first principles of two kinds: “primary, or proved.” Newton’s were not primary. They were simple equations that accounted extremely well for a body of observations built up over many decades. These included the Danish astronomer Tycho Brahe’s meticulous charting of planetary movements, which allowed Johannes Kepler, at enormous effort, to theorize that planets move in ellipses, with the sun at one focus. Newton, among many other seminal ideas, then proposed the law of universal gravity which explains these movements with reference to a centripetal force – gravity - inversely proportional to the square of the radius vector. He also showed that the same principle, expressed in a simple equation, may explain a host of other observations.

The idea that one simple force, expressed in simple mathematical terms, may ultimately explain all mechanical movements in the universe was, as we know, intensely stimulating and engaging to subsequent scientists and intellectuals and kindled their desire for explanatory laws of similarly engaging beauty and simplicity in other areas of human knowledge. Stephen Toulmin and now Jerry Petersen have pointed out how misguided and even disastrous this desire has been. But the fact remains that Newton’s principle were not ‘first’ in the sense of being axioms; they were based on countless previous observations and calculations, and it stood up as compatible with countless subsequent ones. By contrast, the axioms of pseudo-deductive economics can claim neither of these merits.

This difference also explains why Newton’s theories were eventually, in a sense, falsified by relativity. They had never been “proved” because scientific theories cannot be. They were seen to be brilliant approximations that hold under most circumstances. By contrast, pseudo-deductive economics is treated by many of its true believers as a self-sealing system immune to falsification. In their eyes, nothing that has happened or could possibly happen will ever disprove it.

#### 4. RHETORIC: LEGITIMATE, NECESSARY AND SEDUCTIVE

It is certainly useful to be reminded that there is rhetoric and persuasion in science, and the study and criticism of it is fascinating and important. But I suggest we stop short of defining rhetoric in science so broadly that rhetoric becomes all there is to it. There is also observation, and there is deduction, as well as induction, abduction, experimentation, intuition and a lot more. I suggest we adopt Perelman’s definition rhetoric, which sees rhetoric as persuasion about issues where there is no access to deductive or compelling proof. Empirical science has no access to prove its theories deductively; and that is where rhetoric comes in. So rhetoric is necessary in science. Some of it is useful, some of it illuminating, but some of it is seductive or downright false. Scientific rhetoric may be most appealing and hence seductive, to some minds, when someone pretends that deductive inference from axioms will work in a field that appears otherwise intractable.

This is what we have seen in pseudo-deductive economics, and that is a reason why need analysts like Petersen to make us aware of it.