

My Philosophy of Economics, Life, and Everything (Not!) \*

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In Douglas Adams' brilliant science fiction parody, *The Hitchhiker's Guide to the Galaxy*,<sup>1</sup> "a race of hyperintelligent pandimensional beings ... built themselves a super computer ... the size of a small city." The single task assigned to this computer, which was named Deep Thought, was to provide "The Answer" to "the ultimate question of Life, the Universe, and Everything." After seven and a half million years of work, it came up with the answer: 42.

I thought of this when the editors asked me to write about "my Life Philosophy ... interspersed with social philosophical issues, some perspective on the nature of life and of the universe, and the relationship between economics and other disciplines." It took me less than seven and a half million years to come up with the answer: 23.

When the hyperintelligent beings complained: "Is that all you've got to show for seven and a half million years' work?", Deep Thought replied: "I think the problem ... is that you've never actually known what the question is." My assignment is similarly

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vague. Deep Thought told the hyperintelligent beings that they should construct an even larger computer to calculate “the Question to the Ultimate Answer.” I will not set the editors such a daunting task. I will merely make a few random remarks that may help sharpen the question. They may not; but what do you expect after far less than seven and a half million years’ worth of shallow thought, coming from a far-from-super computer who occupies barely two square feet of space?

## LIFE OF RESEARCH

The same editors had asked me ten years ago to write about my method of work. The only consistent pattern I could find in my random, unsystematic and unphilosophical approach was always to work as if my mental age stayed at 23 – excited to find so many fascinating unanswered questions lying about, and not yet weighed down by the demands of teaching, or fearful about the approaching tenure review. The intervening years have not changed my ideas – nor, I hope, my mental age – so instead of repeating myself, I will refer interested readers to that article, *My System of Work (Not!)*, for my scattered thoughts about research.<sup>2</sup> Here are a few that have occurred to me since then.

*Beyond the Fringe*, the British comedy stage revue of the early 1960s, gave us a mock Church-of-England sermon with the memorable lesson: “Life is like opening a tin of sardines. We’re all of us looking for the key. Finally we find the key. We roll back the lid of the sardine-tin of life. The sardines – the riches of life – are in there. We get them out; we enjoy them. But you know, there’s always a little piece in the corner you can’t get at.” This is a pretty good description of the process of research. The initial excitement

and anticipation on taking up a problem are followed by a long search for the key; then there is another phase of wonder and joy when the rich solution comes into view, only to be followed by the realization that more remains to be done. But that's OK; that becomes the starting point for the next project. A Groat by Piet Hein goes:

Problems worthy of attack

Prove their worth by hitting back.

That's research.

The long "search for the key" phase of research may appear frustrating and daunting to outsiders, but I find it exciting in its own way. Why? Because for me, it is the mental equivalent of free climbing a new rock face, using only hands and feet for the ascent, or even free solo climbing, without any ropes, pitons, or harnesses to protect one if one falls. When one starts on a research project, one has only the vaguest notion of the best route, or of whether there is a feasible route at all. One has to discover as one goes along where, or even whether, the next hold or ledge can be found. One spends a lot of time feeling one's way, or even hanging by one's fingertips. There is the constant risk of failure. It takes all of one's concentration and focus over a long stretch of time. But the breathtaking view from the top is worth all of that, and over time one finds even the process of climbing beautiful and exhilarating in its own way. <sup>3</sup>

## LIFE OF TEACHING

Academics who are serious about research usually regard teaching, especially undergraduate teaching, as a necessary evil, as the activity that puts food on the table, as

something to be done at the minimal acceptable level while all of one's mental energy is focused on research. The attitude is neatly captured in the wording of the question job candidates usually ask: "What is the teaching *load*?" When did you last hear a job candidate ask: "What *opportunities* will I have for teaching, and for developing new courses?" If you do interviewing for a top economics department, probably the answer is never.

I have always regarded teaching as a rewarding and even enjoyable part of my work. I must admit this has on the whole been detrimental to my research, but in some respects it has contributed to research.

The mental and physical activities of teaching can be divided into several phases: preparation, delivery, and evaluation. These bring very different kinds of rewards and frustrations.

Preparation includes search for simpler ways to convey ideas; this for me is the most enjoyable aspect of teaching. It is also the aspect that feeds back most directly on research: if something that was previously hard to understand can be understood and explained more simply, that opens up the route to achieve some understanding of the next level of the problem, which was previously impossibly difficult.

I find another aspect of preparation far less enjoyable, namely the preparation of slick PowerPoint slides or similar visual displays and handouts. Alas, that is becoming a *sine qua non*. Today's students, who have known nothing but high-quality audio-visual media, will take an immediate and instinctive dislike to a teacher who uses old-fashioned chalkboards or handwritten handouts, and to material that is so presented.<sup>4</sup> That is a pity, because a chain of logical reasoning is much better understood when one sees it evolve

step by step, and at the teacher's writing pace on the board, than when it is presented on a slide, and slides past at the pace of the clicker. Conversely, reading the narrative portions of a talk from slides becomes soporific. At a minimum, one should keep slides incomplete, summarizing the main points and leaving out details to be supplied during the talk. This preserves some spontaneity in the talk.

Preparation of slides, especially when they are optimally designed, and especially when they involve mathematics and graphics, takes a long time and much mental energy. This part of teaching does not feed back on research at all. For me, the only way to extract any enjoyment out of it is to regard the slides as minor works of art, and get some creative satisfaction from them.

Delivery of the material, in most of the kind of teaching I do, consists of lectures. For me this is routine without being particularly enjoyable. It does contribute to my main interest, namely the simplification of concepts: I can immediately see whether the audience gets it, and that helps me improve or change the exposition for the next time. Teaching the course a second time is the most enjoyable for the same reason; I can see the success (and I must admit, occasionally the failure) of the improvements I made after the first time.

Evaluation is the least enjoyable part of teaching for me. Making up problem sets and exams is hard. Ensuring good coverage, balance, and difficulty needs too much effort and contributes very little to improvement of the ideas. However, sometimes it does have a research payoff. While constructing an exam question, I have occasionally realized that it could be developed into a research paper.<sup>5</sup>

Grading exams is sheer agony. Not only is the students' handwriting under time pressure hard to read, but their answers sometimes reveal errors and misunderstandings that make me worry about the quality of my teaching. Thank heaven for graduate student graders.

I must confess that my attitude to teaching reveals a fundamental defect: my primary interest is in the ideas, not the people. There are two kinds of teachers: those who regard their students as customers and those who regard their students as children. I am in the former category. Of course I value my customers, and give them respect, attention, and service to the best of my professional ability. But the teachers who regard students as children give something much more personal: love and nurture. That is why, although I am a good teacher, I can never be a great teacher.

## ON ECONOMICS

Oliver Heaviside (for whom the integral of the Dirac delta function is named) said nearly a century ago: "Even Cambridge mathematicians deserve justice."<sup>6</sup> This may have been necessary to say at that time, and may have remained necessary a few decades later when G. H. Hardy titled his book *A Mathematician's Apology*. But nowadays mathematicians everywhere are on the crest of a wave. Each abstruse new theorem is hailed as the next breakthrough in cryptography or cryptanalysis. Those who prove longstanding conjectures that the public had never heard of before – Fermat's Last Theorem, the Poincaré conjecture – become instant celebrities. And movies – *Good Will*

*Hunting, A Beautiful Mind* – show off mathematicians’ skill at writing complicated formulas in chalk on window glass.

The mantle of public disdain and ridicule has descended on economists in general, and economic theorists in particular. Natural scientists and humanists alike accuse us of pretense at being scientists. We are supposed to be heartless in the pursuit of efficiency and growth. The public doesn’t trust our forecasts and is derisive when they turn out to be wrong. In the wake of the financial and macroeconomic crises of 2008, the game of “blame the economist” has reached new levels of popularity, and even those few media that are usually more knowledgeable about the subject have joined the game.<sup>7</sup> Many of our own agree with our critics. But we, too, deserve justice, and it is high time someone stood up for our rights.

The internet has many economist joke sites (<http://netec.wustl.edu/JokEc.html> is quite extensive). Here are a few examples, selected because I will use them in my arguments that follow.

An economist is someone who sees something working in practice and asks whether it would work in theory.

Winston Churchill is supposed to have said: “If you put two economists in a room, you get two opinions, unless one of them is Lord Keynes, in which case you get three opinions.”

Examination questions in economics are the same every year, but the answers change every few years.

Economics is the only field in which two people can get a Nobel Prize for saying exactly the opposite thing.

Let us deconstruct these jokes. Why does anyone care that something worked in practice? To heave a sigh of relief? No; we care because we would like to replicate that success in the future in other situations. But how do we know whether the same thing will work again? The situation might be different. Of course that doesn't automatically imply the opposite, namely that the same thing won't work; the difference might not be relevant. To help us figure out whether we should try the same thing again, we need to know precisely which features of the original context made the thing work. In other words, we need to understand *cause and effect*; for that we need a *theory*. Far from hanging our heads in shame when we hear that joke, we should hold them high and counter that asking whether something that works in practice also works in theory is exactly the right attitude for any researcher.

The same reasoning applies to economists holding different views. There is legitimate room for differences of judgments about what matters and when. Eternal critical vigilance is the price of progress in any science. As for Keynes, his famous reply, "When the facts change, I change my mind. What do you do, sir?" should settle the matter. And Nobel prizes for saying exactly opposite things are not a preserve of economics. The Physics Nobel prize for 1906 was awarded to J. J. Thomson for proving that electrons were particles and measuring their mass. The 1929 prize went to Louis-Victor De Broglie for his hypothesis about the wave nature of matter, and the 1937 prize to G. P. Thomson (J. J.'s son) and Joseph Davisson for measuring the wavelength of electrons from diffraction patterns. Wave-particle duality became an important fundamental idea in physics.

Social scientists and philosophers who are suspicious of physics analogies might prefer to think of such apparent contradictions as a Hegelian dialectic: thesis, antithesis, and synthesis. In economics, traditional Keynesianism with price stickiness and other forms of inertia on the one hand, and the rational expectations theorists' emphasis on forward-looking behavior on the other, have similarly merged into a fruitful synthesis in the hands of a new generation of researchers like Michael Woodford.

No, the reality of an economist's perspective is very different from its popular perception. Economics gives us a unique insight into the workings of life, if not of the universe. And this understanding is a source of constant fun and pleasure. A glimpse into this state of mind has become available to the public in some wonderful books like Steve Levitt's *Freakonomics* and Tim Harford's *The Logic of Life*. Let me offer two offbeat examples from my own reading in history and biography; you will see how the economist's perspective sheds interesting new light on facts the writers had observed through other lenses.

James McPherson, in his celebrated history of the Civil War, discusses the Union navy's blockade of the South. Blockade-running promised handsome profits, but also risked seizure of the ship and the cargo. McPherson tells us that "[o]wners could make back their investment in one or two round trips, clearing a profit with every subsequent voyage." However, the chance of capture on any one trip was one in ten in 1961, rising to one in six, and one in three by 1964.<sup>8</sup> An economist reading this would immediately think: what was the expected profit?

If  $p$  is the probability of capture on any one-way trip, the expected number of trips until capture is  $1/p$ . On each successful trip, suppose the profits are  $X$ . Suppose the value

of the ship and the goods it contains totals  $K$ . On the last trip, the ship is captured and no profits are made. Therefore in expectation, we have  $[(1/p)-1]$  trips earning  $X$  each and one trip losing  $K$ . In equilibrium, the ex ante expected profit should be zero, so

$$K = [(1/p) - 1] X, \quad \text{or} \quad K = X (1-p)/p.$$

If  $p = 1/3$ , then  $K = 2X$ , and the investment is recouped in two one-way trips, that is, in one round trip. For recoument in two round trips, we need  $K = 4X$  and  $p = 1/5$ , which fits the situation earlier in the war. The smuggling trade not only flourished, but was close to equilibrium! <sup>9</sup>

My second example features Alfred E. Smith, the Happy Warrior. He had to leave school and take up a job as an assistant bookkeeper in the Fulton Fish Market to support his family. He started at 4 a.m., and his first task was to go up to the market roof with a pair of binoculars to watch for the boats sailing in with their catch. If they were riding high in the water, that indicated a poor catch; therefore his boss could set prices high. If the boats were riding low, the catch must be good and the prices low. Here we have rational expectations and information in markets! Smith always claimed that he held an F.F.M. degree – Fulton Fish Market. <sup>10</sup> Clearly he majored in Economics.

Economics is all around you, and it is not the least bit dismal. Learn to recognize it, appreciate it, and enjoy it. <sup>11</sup>

If economics is all around you, then game theory, which has become such an important analytical technique in economics research since the 1970s, and which has contributed so many new insights on strategy and information, is all around and within you. Almost everything you do has a strategic aspect, which you ignore at your peril. I don't mean that you should always be trying to outwit, outplay and outlast everyone you

meet. There is always a bigger game beyond the one you are currently playing, and recognizing the long-term benefits of nice behavior is at least as important as seizing opportunities for short-term victories. Mathematical game theorists prove theorems; the rest of us should learn to live game theoretically. I have attempted to convey in some popular books this approach to the game of life, business, and everything, so I will not spend space and time on it here. <sup>12</sup>

## ON OTHER SOCIAL SCIENCES

Once upon a time all scholars who studied human beings and human societies would have regarded themselves as tillers of the same field; I am not sure it even had a name. A little over a hundred years ago this broad social science split into more specialized fields: political economy (which then split further into economics and political science), sociology, individual and social psychology, and even certain aspects of evolutionary biology. The process of the split can be seen in two interesting examples. The man who gave his name to the fundamental concept of efficiency in economics, Vilfredo Pareto, was in equal measure a sociologist. However, while today we look up to Alfred Marshall for the breadth of his interest (as exemplified by his famous saying: “Economics is a study of mankind in the ordinary business of life”), he was one of the first to distinguish “economics” from “political economy.”

For many years the rift widened and deepened, often degenerating into mutual dislike. Sociologists and political “scientists” disdained economists for their narrow perspective; economists disdained these others for their lack of theoretical and empirical

rigor. But in the last two decades we see a tendency toward reconciliation. Economists have broadened their perspective to include other-regarding preferences and several forms of behavior that would were once dismissed as irrational, and to include the political process squarely in their analysis of economic policymaking. Sociologists and political scientists have embraced sophisticated statistical methods that were once the preserve of econometricians. All three have benefited from psychologists' approaches to the design of controlled experiments and field experiments. Game theory, further enriched by behavioral contributions from psychology, has become probably the most frequently used theoretical technique underlying recent research in economics and increasingly in political science, and is slowly making inroads into sociology.

We should not expect a complete reunification of all the social sciences. Specialization is important for making rapid progress in Kuhn's "normal science" mode. Some form of cohabitation rather than marriage seems optimal. We should hope for a time when practitioners of the different branches will be able to converse reasonably fluently in the language of game theory and statistics, will respect one another's endeavors, and will learn from one another's research.

That should not preclude us from making affectionate fun of one another's foibles. I always find it amusing that every paper in sociology finds it necessary to begin with a genuflection to Marx, Durkheim, and Weber, and urge my colleagues in that discipline to forget those dead white males and get on with their own new work. Conversely, they find it amusing that the typical economics paper has no references older than five years. A happy medium that combines respect and irreverence for the past in equal measures surely exists. Perhaps political scientists claim that territory.

## ON PHILOSOPHY

Some of my remarks about being unphilosophical and so on must have made you wonder: “What has he got against philosophy?” My answer is: “Nothing. Philosophy is great fun, when discussed at midnight over a glass (or two) of Armagnac. But it is not a fit subject for serious sober daytime research.”<sup>13</sup>

The whole purpose of philosophy is to not find answers to anything; rather, it is to complexify questions to the point where they don’t have answers. I am not being unfair; most philosophers would agree. To quote a fictional philosopher, Renee Feuer Himmel, “philosophy always reminds me of fireworks. One question is shot up and bursts into a splendorous many. Answers? Forget answers. The spectacle is all in the questions.”<sup>14</sup>

However, I am but a poor utilitarian in my attitude toward research, and agree with another fictional character, Morris Zapp: “Any damn fool could think of questions; it was answers that separated the men from the boys. If you couldn’t answer your own questions it was either because you hadn’t worked on them hard enough or because they weren’t real questions.”<sup>15</sup>

Once upon a time, all sciences were lumped together into “natural philosophy.” Then some of them started to find answers, and therefore either were banished by philosophers, or unilaterally declared their independence, to become physics, chemistry, and so on. Economics followed more than a century ago. Other social sciences are increasingly distancing themselves from philosophy, going on to develop serious conceptual frameworks and do serious statistical empirical research, although some of

their practitioners still retain a fondness for circular discussions of imponderable questions leading nowhere. I prefer to stay with the unphilosophical dimension of the social sciences.

## ENVOI

Fans of Douglas Adams will remember that in the second book in the *Hitchhiker* series, *The Restaurant at the End of the Universe*,<sup>16</sup> his intrepid space explorers Arthur and Ford finally find out the Ultimate Question of Life, Universe, and Everything. It is “What do you get when you multiply 9 by 6?” Remember that the answer was revealed to be 42 in the first book. But this is not an error; 42 indeed equals 9 times 6: in base 13. Deep Thought is thus telling us that 13 is the basis of Life, the Universe, and Everything. In other words, it is all bad luck.

I think this is an excellent starting point for a Life Philosophy. If “all bad luck” is the basis of your expectations, everything that happens will come as a pleasant surprise. For me, indeed it all has. A cheerfully pessimistic perspective on Work, Life, the Universe, and Everything has much to recommend it.<sup>17</sup>

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## NOTES

<sup>1</sup> Originally published by Harmony Books, UK, 1980. Reissues/reprints include Random House, 1997.

<sup>2</sup> *The American Economist*, 38(1), Spring 1994, 10-16, reprinted in *Passion and Craft: How Economists Work*, ed. Michael Szenberg, Ann Arbor, MA: Michigan University Press, 1998.

<sup>3</sup> The physical equivalent is brilliantly described in *The Economist's* obituary of John Bachar, July 18, 2009.

<sup>4</sup> I exaggerate. Brilliant teachers like my own teacher Robert Solow, and my Princeton colleague Harvey Rosen, continue to enthrall students and get rave reviews armed only with a piece of chalk. For Solow, even the occasional squeak of the chalk had a pedagogical use.

<sup>5</sup> My paper “Strategic behavior in contests,” *American Economic Review*, 77(5), December 1987, 891-898, had its origin in an exam question.

<sup>6</sup> Quoted in Harold Jeffries and Bertha Swirles, *Methods of Mathematical Physics*, Cambridge, UK: Cambridge University Press, 1950, p. 228.

<sup>7</sup> The cover of July 18, 2009 issue of *The Economist* shows a tome titled “Modern Economic Theory” melting away, to highlight its five-page “Briefing” criticizing the work in macroeconomics and finance over the last three or four decades. I must admit that the articles in the Briefing are quite well-informed.

<sup>8</sup> James McPherson, *Battle Cry of Freedom: The Civil War Era*, New York: Oxford University Press, 1988, p. 380.

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<sup>9</sup> This assumes risk-neutrality. That may seem doubtful since the gains and losses were huge. But the business of smuggling would selectively attract the least risk-averse adventurers, so the assumption may not be so bad after all.

<sup>10</sup> Jack Beatty, *The Rascal King: The Life and Times of James Michael Curley*, Reading, MA: Addison-Wesley, pp. 254-255.

<sup>11</sup> In addition to the books by Levitt and Harford which I mentioned above, John McMillan's *Reinventing the Bazaar* (New York: W.W. Norton, 2002) is a personal favorite of mine. It gives a wonderful account of the working and failure of markets around the world. It exemplifies how practical economic thinking can and should be informed by good modern economic theory.

<sup>12</sup> Most recently in *The Art of Strategy*, coauthored with Barry Nalebuff, New York: W.W. Norton, 2008.

<sup>13</sup> Perhaps I should make an exception for the best of analytical philosophy: the early Russell, Quine, ...

<sup>14</sup> Rebecca Goldstein, *The Mind-Body Problem*, New York: Random House, 1983.

<sup>15</sup> David Lodge, *Changing Places*, Martin Secker & Warburg, 1975.

<sup>16</sup> Originally published by Crown Publishers, NY, 1980. Reissues/reprints include Random House, 1995.

<sup>17</sup> Lars Svensson, who has long experience of free climbing physical as well as mental rock faces, pointed out that such an attitude may lead one to make overly cautious choices of research topics. I don't think so: not if one enjoys the process for its own sake, and lets success come as a pleasant surprise on top of that.