

## New Paradigm Economics versus Old Paradigm Economics Interview with Edward Fullbrook

Conducted by [Paul Rosenberg](#), 29 October 2013

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### Introductory questions

You've presented a 10-point list "[New Paradigm Economics](#)" in the latest *Real World Economics Review* comparing "Old paradigm economics (OPE)" and "New paradigm economics (NPE)". Before getting into the list itself, I'd like to ask a few introductory questions.

#### (A)

(A) Most non-economists have only heard of Keynesian economics, perhaps as opposed to Austrian policies, or about the "freshwater" vs. "saltwater" schools. How does the old paradigm/new paradigm distinction you're drawing compare to those other ones?

The old/paradigm / new paradigm distinction is fundamentally different from the "freshwater vs. saltwater" one. The latter refers merely to two branches of neoclassical or mainstream economics, the purist wing, "freshwater", and the not so purist, "saltwater". Paul Krugman, for example, is a leader of the saltwater wing, and says "I consider myself a proud neoclassicist". (<http://web.mit.edu/krugman/www/evolute.html>) As Krugman explains, this means he is only prepared to look at economies through a version of the 19<sup>th</sup> century equilibrium and maximization conceptual framework into which a few ideas from Keynes have been able to be fitted. This makes Krugman an *Old Paradigm economist*.

#### (B)

(B) What are the origins of the two paradigms?

The answer to this question has two interlaced dimensions. There are the economic ideas or theories themselves and there are the ideas about how science should be conducted.

The origin of the basic ideas of *Old Paradigm Economics* come primarily from two mid-19<sup>th</sup> century economists, William Stanley Jevons and Léon Walras, both with a background in the physical sciences. Their project was to fashion a *determinate* and *micro-reductive* model of the economic universe in the image of Newtonian mechanics, one in which economic agents could be treated as if they were particles obeying mechanical laws, and all of whose behaviour could, in principle, be described simultaneously by a solvable system of equations. This narrative required the treatment of human desires as fundamental data, which, like the masses of physical bodies in classical mechanics, are not affected by the relations being modelled. This became the grand narrative of economic theory and accounts for all the mechanical analogies and metaphors that have come to dominate Economics 101.

Following the colossal success of the Newtonian Revolution, its metaphysics, for example determinism and reductive explanation, came to be regarded as the standard and required procedures of the natural sciences. It was not until the mid-19<sup>th</sup> century that this dogmatism came under sustained attack. And thank goodness it did, because without its abandonment most of what we think of as modern science – electro-magnetic theory, evolutionary biology,

the theory of relativity and micro physics – would not exist. These sciences admit indeterminacy and/or non-micro-reductive explanations, for example field-based theories rather than particle-based ones.

This pluralist revolution in the natural sciences did **not** mean the abandonment of the Newtonian approach. Instead it meant that it was no longer held to be the only legitimate approach. This conversion to pluralism in the natural sciences meant that the work of Darwin, Maxwell, Boltzmann, Hertz, Einstein, Born, Bohr, Heisenberg, Fermi, Feynman and all the others came to be recognized as science, incorporated into educational curricula and thereby subsequently utilized by society. Meanwhile many leading natural scientists, physicists especially, wrote about the imperative need for pluralism and how every theory, no matter how marvelous, is never more than a window on reality.

But in economics this methodological revolution, which triumphed decisively in physics over a century ago, has yet to win through. *New Paradigm Economics* is about bringing such a revolution to economics, and thereby legitimatizing and utilizing the reservoir of good work – and it is vast and growing at an increasing rate – done by economists who do not always, and in some cases never, look at economic reality through the neoclassical window.

**(C)**

(C) With the evident failure of standard economics in foreseeing the financial crises and the resulting global recession, (i) Why haven't we heard more about alternatives? and (ii) How can we benefit from them?

(i)

We have not heard more about alternatives because of sociological and financial factors.

Half a century ago there began in the United States and then elsewhere a purge of non-neoclassical economists from university economics departments. Economists who revealed that they were not true-believers were not hired, tenured or promoted. The profession had not always been so monist. Early in the last century an Institutionalists was elected president of the American Economic Association and following WWII real Keynesians were tolerated and often listened to. But from 1970 onwards non-neoclassical economists were increasingly purged from the profession, and those who survived or snuck through were studiously ignored. In the case of economics departments at elite universities the purge rate of heretics was very nearly 100%. And it is primarily to elite universities and also their economists hired by banks that the media turn for “expert” commentary on economic issues. Hence the public has heard very little about how economies look when viewed through non-neoclassical windows.

(ii)

Nonetheless thousands of non-neoclassical economists remained in the shadows and in recent years, especially as the willingness of countries to have their intellectual life vetted by elite US universities declines, their numbers have been increasing. So how can we benefit from the alternative insights that they offer?

Until recently non-neoclassical economists contributed to their own demise. Rather than embracing the epistemological pluralism of the natural sciences, they remained divided into separate “schools”, rather like Protestant sects, each with their own institutions, hierarchies and “scared” texts, and each in the main, like neoclassical economists, with the belief that

one window, theirs, on economic reality was all humankind needed. Their shared quarrel with neoclassical economics was their point of connection, rather than *a common agenda for the advancement of economic knowledge*.

But over the past fifteen years this sociological structure has been fundamentally changing, slowly at first, then faster and now, with the founding of the *World Economics Association*, faster still. It is in this context that I recently published "New Paradigm Economics", the idea being that hopefully we are now ready to forgo sectarianism in favour of a shared platform of epistemological and ontological ideas. Because for so long the advancement and availability of economic knowledge has been circumscribed and because in that time the nature of economic reality has changed so much, if economists could begin to come together in a spirit of humility and cooperation, like modern physicists have done, then the benefits to humankind cannot help but be large.

### Questions on the ten points

#### 1

(1) The first distinction you draw is that the old paradigm (OPE) is anti-pluralist (as in classical physics), while the new paradigm (NPE) is pluralist (as in modern physics). Can you give me a concrete example or two that illustrates what this means?

Of the ten points that I listed to distinguish between OPE and NPE, the most important is the first: *monism versus pluralism*. Why? Because it is this choice that sets down the general framework under which the pursuit of knowledge is conducted. And this choice, in terms of its effect on the advancement of knowledge and thereby human welfare, is, as I will illustrate, absolutely enormous.

There is a famous quote from Albert Einstein that points to the reason why for the advancement of science this choice is so critical.

"Whether you can observe a thing or not depends on the theory which you use. It is theory which decides what can be observed."

It just happens that the lead news story today in the UK illustrates Einstein's proposition. It goes like this.

In 2007 a three-year-old British girl was kidnapped in Portugal while on holiday with her parents. The British Metropolitan and Portuguese police have been investigating the case ever since. Until recently their investigation was guided by the theory that the girl had been kidnapped at about 9:15pm.

But the *Guardian* reports:

In the light of what police describe as "a revelation moment," altering six years of thinking about the case, investigating officers now believe Madeleine could have been taken up to 45 minutes later in the evening.

The Chief Inspector explained that this new theory means:

"that from 9.15pm we're able to allow the clock to continue forward. In doing so, things *that were not seen as significant or have not received the same attention are now the centre of our focus.*" (my emphasis)

Whereas the 9:15 theory:

“meant the focus was always done and dusted by about quarter past. Now it (the new theory) takes us forward to 10pm.”

And low-and-behold, since 2008 the Met has had in its possession efits compiled by private detectives investigating on the basis of *a different theory*. They are efits of a man seen carrying a child near the scene of the crime at about 10pm. The police are now hopeful not only of finding this man, but also finding Madeleine alive and returning her to her parents.

Many, and probably most, of the wonderful advancements of modern science have, as Einstein and other greats so deeply appreciated, came about in a similar way, that is by altering the “focus” or “theory” or conceptual framework through which a particular realm of the real-world is viewed. Frequently – and this is a key point – new theories are advanced *not* on the basis of challenging existing ones but rather on the hope that using different preconceptions of a given realm (for example 10:00pm versus 9:15) will enable investigators to see new things. In modern physics this had led to the development of major theories pertaining to the same general realm but which differ in terms of their theoretical preconceptions or, if you prefer, axioms. Sometimes these differences are not directly contradictory, but in other cases, including some of great importance, they are.

Should multiple theories, contradictory or not, pertaining to the same realm be allowed and encouraged? Monism says no; pluralism says yes.

Most modern physics would not exist without belief in a pluralism more radical than any ever dreamt by any economist. The conceptual frameworks of its two basic theories for describing the universe, the general theory of relativity and quantum mechanics, not only differ fundamentally, but also *their basic concepts directly contradict each other*.

General relativity conceives of space and time as continuous; quantum theory conceives of them as discontinuous.

General relativity conceives of matter as particulate; quantum theory conceives of it as a wave-particle duality.

General relativity conceives of physical objects as having actual properties; quantum theory describes them as having only potential properties within the given physical situation.

General relativity conceives all physical reality as determinate and all events as in principle having a causal explanation; quantum theory admits indeterminacy and events incapable of causal explanation.

I defy anyone to imagine conceptual differences greater than these. This radical pluralism is physics’ response to the complexity of the object, the universe that they wish to understand. Their wildly divergent methods of approach offer different points of view on that object, like observing Michelangelo’s David from the front and from the rear, thereby revealing different primary dimensions of the physical world.

This of course is not to deny that some physicists, Einstein being one of them, have dreamt of finding a way of reconciling these two great theories. But that is not the point. The point is

modern physics' paradigm of radical pluralism, which has prevailed for a century has enabled an enormous advancement of knowledge. If instead a monism like that of Old Paradigm Economics had been allowed to prevail in physics, the world as we know it today would be very different. Indeed, the IT device on which you have accessed this would not exist.

In the years leading up to 2008 the approaching Global Financial Collapse was not visible through the Old Paradigm Economics window. But in those years a number of economists, including Steve Keen, Nouriel Roubini, Dean Baker, Ann Pettifor, Michael Hudson and Wynne Godley, warned that there would be a GFC if corrective measures were not taken. And their predictions were not off-the-cuff but based on sophisticated analysis. But it was not analysis based on Old Paradigm Economics and therefore, like the efforts of the private investigators of the Madeleine case, was given no attention. In consequence a global disaster that could easily have been avoided took place.

## 2

(2) The second distinction you draw is that OPE "prioritizes mathematical deductivism", while NPE "recognizes that the ontology of much economic phenomena does not fit the requirements of mathematical deductivism".

That's a bit of a mouthful. Could you put it more simply, and then provide a concrete example or two of what this means in practice--and why it matters.

There are two ways to proceed in science, one, look for methods and modes of reasoning that fit the empirical realm being investigated, or, two, make assumptions about the empirical realm so that hypothetically it fits the approach that the investigators favour. The latter approach characterises OPE and the former NPE. Because OPE is based primarily on the maths and modes of reasoning of classical physics, this difference between the two paradigm concerns issues as to whether all economic phenomena is or is not determinant, whether change is or is not always continuous, and whether or not explanations founded in part on structural properties as opposed to only the properties of something's constituent parts should be allowed.

## 3

(3) If I might paraphrase your third distinction, I'd put it like this: OPE begins with a pure mathematical model and defines economic entities in terms of the model--what you call "upside-down science"--while NPE chooses its math based on the phenomena it's studying--"as in both classical and modern physics".

(a) Is that a fair paraphrase? If not, please amend without getting too wonky.

Yes, Paul, that is a fair and very good paraphrase.

(b) Please provide a concrete example or two of what this means in practice.

(c) Why does it matter?

(d) Doesn't this imply that OPE is not really scientific, despite its pretensions to be so?

The way real science works with mathematics is that it identifies processes and structures in the real world and then looks for some mathematics that has the same formal structure as (is "isomorphic" to) the real world phenomena. Sometimes the mathematics that the scientists need does not exist, and they have to wait for it to be invented.

But, alas, not all "science" is real science. And one easy way to give the false impression that something is scientific is to reverse that process by which real science uses mathematics. When this is done it is the math or formalism that determines what structures are going to be *attributed* to the real-world, rather than real-world structures determining what mathematics, if any, are capable of describing them. A concrete example of this was the creation of neoclassical economics. One finds in its foundation texts, namely Jevons and Walras, the doctrine of upside-down science explicitly and prescriptively spelled out. They took the mathematics used by Newton, and proceeded to make assumptions about economic reality that would make it isomorphic to Newton's math and to the physical realm he was describing. This upside-down science continues to be the primary theoretical framework of OPE.

#### 4

(4) Your fourth point of contrast notes that OPE "assumes markets converge toward equilibrium and that therefore theories should be framed around the concept of equilibrium" while NPE "recognizes the importance of markets that do not converge toward equilibrium and therefore encourages theory and model development not tied to the equilibrium concept."

(a) What does it mean (in real terms) for markets to converge toward equilibrium vs. not converging? Please give a concrete example of each.

(b) What does this difference mean in terms of theories or models?

(c) Why does it matter? What difference does it make?

Kenneth Arrow, a celebrated OPE economist explains equilibrium as the

specific notion that each [market] relation represents a balance of forces . . . [meaning] that a violation of any one relation sets in motion forces tending to restore the balance . . . [Arrow 1983b, p. 107]

This is a sweeping metaphysical pronouncement. And note its strongly metaphorical language. OPE is committed to building all its models on this equilibrium assumption. This requires that they characterize the elements of an economy in a way that supports their equilibrium commitment; otherwise it is not even hypothetically true. This takes the form of a long list of stipulations regarding the shape and elements of an economy, including pure competition, constant coefficients of production, identical products and methods of production within an industry, perfect markets or instantaneous omniscience, perfect divisibility of goods and no network effects. Some combination of these and other micro conditions must be true before the Equilibrium Hypothesis can even conceivably be true. But when taken together these artificial stipulations close off from view real-world economics. Worse, much worse is that economies, especially today's, are not structured in ways that makes the equilibrium metaphor relevant. And if you are an economist who can only think about economies in an equilibrium theoretical framework then you will not be able to see (remember Einstein) what is going on in those economies. *You will not even be able to see the approach of the biggest*

*financial collapse in history*. For years and only weeks before it happened leading OP economists publicly proclaimed that there was no problem.

Does this continuing blindness matter? Of course it does. It is, among many other things, the difference between having global financial collapses and not having them.

## 5

(5) Your fifth distinction is that OPE "assumes that when in equilibrium markets have cleared", while MPE "does not presume that equilibrium is a market clearing situation".

(a) What does "market clearing" mean, and why does OPE assume it's connected to equilibrium? (a1) Can you illustrate that with a concrete example?

(b) Why does NPE \*not\* share that assumption?

(b1) Can you illustrate that with a concrete example?

(c) Again, why does it matter? What difference does it make?

A system is said to be in equilibrium if it is in a stable, relatively constant condition. "Market-clearing" means the quantity supplied equals the quantity demanded. OPE generally holds that markets cannot reach equilibrium until they "clear". But throughout the decade of The Great Depression in the USA, although the labour market was stable, there was constant mass unemployment. Even for faith-based economists this caused credibility problems for the market-clearing hypothesis. That is what Keynes' book *The General Theory* was essentially about. It offered a theoretical explanation of how a disaster like the Great Depression could come about, that is of how markets could be in equilibrium but not clear. It also explained how governments could get out of a depression and how they could avoid ever getting into them in the future. Governments around the world applied his ideas, with the result that the half-century following WWII was economically by far the most stable that capitalism has ever known.

## 6

(6) Your sixth distinction is that OPE "assumes economic agents have stable preferences and on average behave in a maximizing manner consistent with the neoclassical definition of 'rational'", while NPE is "interested in real-world agent preferences and behavior, 'rational' or not, and their macro consequences". Let's see if we can't break that down a bit.

It seems to me there are three distinct components: (i) stable preferences, (ii) maximization and (iii) 'rationality' in the neo-classical sense. If not, please correct me, and substitute in the following:

(a) What's a concrete example of a stable preference? And the alternative(s)?

(a1) Why does this distinction matter? What difference does it make?

(a)

A concrete example of a stable preference is that forty years ago I decided, and remain so, that whenever possible I would drink wine with my dinner.

(a1)

As a logical system, neoclassical rationality works by eliminating free choice from its conceptual space. It does so by proceeding on the basis of a temporal separation of the moments of preference ordering and of *what it calls* "choice". It defines rationality as people "choosing" what they *previously* decided or determined they prefer. Rationality requires, says Kenneth Arrow, that the agent's "choices be in conformity with an ordering or a scale of preferences". [Arrow (1952) 1983a, p. 49] "[T]he individual is assumed to choose among the alternatives available that one which is highest on his ranking." [Arrow (1958) 1984b, p. 56] "[R]ational behaviour simply means behaviour in accordance with some ordering of alternatives in terms of relative desirability . . ." [Arrow (1951) 1984a, p. 7] *This approach has no predictive power unless it is assumed that the preferences (i.e. prior choices) do not change over time.* The theory merely freezes an agent's dispositions to choose at some time in the past.

(b) What's a concrete example of maximization? And the alternative(s)?

A concrete example of maximization would be if I continued to order glasses of wine up to but not beyond the point where the pleasure I will derive from the next glass will be less than the pleasure I would derive from spending my money some other way. Not very realistic, perhaps.

(b1) Why does this distinction matter? What difference does it make?

(c) What's a concrete example of neo-classical rationality? And the alternative?

(c1) Why does this distinction matter? What difference does it make?

(b1, c, and c1)

Neoclassical rationality is merely a logical construct rather than having a concrete or empirical basis. It often appears to be otherwise because in the classroom neoclassical economics usually reads its models backwards. This gives the illusion that they show the behaviour of individual economic units determining sets of equilibrium values for markets and for whole economies. It hides from the student the fact that these models of consumer behaviour have been constructed not by investigating the behaviour of individual agents, but rather by analysing the logical requirements of achieving the market-clearing equilibriums that their theory presumes. It is another example of upside-down science. *It is the behaviour found to be consistent with their claims that is prescribed for the individual agents.* Sometimes textbook authors inadvertently call attention to how the "individualist" rabbit really gets into the neoclassical hat. For example, consider the following passage about consumer choice from a widely used introduction to microeconomics.

*For the purpose of our theory, we want the preference ranking to have certain properties, which give it a particular, useful structure. We build these properties up by making a number of assumptions, first about the preference-indifference relation itself, and then about some aspects of the preference ranking to which it gives rise. [Gravell and Rees 1981, p. 56] [emphasis added]*

In other words, it is not the behaviour of the individual agents that determines the model's overall structure, nor even the structure of the preference ranking. *Instead it is the global*

*requirement for a particular structure which dictates the behaviour attributed to the individual agents.*

In a subsistence economy this strange model of consumer behaviour may have some relevance. But in today's affluent and turbulent world where the choice behaviours of individual agents are so interlinked and ever-changing, this OPE models acts as a high opaque wall between its users and economic reality.

(d) Compared to all the other points you raise, this one seems to take aim at the very heart of neo-classical micro-economics, arguably the least questioned heart of conventional economics. And it doesn't just do it the way that relativity and quantum mechanics question Newtonian physics, leaving the great mass of most commonly observed phenomena effectively untouched. To the contrary, it argues that we \*commonly\* see decision-making that doesn't conform to the model. Would you agree?

Yes

## 7

(7) Your seventh distinction is that OPE "assumes atomistic agents and seeks to explain all meso- and macro-economic phenomena in terms of micro phenomena", while NPE "regards agents as social beings, recognizes emergent properties and structures as fundamental to economic reality and thereby the need for a multidimensional ontology". Once again, this seems like a lot in one package, and I'd like to break it down.

OPE assumes that economics agents make their decisions without regard to the decisions of other agents in the same market. For example, it assumes that stock market investors do not take into account whether other investors may soon be buying or selling lots of a security and thereby changing its market value. It also assumes that consumers make their purchasing decisions independently of each other, for example that they are not influenced by fashion or by whether they want to go to a lively disco or an empty one. Why is OPE like this when we all know that economic agents behave not as atomistic entities but rather as social beings? Because OPE modelled itself on Newtonian mechanics. In OPE's theory agents correspond to the atoms of classical mechanics. Therefore, it had to define agents in a way that made their properties, for example their preferences, independent of those of other agents.

(a) First, can you explain the difference between atomistic agents and agents as social beings, using one or more concrete examples?

(b) Second, can you explain the difference between (i) explaining "meso- and macro-economic phenomena in terms of micro phenomena" on the one hand and (ii) recognizing "emergent properties and structures" on the other--also using concret examples.

A good example of this is something we have already touched upon, namely prolonged mass unemployment. If there is excess supply in an individual market, say for iPads, then we can expect that lowering their price will "clear" their market. But if an economy as a whole faces mass unemployment and its general level of wages is decreased the effect, rather than decrease unemployment, is almost certain to be the opposite. Why? *Because at the macro level demand has a different structure than at the micro level.* And, if one is not blinded by OPE, this is easy to see. Lowering wages in one labour market may increase the number of people employed in that market. But if wages are lowered across many markets, then people

on average will have less money to spend on consumption, causing industry at the macro level to cut back on output by laying off still more employees.

(c) Finally, what is meant by "the need for a multidimensional ontology"?

That's sounds worse than it is. All knowledge pursuits begin with assumptions, usually implicit, about *what exists in their realm of inquiry*. You need to assume the existence of things before you can begin to ask questions about them. If you do not assume the existence of X, then no questions can be asked about X. The beginning of the development of modern physics in the mid-19<sup>th</sup> century offers a good example. Under classical mechanics everything was assumed reducible to particles. It turned out that this made the explanation of electricity and magnetism, whose existence Faraday's experiments demonstrated beyond all doubt, impossible. The creation of electro-magnetic theory, initially by Maxwell, required the introduction of a new class of entities, fields. Without the addition of this new dimension to physics' ontology, modern physics as we know it would not exist.

## 8

(8) Your eighth distinction is that OPE "relies on the ergodic axiom, i.e. reduces uncertainty to risk", while NPE "rejects the ergodic axiom, i.e. regards the existence of irreducible uncertainty as a ontological fact that should not be hidden". Please answer in which ever order makes most sense to you:

(a) What is the ergodic axiom, and why is it so important?

(b) what is the difference between uncertainty and risk? (Please use concrete examples a lay audience can grasp.)

One can distinguish between two kinds of risk: that which is possible to calculate through application of probability and that which is not and so is immeasurable. It is the latter kind of risk that is called *uncertainty*.

In order to legitimately draw statistical or probability inferences regarding any universe, it is necessary to draw a sample from that universe. But obviously it is impossible to draw a sample from the future economic universe. The so-called ergodic axiom is the assumption that the economic future is governed by an already existing and unchanging process, so that drawing a sample from the past is the same as drawing one from the future. Frank Knight, the first to make the distinction in the context of economics, put it this way:

Business decisions, for example, deal with situations which are far too unique, generally speaking, for any sort of statistical tabulation to have any value for guidance. The conception of an objectively measurable probability or chance is simply inapplicable.

When economists close their eyes to the existence of uncertainty and advise governments to do likewise, societies are likely to leave themselves open to the disastrous consequences. For example the system of regulation of financial markets put in place after the Crash of 29 to protect against uncertainty was dismantled on the grounds economic uncertainty did not really exist, and we all know the consequences of that.

(c) Post-Keynesians have long stressed that rejecting ergodicity is arguably the central point of Keynesian economics, more fundamental than any of the policy prescriptions that come from

it. Yet many economists who consider themselves Keynesian embrace ergodicity. What does this say about how the OPE/NPE distinction relates to other divisions within economics?

The term “Keynesian” is used in two different ways and these usages relate directly to the OPE/NPE distinction. OPE found that they could take some of Keynes’ ideas and by adding assumptions make them consistent with their neoclassical economics. So there are OPE economists who are “Keynesians” in this very limited and some would say perverted sense. It is rather like calling yourself a democrat if you support one-party elections.

## 9

(9) Your ninth distinction is that OPE “treats the planet (“resources”) as a subset of the economy,” while NPE “treats the economy as a subset of the planet and of its biosphere”. This sounds fairly straightforward. It’s not the least bit technical. So how about an example to show what it means in terms of a real economic policy issue?

Because OPE treats the planet (“resources”) as a subset of the economy, it holds that environmental and ecological decisions should be treated as purely economic decisions, in other words based on market prices. The market puts a price on the future and if it is not high enough to prevent ecological disaster for future generations, then so be it. NPE, on the other hand, treats the preservation of environments and of civilization as ethical obligations.

An example of the difference is that currently an international commission is meeting to consider banning fishing and oil drilling across two million square kilometres of seas around Antarctica, in an attempt to conserve the last pristine ocean. Whereas a decision to do so is completely consistent with the “ecological economics” of NPE, it is hard to imagine it being made under the logic of OPE’s “environmental economics”.

## 10

(10) Your tenth distinction is that OPE “claims the possibility of a normative-positive distinction in a monist context,” while NPE “recognizes that the application of any conceptual framework to a real-world economic situation contains a normative or ideological dimension”. Once again, this sounds like a real mouthful.

(a) How would you explain it to a bright 14-year old?

(b) Why would you tell them it’s important?

Philosophy makes a distinction between normative and positive statements. Normative ones relate directly to human affairs. They make claims about how things ought to be or which things are good or bad, and which actions are right or wrong in a moral sense. Positive statements are purely factual as in “vegetables contain vitamins”.

Social sciences have a fundamentally and inescapably different relationship to their subject matter than do natural sciences that blurs this normative-positive distinction. There are two reasons why this is so.

First, a social-science conceptual system, unlike in the natural sciences, can alter the objects of its enquiry by becoming part of the conceptual and belief apparatus through which humans define themselves, perceive others and make choices, thereby changing the structures and

propensities of the human world. With the spread of mass higher education, this phenomenon becomes more common, pervasive and profound.

Second, unlike the natural sciences, social sciences and economics especially are ultimately a means from on high of preserving or reconstructing the basic realities that they study. Different theoretical approaches to economics present different sets of choices, real or imagined, to be chosen and acted upon by human populations at large. It can never be the case that each of these sets of choices will equally favour every group in society or every set of values. This means that it is the intrinsic nature of every approach to economic theory to favour some groups in society over others.

Consequently any attempt to block enquiry and analysis from multiple theoretical perspectives is heavily loaded with normative implications, and in effect is an ideological move.

## **Conclusion**

Now that we've been through this whole list, is there anything more you'd like to add by way of summing up? Anything about how non-economists can use this information to get better information from economists, perhaps? Or about how we should change the way we use economic information or arguments in framing social policy? Anything you'd like to say, really. Whatever seems most fitting as a concluding point or set of points.

Form the 1960s onwards there was a movement spreading outwards from the United States to cleanse economics departments of economists who in some way did not concur with the neoclassical orthodoxy. Because, as with Ptolemaic astronomy, there are a great many failings in that orthodoxy or what I am calling Old Paradigm Economics, there were many ways in which an economist might take issue with it and thereby be ostracized. And naturally around these various grounds for difference, economists tended to group, each becoming a separate "school", each professionally defined on the basis of their particular difference with orthodoxy, and each with members dependent on moral support from the group, and in many cases successful at establishing on the margins an institutional footing where they could at least survive professionally.

This definitional subservience to OPE was so extreme that all these various "schools" collectively became known, and willingly so, as "heterodox economists". This is understandable because the basis of each school's deviance from OPE was different, and so there was no immediately obvious basis for their association other than their "heterodox" status. But of course so long as each heterodoxy went its own way instead of coming together to offer a new paradigm there was no possibility, even in a million years, of displacing the OPE and thereby liberating humankind from its increasingly pernicious effects.

There are two ways for non-OPE economists to look at that impasse. One is that it doesn't really matter so long as their school maintains its marginal institutional footing. The other way to look at it is that it matters enormously to humanity, witness the Global Financial Crash, and more so every year as economic reality evolves. Beginning roughly fifteen years ago this second way of looking at the impasse began to become more common and even to actively motivate some non-OPE economists to at least think about the possibility of liberating economics from the OPE regime. This movement gathered steam as economists gradually became aware that theoretical pluralism was an essential part of the paradigm upon which

modern physics was built. This realization pointed to the possibility of doing something similar for economics. The *Real-World Economics Review* was and is part of that movement. I founded it with the idea not of promoting a particular school or even a group of them, but rather with the idea of providing and promoting a diverse range of windows on economic reality, and with the hope that the journal's readers would look at that reality through more than one window.

This was an idea whose time had arrived. The journal now has over 23,000 subscribers, probably more than any other academic economics journal, and a very high download rate of its papers. More important there is a growing optimism, a belief even, especially among younger economists, in the possibility of, rather than merely offering passive resistance at the margins, of fundamentally reforming the economics profession, of making the pursuit of knowledge rather than the preservation of traditional beliefs, professional hierarchies and economic interest groups its *raison d'être*. Two and a half years ago the World Economics Association was formed to create institutional focus for this goal. Already with nearly 13,000 members it is second in size only to the American Economic Association.

The OPE – NPE distinction with their respective lists is a natural outgrowth of these developments. As a RWER editor I have had prolonged first-hand familiarity with a broad spectrum of non-OPE economics. Over the years it became apparent that there were numerous substantive and methodological points that both in the main held across that spectrum and that contradicted OPE. My little paper “New Paradigm Economics” is merely their compilation.

Because economists shape both economic policy and public opinion, the ensuing struggle for dominance between OPE and NPE is, without exaggeration, of great importance to humanity's well-being. Fifteen years ago that struggle had yet to be imagined. But now there is reason to hope that the new optimism, especially of the younger New Paradigm economists, will in the next fifteen years win through.

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