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# PAST LEARNINGS

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**The economists' onion**

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The Past Learning series of papers is predicated on the twin propositions that the great bulk of valuable knowledge about the principles of political economy is to be found in past work and that much of this knowledge is forgotten or ‘written off’ in the preoccupations of its current practitioners with their own, incremental contributions. Whilst the search for new incremental knowledge is admirable, the amnesia is not, because it implies a shrinking base to which the increments can be added. In consequence the total value of the associated, collective human capital applied to economic policy problems progresses more slowly than it could and is prone to major periods of regression. The contrast with the physical sciences in this regard is stark.

The aim of the series is to provide a mild corrective to the amnesia by re-presenting some of the older wisdoms and drawing attention to their direct and immediate value in application to today’s policy challenges.

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## The Economists' Onion<sup>1</sup>

*Once upon a time there was a peasant woman and a very wicked woman she was. And she died and did not leave a single good deed behind. The devils caught her and plunged her into the lake of fire. So her guardian angel stood and wondered what good deed of hers he could remember to tell to God; 'She once pulled up an onion in her garden,' said he, 'and gave it to a beggar woman.' And God answered: 'You take that onion then, hold it out to her in the lake, and let her take hold and be pulled out. And if you can pull her out of the lake, let her come to Paradise, but if the onion breaks, then the woman must stay where she is.' The angel ran to the woman and held out the onion to her. 'Come,' said he, 'catch hold and I'll pull you out.' He began cautiously pulling her out. He had just pulled her right out, when the other sinners in the lake, seeing how she was being drawn out, began catching hold of her so as to be pulled out with her. But she was a very wicked woman and she began kicking them. 'I'm to be pulled out, not you. It's my onion, not yours.' As soon as she said that, the onion broke. And the woman fell into the lake and she is burning there to this day. So the angel wept and went away.*

Fyodor Dostoevsky, *The Brothers Karamazov*, Part 3, Book 7, Chapter 3: An Onion.

### What is economics good for?

In an article in the New York Times of 25 August 2012, *What is Economics Good For?*, two philosophers, Alex Rosenberg and Tyler Curtain ("R&C"), made a number of interesting comments on the contributions of economics to public policymaking. The immediate context was a debate about the desirable characteristics of a Chairman of the Federal Reserve Bank, an appointment that was pending at the time. However, R&C's propositions about the theory and practice of economics<sup>2</sup> were of a much more general nature and included the following:

1. Given the nature of economies and our ability to understand them, the task of the Federal Reserve Bank's next leader would be more a matter of "craft and wisdom" than of science.
2. Economics has never been able to show a track record of improvement in its predictive successes which is anywhere close to those in physical sciences. Indeed when it comes to economic theory's track record, there isn't much predictive success at all to speak of.
3. The ability to predict is defeated by complexity and by the incessant disturbance caused by ever-changing information conditions (e.g. resulting from new discoveries).
4. The search for a positive economics that can satisfy the criteria set out by, say, Popper or Friedman is therefore a dead end: it is simply not on the cards.
5. Many economists don't seem troubled when they make predictions that go wrong.

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<sup>1</sup> Based on a hitherto unpublished internal Regulatory Policy Institute Paper dating from 2012. The wider context was the re-assessment processes going on among economists which was triggered by the financial collapse of 2008, a process that has continued at greater and lesser intensities to the present day (2024).

<sup>2</sup> Since R&C's concerns were focused on policymaking, it might have been more appropriate to refer to political economy rather than to economics. I will stick with their terminology, simply noting that the discussion is chiefly concerned with the use of economics in policymaking contexts.

6. Economics is really all about contributing to the design and management of institutions that ‘help things go better’ in certain important areas of civic life.
7. Examples include: fixing bad economic and political institutions (like concentrations of power, collusion and monopolies); improving good ones (like the Fed’s open-market operations), and designing new ones (like spectrum auctions).

They conclude that:

8. *“An effective chair of the central bank will be one who understands that economics is not yet a science and may never be. At this point it is a craft, to be executed with wisdom, not algorithms, in the design and management of institutions.”*
9. *“For the foreseeable future economic theory should be understood more on the model of music theory than Newtonian theory. The Fed chairman must, like a first violinist tuning the orchestra, have the rare ear to fine-tune complexity (probably a Keynesian ability to fine-tune at that). Like musicians, economists’ expertise is still a matter of craft. They must avoid the hubris of thinking their theory is perfectly suited to the task, while employing it wisely enough to produce some harmony amid the cacophony.”*

### **Unpicking the issues raised**

There are points to agree with here, but not the craft and musical analogies with which the list concludes. My own thoughts, in R&C sequential order, are as follows.

- i. Individual crafts are defined in large part by a particular set of skills, but what *precisely* are the craft skills involved in the practice of economics, either generally or in the more specific context of public policy? They are not specified. In relation to ‘science’, the following definition has been adopted by the UK Science Council: *Science is the pursuit and application of knowledge and understanding of the natural and social world following a systematic methodology based on evidence.* Many economists (though not all) can reasonably claim that they are seeking to do just that, and such an approach does not seem out of place at a central bank. Whether or not they have been successful in their efforts is a different question.
- ii. If the test of performance is the ability to predict the *specific* outcomes of economic processes with a high level of precision, it is impossible to gainsay R&C’s point. From a policymaking perspective, however, this simply cautions against over-interpreting the implications of particular pieces of analysis and also against over-reliance on, or over-confidence in, such analysis when it is directed at determining how best a desired (usually by politicians), *specific* outcome might be attained.
- iii. Complexity and changing information conditions do indeed appear to lie at the heart of the relevant issues. They place limits on precision, but having an appreciation of what is not known and what cannot realistically be known is nevertheless valuable: it can

help avoid errors. Jacob Viner called this “learned ignorance” and compared it favourably with “ignorant learning”.<sup>3</sup>

- iv. If the approaches of Friedman and Popper imply evaluation criteria that are specified in terms of reasonably precise predictions of the *outcomes* of economic processes, then ‘model failure’ or ‘theory failure’ can be expected to be ubiquitous.
- v. R&C raise the good question: *What is economics up to if it isn’t interested enough in predictive success to adjust its theories in the way a science is expected to do when its predictions go wrong?* If, as implied by the complexity/information point, the Popper/Friedman approaches are misdirected, it is not necessarily an indictment of practitioners of the dismal science that they are not over-fussed by lack of this type of predictive success. A more substantive question is whether or not a substantial fraction of the intellectual effort is, in practice, accounted for by attempting tasks that stand-alone economic analysis is not good for? This takes us straight back to the lead question, *what is economics good for?*
- vi. R&C’s answer to the question is, in fact, a classical answer of political economy: contributing to the understanding and development of institutional structures -- the focus, for example, of Ronald Coase, for whom economics was the “*the study of the social institutions which bind the economic system [my emphasis] together*”).<sup>4</sup> It is relevant to remember, however, that this type of *policy* analysis comprises only part of the discipline, and that a focus on institutional processes is only part of policy economics more generally. Thus, for example, an important task of the Fed is, at regular intervals, to determine the Federal Funds Rate and to engage in open market operations so as to make that rate decision effective. Whilst the processes governing these decisions and activities can be said to be institutional in nature, the actual decisions and activities are not. The decisions relate to a specific variable (an interest rate) and are informed by extensive economic analysis, albeit of differing quality in different periods.
- vii. Similar points apply to R&C’s examples of institutional improvement. Much of the economic analysis applied in, say, competition law is undertaken in the context of *specific* enforcement decisions that are made within a given institutional set-up. Yet over time a sequence of broadly consistent decisions can have the effect of changing the rules that govern competition, i.e. individual decisions taken can themselves change the institutional set-up. The key word here is ‘consistent’.
- viii. The word ‘craft’ most usually refers to the making of things by hand, which is a rather different type of activity from seeking to understand, re-design or otherwise adjust social institutions.
- ix. Whilst the analogy with musicians is striking, the objects/purposes of economists and musicians, and the means of serving them, are very different. However, if a musical

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<sup>3</sup> Jacob Viner (1950), ‘A Modest Proposal for Some Stress on Scholarship in Graduate Training’. Address before the Graduate Convocation, Brown University, June 3, 1950. Brown University Papers XXIV, Providence Rhode Island: Brown University

<sup>4</sup> For further elaboration of Coase’s views see [shirley\\_script.pdf \(developmentinstitute.org\)](http://shirley_script.pdf(developmentinstitute.org)).

analogy is to be used, it might be said that economic effort is weighted too heavily towards practicing the scales and too little towards playing the concerto.

In sum, having raised a challenging question, no convincing answer appears to have been found.

### **The onion**

Underlying the article is a dissatisfaction with the current contribution of economic analysis to public policymaking and a sense that things could be done better. That is a widely shared view and is arguably well grounded in evidence and experience.

However, the notion that economics should be focused on the design and management of economic institutions and the ways in which they bind things together is not straightforward. Institutions are not typically ‘fixed’ or ‘improved’ or ‘designed’ by economists, although the latter can have something to contribute to processes of institutional development (which are generally the work of very many minds). Indeed, institutional change tends to be governed more by evolutionary processes in civil society than by plans and intentions of policymakers, with the exception of periods when a ‘bad politics’ serves as a major destroyer of institutional effectiveness (a phenomenon that, at a global level, has been manifested on multiple occasions in modern history),

Both economic institutions and the specific economic effects to which they might lead in different sets of circumstances are, in reality, *co-determined* by very large sets of influences and actors. Given this, it may be more productive to ask a slightly different and more specific question: *what is the distinctive contribution that economic thought has made or can potentially make to understanding these wider socio-economic processes?* Put another way – and with Dostoevsky’s story in mind – it can be asked: *what is the economists’ onion, the one good thing that, irrespective of all else, might merit being saved from a lake of fire?*

The best answer lies, I think, in the discipline’s focus on the pursuit and application of knowledge and understanding of the functioning of economic *systems*. Whilst there can be serious indictments of practitioners in relation to their applications of systematic methodologies and to their use (or lack of use) of salient evidence, the focus of analytic attention on economic *systems* has been ever present, from the first classical works of political economy to the teaching of entry-level undergraduate courses today.

To illustrate, consider the supply-demand analysis to which students are introduced at a very early stage of their studies and which is best interpreted as a useful heuristic that has been developed to help understand the workings of competitive markets. The primitive theorising gives a first, very basic account of how the prices and volumes of products or services traded in a market might come to be determined. Students are introduced to a demand curve, to a supply curve and to the concept of equilibrium, where the volume offered for sale and the volume that buyers wish to purchase are the same at a common price. In this analysis

equilibrium prices and volumes are determined *simultaneously* in a system comprising two equations.<sup>5</sup>

A next step in teaching is to consider the effects of perturbations to the demand and supply curves. Thus, an increase in demand at each price – a shift in the demand curve – affects both prices and volumes in ways that are influenced by the characteristics of *both* curves.<sup>6</sup>

Further analysis might then explore how shifts in the equilibrium position in one market have consequential effects on prices and volumes in other related markets: for example, a supply shock in one market may, via the price increases that it induces, increase demand for substitute products traded in other, related markets, hence affecting prices and traded volumes in those other markets as well. At this point, the focus is shifted to a wider system of markets, of which each individual market can be regarded as a sub-system.

The general point is that a perturbation to the conditions that are particularly relevant to one product or service is liable to have economic effects that spread throughout the system or sub-system as a whole. Moreover, the complexities of non-linearities and adjustment dynamics imply that there can be no safe assumption that a perturbation, even a small perturbation, will have heavily damped effects on outcomes in parts of the overall system that might seemingly appear remote from the location (within the relevant system) of that perturbation.<sup>7</sup>

A good deal of attention is necessarily paid to the characteristics of the individual relationships – in the simplest case, the demand and supply curves – which are summarised by their functional forms and parameters. The accumulation of knowledge about such detailed, specific matters is an integral part of the discipline because it is generally relevant to understanding the functioning of the system as a whole. Ultimately, however, interest in these more detailed things is largely derivative: the relevant characteristics (the shapes and positions of the curves) can be expected to affect the magnitudes of the various, wider-system effects that occur in response to the perturbations.

Similar general points apply to students' first introductions to macroeconomics, most frequently built around a highly stylised and much simplified version of a systemic approach first developed by Keynes. The component relationships – the consumption function, the investment function, the demand for money function, and so on – together determine the relevant outcomes (national income/output, the interest rate, the level of employment) and a single perturbation to the system will tend to affect each and all these outcomes. Again, the

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<sup>5</sup> The standard diagram in effect illustrates the solution of a pair of (in general) non-linear simultaneous equations.

<sup>6</sup> Solving out for prices and quantities in terms of the parameters that define the curves gives a mapping from parameter space to price-quantity space. Even if the demand and supply curves are linear, these mappings will not be linear. And the general result is that the impact of a change in any one parameter on prices and quantities is dependent on the values of all parameters in play.

<sup>7</sup> A distinguished social scientist, David Lockwood, once put it this way to me (then one of his students), warning me of the dangers of getting too heavily attached to the use of biological analogies: 'If you develop a pimple at the end of your nose, you can be very confident that you are not turning into a rhinoceros. When analysing social systems you can have no equivalent level of surety.'

strength of the effects will depend upon the particular characteristics of the various relationships – e.g. the sensitivity of investment expenditure or the demand for money to the interest rate – and hence these individual relationships merit some detailed attention. As in the case of elementary supply/demand analysis however, this narrower analytic focus is motivated chiefly by an interest in understanding how the economic system, considered in its entirety, might be expected to respond when subject to perturbations or disturbances of various types.

In considering the contribution of this type of systems approach to understanding, it is I think highly relevant to note that most ‘common sense’ reasoning about economic matters tends to be based only upon the *immediate and direct implications* of perturbations. Such reasoning is non-systemic in nature. It turns a blind eye to diffusive effects resulting from the high interconnectedness of different parts of an economic system. The 19<sup>th</sup> century French thinker Frederic Bastiat called the latter ‘unseen’ effects: an alternative terminology is ‘unassessed’ or ‘unexamined’ effects.<sup>8</sup>

Notwithstanding the many failings of economists, not least a strong proclivity for over-abstractation (i.e. turning a blind eye to potentially relevant factual information – much like common sense reasoning does, but perhaps to a modestly lesser degree), I think it is the overarching focus on understanding the properties and tendencies of economic *systems* that is the discipline’s onion. Successfully practised it amounts to the pursuit and application of knowledge and understanding that, in its absence, would likely remain undiscovered and undeveloped. The relevant knowledge and understanding encompasses the characteristics and behaviours of the individual, component parts of relevant systems, but, crucially, also those of the comprehensively interconnected, system-wide processes.

Given this, the practice of economics is perhaps less like a craft or musicianship and more like ecology, which deals with the relationships of organisms with one another and with their physical surroundings. In both disciplines, there is a central interest in *systems* of relationships.

Analogies with ecology should not, however, be pushed too far: there are obviously also significant differences between the two areas of study. For example, economic systems are arguably of a higher order of complexity. The ‘rules’ governing relationships among economic agents – the institutions of an economic system – are more quickly mutable than are the norm for eco-systems. Outcomes can be influenced by potentially vast information sets that are themselves endogenous to the systems and subject to continuous, developmental changes over relatively short time horizons. Economic agents are routinely engaged in discovery processes

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<sup>8</sup> An interesting question at this point, particularly in a policymaking context, is *why are these effects not assessed/examined?* There are multiple possible reasons, which can vary from case to case. Some effects/consequences are simply just very difficult or costly to see/assess. In other circumstances, effects may be unseen/unassessed because it is convenient that they be so, for reasons unconnected with difficulty/cost/impossibility. Thus, in a policymaking processes, a group that would derive benefit from a particular institutional intervention will not be motivated to explore potentially negative consequences for others which might arise from the favoured perturbation/intervention, and may indeed be keen that such effects remain unseen or unassessed.



leading to both new rules/institutions (i.e. relationships with one another) and to new relationships with the physical world.

The differentiation between the physical or biological sciences and economic analysis was partly captured by Keynes:

*“Professor Planck, of Berlin, the famous originator of the Quantum Theory, once remarked to me that in early life he had thought of studying economics, but had found it too difficult! Professor Planck could easily master the whole corpus of mathematical economics in a few days. He did not mean that! But the amalgam of logic and intuition and the wide knowledge of facts, most of which are not precise, which is required for economic interpretation in its highest form is, quite truly, overwhelmingly difficult ...”*<sup>9</sup>

All this is not to say that comparisons with carpenters and violinists are devoid of all insight. There is a sense in which economics can be at its best when directed at a very specific task or challenge, just as a carpenter or violinist focuses on particular pieces of work or particular performances. Thus, notwithstanding the title of his major work<sup>10</sup>, Keynes’s efforts were driven by a desire to sustain a specific type of economic and social system at a time when it was facing existential threats. The same can be said of much of Hayek’s work. In an earlier period, Smith’s masterpiece was driven by a sustained critique of the British mercantile policies of his time. In each case, the development of knowledge and understanding was heavily influenced by a sharp focus on particular problems that were to the fore in the relevant historical contexts.<sup>11</sup> In modern jargon, it might be said that these past masters were highly motivated by self-chosen strategic objectives.

A better, though less flattering, metaphor for the work of analysing economic systems might be that of a spider spinning a multi-dimensional web. The strands connect to each other and are anchored at selected nodes (the most salient and reliable ‘facts’ of the relevant context). A common ‘method’ is applied to perform a particular type of function (the spinning of an interconnecting link), but the structures themselves – in the case of economics, the system analyses or assessments – are bespoke. And it is the end structures that matter.

This analogy also serves as a reminder of the severity of the problems of *underdetermination*<sup>12</sup> (the Duhem-Quine problem) encountered in economic work, as it is in all science: hypotheses/propositions can only be tested on a conjoined basis and there are usually multiple sets of conjoined hypotheses/propositions that can be consistent with observational experience,

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<sup>9</sup> J.M. Keynes, “Alfred Marshall: 1842-1924”, *Economic Journal*, September 1924. Since physicists also rely on logic and intuition (or, perhaps more accurately than the notion of intuition, ‘imagination’), the principal distinguishing factor here seems to lie in the complexity of the factual contexts encountered.

<sup>10</sup> *The General Theory of Employment Interest and Money*.

<sup>11</sup> The knowledge and understanding developed by Smith has, of course, been of great assistance to those wrestling with other problems in other contexts, but only when appropriately adapted and supplemented in ways that are appropriate to the different circumstances.

<sup>12</sup> See <http://plato.stanford.edu/entries/scientific-underdetermination/>

particularly when account is taken of inevitable factual imprecision. Quine himself relied on a web metaphor in expositions of his thinking.<sup>13</sup>

The formidable complexity of the task should not, however, be a cause for despondency. Rather it should serve as a call for a particular type of sensibility based on: (a) recognition of the severe constraints on what can realistically be established and safely relied upon, (b) a driving curiosity to discover the most salient observational evidence and (c) identification of potentially remediable gaps in that information/evidence. Economists of all people, with their stress on incremental effects and on ‘laws’ of diminishing this, that and the other, should appreciate the point that recognition of the vastness of our ignorance does not imply that small increments in highly limited knowledge are of low value. To the contrary, it could mean that such increments are particularly valuable.

### **Why angels might weep.**

The strength of the onion, its ability not to crack, is a function of how well economists go about the things that economics is good for. Many practitioners are partly motivated, at least in the study of policy issues, by the possibility of contributing to general increases in economic welfare – or in more classical language, of helping members of society secure the material means that will enable them to better pursue their own conceptions of a good life. For them, it is important that the onion be strong enough to pull others from fiery lakes, not just themselves.

Human motivations are, however, complex. The detailed and laborious discovery of a wide range of facts and of the connections between them may not offer a quick route to tenure, promotion and academic glory, at least compared with hammering out a fact-lite piece of deductive analysis. In the policy arena the prospect of power itself – and public policy decisions do usually amount to an exercise in substantial market power (since decisions tend to have system-wide effects) – is seductive and a potentially major source of temptation to move away from the pursuit of understanding and toward hubris.

There is also the long tradition in economics of a bias toward over-abstraction, arguably dating back to Ricardo: Schumpeter called it the ‘Ricardian Vice’. This is a tendency to over-generalise from relatively simple economic models without paying anything like enough attention to the specific factual context in which the relevant propositions are being applied.

Again, Keynes captures the problem in his essay on Marshall<sup>14</sup>, who himself was a severe critic of the Ricardian Vice:

*“Unlike physics, for example, such parts of the bare bones of economic theory as are expressible in mathematical form are extremely easy compared with the economic interpretation of the complex and incompletely known facts of experience, and lead one but a*

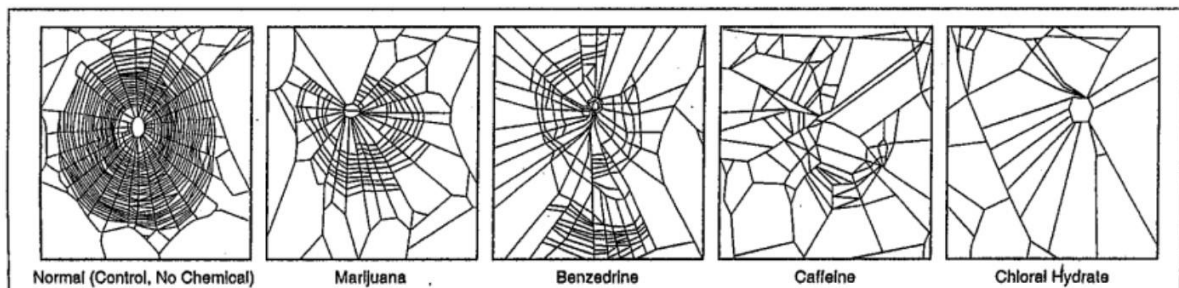
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<sup>13</sup> See W.V. Quine and J.S. Ullian, *The Web of Belief*, 1978.

<sup>14</sup> *Ibid.*

*very little way towards establishing useful results. ... Marshall felt all this with a vehemence which not all his pupils have shared."*

The approach criticised by Marshall amounts to a claim to knowledge or, in a Hayekian expression, a 'pretence of knowledge', an indifference to relevant, salient evidence (facts/information that may have bearing on the issues at stake). There is still an onion – the over-generalised claims will likely derive from some or other exercise in systems analysis – but the onion will be much more prone to break. Using yet another metaphor, it might be said that the webs of theory/belief which are spun tend to resemble the flimsier webs those of spiders fed with caffeine or chloral hydrate, rather than the denser, more coherent patterns spun by their drug-free counterparts, which are more functional in serving their intended purpose.<sup>15 16</sup>



The Web Spun by an *Araneus diadematus* (House Spider) is altered when the spider is exposed to chemicals. The alterations can be quantified and used as measures of toxicity.

<sup>15</sup> [Of Webs And Weed: Why NASA Drugged Spiders, And What We Learnt - Gowing Life](#)

<sup>16</sup> Lord Acton wrote that "power tends to corrupt" and we now have better sight of how: it affects brain chemistry. To Acton I would add the proposition that so too does the imagination of holding great power ('If I ruled the world ...). The webs of theory spun by extreme zealots, hungry to impose their wills on others, might be likened to the webs of caffeine-fed spiders.