sanity, humanity and science

post-autistic economics review

Issue no. 38, 1 July 2006 back issues at www.paecon.net

Subscribers: 8,630 from over 150 countries

Subscriptions are free. To subscribe, email "subscribe". To unsubscribe, email "unsubscribe". Send to: pae_news@btinternet.com

In this issue:

What Is Neoclassical Economics?

The three axioms responsible for its theoretical oeuvre, practical irrelevance and, thus, discursive power

Christian Arnsperger (University of Louvain, Belgium)
Yanis Varoufakis (University of Athens,Greece)

© Copyright: Christian Arnsperger and Yanis Varoufakis 2006

1. Introduction

There is nothing more frustrating for critics of neoclassical economics than the argument that neoclassical economics is a figment of their imagination; that, simply, there is scientific economics and there is speculative hand-waiving (by those who have never really grasped the finer points of mainstream economic theory). In this sense, neoclassicism resembles racism: while ever present and dominant, no one claims to be guided by it. Critics must find a clear definition of neoclassicism if only in order to liberate neoclassical economists from the temptation to barricade themselves behind infantile arguments viz. the non-existence of their school of thought. Then, the good debate may begin.

In this chapter, we offer a definition of neoclassical economics which turns on three crucial axioms and which, in conjunction with one another, as we shall claim, underpin *all* (and *only*) neoclassical theory.[1] Later, we argue that these very axioms are simultaneously responsible for: (a) the difficulty mainstream economics faces when it comes to illuminating economic and social reality, and (b) the discursive success of neoclassical economics which gives it an effective (politically driven) stranglehold over alternative modes of economic reasoning.

We think our definition of neoclassical economics is important because critics are often caught off-guard by sophisticated neoclassicists (see Dasgupta, 2002) who take advantage of gaps in existing definitions in order to turn criticisms on their head. In short, the critique of neoclassical economics is bound to be as effective as sophisticated is its definition of the opposition. For instance, criticism that neoclassical economics necessarily posits hyper-rational bargain-hunters, never able to resist an act which brings them the tiniest increase in expected net returns, is apt but not telling. There are plenty of neoclassical models featuring boundedly rational agents; even utterly irrational ones (e.g. evolutionary game theory; for a critical review in the spirit of this chapter, see Hargreaves-Heap and Varoufakis, 2004). Similarly with criticism focussed on 'neoclassical features' like market-clearing, *selfish* individualism or Pareto optimality. None of these cut ice because, though these features are usually present in neoclassical modelling, they are not *necessary* features of some neoclassical model.

Thus, as long as critics' slings and arrows are directed against features of neoclassical economics that the latter can shed strategically, like a threatened lizard 'loses' its tail, they shall miss their target. Nevertheless, we do believe that there are at least three features of neoclassical economics that cannot be so shed; and, therefore, if the critics concentrate on them they shall, at the very least, force neoclassicists to engage in a fruitful dialogue. The single most promising

[1] See Aspromourgos, 1986, for a history of the term 'neoclassical economics'.

prize from such a development ought to be the clarification of the origin and nature of the greatest paradox in social science: that *mainstream economics is as dominant as it is unappetising* (even to some of its own practitioners).

In this sense, our axiomatic definition of neoclassicism, rather than being an idle methodological exercise, aims at exposing the root-cause of mainstream economics' failure to say much that is helpful about the contemporary economic world. And it throws useful light on the reasons why such failure, instead of weakening neoclassicism, has reinforced its hold over the imagination of both the elites and the public at large. However, this is a longer argument which we shall only touch upon here (see Arnsperger and Varoufakis, 2005, for more).

Once upon a time, it could be argued that neoclassical economics is typified by a familiar melange of theoretical practices: positing an equilibrium in the labour market, the habitual recourse to Say's Law, the assumption that the interest rate will adjust automatically so as to equalise investment and savings, the depiction of capitalist growth *a la* Robert Solow and company, the imposition of Cobb-Doublas or CES production and utility functions etc. Nowadays, any attempt to define neoclassicism by reference to these practices is music to the neoclassical ear: For there is an endless list of mainstream models which distance themselves from some, if not all, of the above. One of two conclusions appear in front of us: Either the mainstream has moved on from neoclassicism (as neoclassical economists claim) or the definition of neoclassicism needs to be re-thought and abstracted from a list of neoclassical practices like the one above. We choose and latter. So, the remainder of this chapter concentrates primarily on the three axioms which we think lie at the heart of neoclassical economic theory, old and new alike.

2. The first axiom of neoclassical economics: methodological individualism

Unsophisticated critics often identify economic neoclassicism with models in which all agents are perfectly informed. Or fully instrumentally rational. Or excruciatingly selfish. Defining neoclassicism in this manner would perhaps be apt in the 1950s but, nowadays, it leaves almost all of modern neoclassical theory out of the definition, therefore strengthening the mainstream's rejoinders. Indeed, the last thirty years of neoclassical economics have been marked by an explosion of models in which economic actors are imperfectly informed, some times other-regarding, frequently irrational (or boundedly rational, as the current jargon would have it) etc. In short, *Homo Economicus* has evolved to resemble us more.

None of these brilliant theoretical advances have, however, dislodged the neoclassical vessel from its methodological anchorage. Neoclassical theory retains its roots firmly within liberal individualist social science. The method is still unbendingly of the analytic-synthetic type: the socio-economic phenomenon under scrutiny is to be analysed by focusing on the individuals whose actions brought it about; understanding *fully* their 'workings' *at the individual level*; and, finally, synthesising the knowledge derived at the individual level in order to understand the complex social phenomenon at hand. In short, neoclassical theory follows the watchmaker's method who, faced with a strange watch, studies its function by focusing on understanding, initially, the function of each of its cogs and wheels. To the neoclassical economist, the latter are the individual agents who are to be studied, like the watchmaker' cogs and wheels, independently of the social whole their actions help bring about.

So, the first feature of the 'body of theory' we think of as neoclassical is its ***methodological individualism***: the idea that socio-economic explanation must be sought at the level of the individual agent. Note two things: First, this was not the method of classical economists like Adam Smith and David Ricardo. Or, indeed, of Keynes. Or Hayek. Secondly, this proclivity is fully in tune with the mid-19th Century angloceltic liberal individualism (though the opposite does not hold) as it imposes axiomatically a strict separation of structure from agency, insisting that socio-economic explanation, at any point in time, must move from agency to structure, with the latter being understood as the crystallisation of agents' past acts. We shall argue later that this strict separation is central in not only defining but also undermining the most recent claims of neoclassicism.

It is, we think, indisputable that all the new manifestations of what we term neoclassicism still subscribe to methodological individualism. While it is true that mainstream economists have, during the last few decades, acknowledged that the agent is a creature of her social context, and thus that social structure and individual agency are messily intertwined, their models retain the distinction and place the burden of explanation on the individual. Individual worker effort is nowadays often modelled as a function of sectoral unemployment (e.g. efficiency wage models), and the firms' micro-strategies reflect the macroeconomic environment. Nevertheless, and despite these interesting linkages between the micro-agent and the macro-phenomenon, the explanatory trajectory remains one that begins from the agent and maps, unidirectionally, onto the social structure.

3. The second axiom of neoclassical economics: methodological instrumentalism

We label the second feature of neoclassical economics ***methodological instrumentalism***: all behaviour is preference-driven or, more precisely, it is to be understood as a means for maximising preference-satisfaction.[2] Preference is given, current, fully determining, and strictly separate from both belief (which simply helps the agent predict uncertain future outcomes) and from the means employed. Everything we do and say is instrumental to preference-satisfaction so much so that there is no longer any philosophical room for questioning whether the agent will act on her preferences. In effect, neoclassical theory is a narrow version of consequentialism in which the only consequence that matters is the extent to which an homogeneous index of preference-satisfaction is maximised.[3]

Methodological instrumentalism's roots are traceable in David Hume's *Treatise of Human Nature* (1739/40) in which the Scottish philosopher famously divided the human decision making process in three *distinct* modules: Passions, Belief and Reason. Passions provide the destination, Reason slavishly steers a course that attempts to get us there, drawing upon a given set of Beliefs regarding the external constraints and the likely consequences of alternative actions. It is not

[2] Not to be confused with actual, psychological satisfaction. In this sense, homo economicus may maximise his preference satisfaction while feeling suicidal.

[3] Once upon a time, we could have instead talked of *methodological rationalism* as the dominant narrative centred on agents acting rationally. But since ordinal utilitarianism took over, there is no sense in narrating behaviour in terms of agents acting rationally. Instead, rationality is reduced to the consistency of one's preference ordering which, by definition, determines that which agents will do.

difficult to see the lineage with standard microeconomics: the person is defined as a bundle of preferences, her beliefs reduce to a set of subjective probability density functions, which help convert her preferences into expected utilities, and, lastly, her Reason is the cold-hearted optimiser whose authority does not extend beyond maximising these uilities. However, it is a mistake to think that Hume would have approved. For his Passions are too unruly to fit neatly in some ordinal or expected utility function. It took the combined efforts of Jeremy Bentham and the late 19th Century neoclassicists to tame the Passions sufficiently before they could initially be reduced to a unidimensional index of pleasure before turning into smooth, double differentiable utility functions.

During the tumultuous 20th Century, neoclassicists invested greatly in bleaching all psychology out of the rational agent's decision making process. All hints of a philosophical discussion regarding the rationality of *homo economicus* were thus removed. People could, and 'should', be modelled *as if* they possessed consistent preferences which guide their behaviour automatically. The question of whether all rational women and men are condemned to maximise some utility function all the time became…nonsensical. Thus, instrumentalism lost its connection to the philosophies of Hume, Bentham or Mill and became a technical move that economists made instinctively with the same nonchalance as that of an accomplished artist preparing his oils and canvass before getting down to business.

However, it is false to claim that this state of affairs, even though ubiquitous in economics departments the world over, is *essential* for neoclassical economics. The first signs that it need not be came with the literature on endogenous preferences. Neoclassical economists increasingly sought to distance themselves from the assumption that preferences are fixed and exogenous. During the past twenty five years or so, *homo economicus* has developed a capacity to adapt his preferences in response to past outcomes (see Bowles, 1998). However, while the assumption that current preferences are exogenous was dropped, they remained fully determining. Thus, instrumentalism was preserved albeit in a dynamic context.

A more recent development has taken neoclassicism, and *homo economicus*, onto higher levels of sophistication. The advent of psychological game theory (see Rabin, 1993, and Hargreaves-Heap and Varoufakis, 2004, Ch. 7) has brought on a reconsideration of the standard assumption that agents' current preferences are separate from the structure of the interaction in which they are involved. Suddenly, what one wants hinged on what she thought others expected she would do. And when these second order beliefs (her beliefs about the expectations of others) came to depend on the social structure in which the decision is embedded, the agent's very preferences could not be linked just with outcomes: they depended on the structure and history of the interaction as well.

In view of the above, there is no future in criticisms of neoclassicism based on the charge that the latter must take for granted preferences which are either exogenous or independent of the agents' socio-economic relationships. Critics toeing that line will be met with the scornful rejoinder that they criticise out of ignorance. However, our point that neoclassicism is still rooted in methodological instrumentalism cannot be so dismissed. For even in the latest reincarnation provided by endogenous preferences and psychological game theory, *homo economicus* is still exclusively motivated by a fierce means-ends instrumentalism. He may have difficulty defining his

ends, without firm beliefs of what means others expect him to deploy, but he remains irreversibly ends-driven.

4. The third axiom of neoclassical economics: methodological equilibration

The third feature of neoclassical economics is, on our account, the ***axiomatic imposition of equilibrium***. The point here is that, even after methodological individualism turned into methodological instrumentalism, prediction at the macro (or social) level was seldom forthcoming. Determinacy required something more: it required that agents' instrumental behaviour is coordinated in a manner that aggregate behaviour becomes sufficiently regular to give rise to solid predictions. Thus, neoclassical theoretical exercises begin by postulating the agents' utility functions, specifying their constraints, and stating their 'information' or 'belief'. Then, and here is the crux, they pose the standard question: "What behaviour should we expect *in equilibrium*?" The question of whether an equilibrium is likely, let alone probable, or how it might materialise, is treated as an optional extra; one that is never central to the neoclassical project.

The reason for the axiomatic imposition of equilibrium is simple: *it could not be otherwise*! By this we mean that neoclassicism cannot demonstrate that equilibrium would emerge as a natural consequence of agents' instrumentally rational choices. Thus, the second best methodological alternative for the neoclassical theorist is to *presume* that behaviour hovers around some analytically-discovered equilibrium and then ask questions on the likelihood that, once at that equilibrium, the 'system' has a propensity to stick around or drift away (what is known as 'stability analysis').

It is quite remarkable that the above has been with us since the very beginning. When A.A. Cournot constructed the first model of (oligopolistic) competition in 1838, he immediately noticed a lacuna in his explanation regarding the emergence of an equilibrium. Rather cunningly, instead of discussing this difficulty, he studied what happens when we begin from that equilibrium. Would the system have a tendency to move away from it or was the equilibrium stable? The proof of its stability secured his place in the pantheon of economic theory. Moreover, it established this interesting practice: First, one discovers an equilibrium. Second, one assumes (axiomatically) that agents (or their behaviour) will find themselves at that equilibrium. Lastly, one demonstrates that, once at that equilibrium, any small perturbations are incapable of creating centrifugal forces able to dislodge self-interested behaviour from the discovered equilibrium. This three-step theoretical move is tantamount to what we, here, describe as *methodological equilibration*.

Note that *methodological equilibration* is equivalent to avoiding (axiomatically) what ought to be the behaviourist's central question: *Will rational agents behave according to the theory's equilibrium prediction?* Instead, the question becomes: *If rational agents are behaving according to the theory's equilibrium prediction, will they have cause to stop doing so?* Note also that *methodological equilibration* has remained intact since 1838 and Cournot's first use of it. To see this, consider the two great success stories to have come out of neoclassical economics since WW2: *General Equilibrium Theory* and *Game Theory*. In neither case does the equilibrium solution spring naturally from the models' assumptions.

In *General Equilibrium Theory* its best practitioners state it quite categorically: convergence to some general equilibrium can only be proven in highly restrictive special cases. More generally, it is not just *difficult* to demonstrate that a system of theoretical markets will generate an equilibrium in each market, on the basis of rational acts on behalf of buyers and sellers; rather, it is *impossible*! (See Mantel, 1973, and Sonnenschein, 1973,1974.) In *Game Theory* the same result obtains: in the most interesting socio-economic interactions (or games) common knowledge that all players are instrumentally rational seldom yields one of the interaction's Nash equilibria. Something more is required to bring on an equilibrium. That something comes in the form of an axiom that the beliefs of all players are *consistently aligned at each stage of every game* (see Hargreaves-Heap and Varoufakis, 2004, Chapters 2&3). This assumption is, of course, yet another reincarnation of *methodological equilibration*: for once we *assume* that agents' beliefs are systematically and consistently aligned, they are *assumed* to be in a state of (Nash) equilibrium. Yet again, equilibrium is imposed axiomatically before stability analysis can test its susceptibility to perturbations. Cournot's spirit lives on…

5. Three axioms, one neoclassical economics

It is hard to imagine how any standardly trained economist could deny that her theoretical practices digress from the three methodological moves mentioned above: *Methodological individualism, methodological instrumentalism and methodological equilibration*. For simplicity we shall henceforth refer to them as *the neoclassical meta-axioms*. Whether it is general equilibrium theory, evolutionary game theory, non-Walrasian equilibrium theory, social choice theory, industrial economics, economic geography, new political economy, analytical Marxism, public choice economics etc., all mainstream approaches in these fields remain loyal to the three meta-axioms above.

In fact, the meta-axioms are beginning to develop much closer, almost symbiotic, links with one another than was the case until fairly recently. Take for instance, the attempts by psychological game theorists to create a sophisticated model of men and women, capable of drawing utility not only from socio-economic outcomes but also from the means that bring them about. When homo *economicus* learns that the ends do not necessarily justify the means, he develops a welcome capacity to ponder, prior to acting, what others expect of him so that he can decide how much he values the various alternative outcomes.

For example, when deciding on whether to act bravely in defence of someone in need, his second order beliefs (i.e. his beliefs regarding what others expect of him) influence his estimate of the (psychological) cost of acting selfishly. To put it simply, his utility function cannot be defined independently of (a) the *structure* of the strategic interaction and (b) the beliefs that all participants would have *in equilibrium*. In this sense, *methodological equilibration* is no longer prior to *methodological instrumentalism* (as is the case in standard consumer or game theory): the axiomatic imposition of equilibrium is not only necessary in order to predict the interaction's outcome but it is also essential in order to define the instrumentally rational agents' preferences! (See Hargreaves-Heap and Varoufakis, 2004, Ch. 7 and Fehr and Gächter, 2000)

It is, therefore, uncontroversial to state that every aggregate phenomenon scrutinised by neoclassical minds is explained increasingly and exclusively as some axiomatically imposed

equilibrium emerging from the interaction of instrumentally rational individuals who are either optimising consciously (as in rational choice or game theory) or are drawn to such behaviour through a process of 'natural selection' (as in, for instance, evolutionary game theory). The bottom line, then, is clear: despite all denials, there is such a thing as a body of social theory that subscribes to the three meta-axioms above and which we can legitimately, for want of a better term, label *neoclassical*.

At this juncture, there is one move open to neoclassical economists who still insist that what they are doing ought not be labelled as anything other than scientific economics: they need to persuade us that the neoclassical method, i.e. models based on the three meta-axioms, is the only proper method; which obviously implies that there is no distinctly neoclassical method after all, even once that method has been characterised as above.

Effectively, they would have to adopt a rather extremist defensive posture: to claim that the combination of the three meta-axioms above is indispensable to any economic theory worth its salt; that the neoclassical method, as founded on the triptych of individualism, instrumentalism and equilibration, is not just one possible analytical strategy but that it is somehow *uniquely and ontologically grounded in social reality*. It would amount to a claim to the effect that all other economic approaches, including for instance Adam Smith's, is not in the same scientific league as their own. Undoubtedly, many neoclassical economists think that (although few would state it in polite conversation.)

Nonetheless, the truth status of that defence must be an empirical matter rather than a methodological one, and the defender of neoclassisism has to provide hard evidence concerning the actual, material processes of (a) how preference orderings determine actions uniquely, and (b) how their reasoning skills, or social/natural selection, slice through indeterminacy to bring about an equilibrium. Needless to say, such extreme naturalism has no chance of being empirically supported. Even sophisticated empiricists like Karl Popper rejected the idea that the joint hypothesis of individualism and equilibrium can be tested empirically; they are, he rightly claimed, *preconditions for* knowledge rather than *objects of* knowledge. Hence there is no such thing as a 'natural method'. The very thrust of the Enlightenment project rules it out of court.

The last resort of the mainstream economist, who wants to defend the presumption that the three neoclassical meta-axioms are essential to any scientific analysis of the social economy, is to argue that the neoclassical method of explanation, while not being a 'natural method', has nevertheless *evolved* historically as the *most adequate* method for studying a society of free, enlightened individuals. That it is, in short, the only non-contradictory embodiment of the Enlightenment project itself. That, just as representative liberal democracy is a bad system of government but remains the best one available, neoclassicism has evolved as the best economic analysis that is consistent with the liberal human condition.

However, such a rhetorical strategy can only work if it is accompanied with a sound evolutionary argument depicting the three meta-axioms as the unique 'attractor' of liberal social science. Unfortunately, no such argument seems to be forthcoming. Instead, mainstream economics is perpetually reproducing itself through a series of metamorphoses that Ovid would have been jealous of. The resulting models gain in complexity, expand in scope, and move into areas hitherto untainted by the economist' inquiring gaze. Nonetheless, all these models, in all

their multiplying guises, share a well hidden, and almost completely unspoken of, foundation: the three meta-axioms above. The radical absence of a debate about them is, we shall argue below, essential to the discursive power of neoclassical economics. As for the latter's aversion to pluralism, it is a natural by-product of this dance of veils whose purpose is to maintain neoclassicism's discursive edge by keeping our eyes off the theory's meta-axioms.

6. Some thoughts on neoclassicism's discursive power and its aversion to pluralism

What does an intelligently dispassionate observer of neoclassical economics see? She sees an ever expanding technical literature, most of which she cannot comprehend. She sees an almost infinite series of mathematical models that explain diverse socio-economic phenomena as part of some equilibrium scenario which posits autonomous actors bringing on the phenomenon under study, often supra-intentionally, through choices that are rational given everyone's beliefs (even when the actions are self-defeating). She sees a series of career paths that are made generously available to those who participate in this global research project. She sees economists the world over being taken seriously only to the extent that they speak this particular 'language'. She sees the powers-that-be speak this very 'language'. Finally, she sees enterprising academics in other social sciences adopting this 'language', in a transparent bid to share into neoclassicism's discursive success. In short, the onlooker sees, correctly, power oozing out of the mainstream economists' theoretical practices. There is only one thing she does *not* see: the three meta-axioms, none of which are visible to the naked eye.

Note how instrumental to the discursive power of neoclassicism is the fact that its three foundational axioms are hidden from our onlooker's view. For if they were evident, she might start asking difficult questions for which, as we argued above, neoclassicism has no real answers (except to re-phrase its axioms). This helps explain, in more than one ways, the authoritarian dynamics and the disdain shown toward pluralism of Economics Departments which have either managed to rank highly within mainstream economics or are striving to do so.

We suggest that there are two equally important types of explanation of neoclassicism's evolution into an authoritarian research project that discourages pluralism: One is a type of *intentional explanation* while the second is a *functional explanation*. The intentional explanation is simple enough and runs as follows: When an inquisitive graduate student, or academic, who has mastered neoclassical technique but has started developing doubts, starts questioning the meta-axioms, she is effectively questioning the hegemony of her profession. At best, her queries and arguments are met with sympathetic nods, at worst with a great wall of dogmatic put down lines and an avalanche of advice to the effect that these are matters that she ought to worry about after retirement. Publishing in the 'good' journals is hard enough. Publishing articles which question the meta-axioms is even harder. Indeed, it takes a foolhardy young soul to jeopardise a hard-earned career path in pursuit of the truth-status of one or more of the meta-axioms which allow the profession to flood the journals with mathematical models that are so highly regarded and so little discussed. And as is so often the case with dominant paradigms, self-censorship is the predominant vehicle for neoclassicism's unimpeded march.

The functional explanation adds an interesting twist to the same tale of intellectual authoritarianism. If phenomenon X is functionally to explain the occurrence of phenomenon Y,

this explanation has merit if and only if the following four conditions are met (see Elster, 1982): (1) Y must be beneficial for some group of agents Z. (2) Members of group Z must be responsible for the practices that cause X but must not intend to bring Y about through practices that result in X; indeed, Z members must remain innocent of the causal link between X and Y. Lastly, (3) phenomenon Y, which is caused by X, must be shown to reinforce X through a feedback mechanism involving, unintentionally, members of group Z.

In our case, Y is the discursive power of neoclassical economics, X are the practices which keep neoclassicism's meta-axioms hidden, and Z is the set of neoclassical economists. Can a convincing functionalist explanation of how X causes Y be built along the lines sketched above? If it can, then we shall have an interesting (and possibly correct) explanation of why pluralism is absent from Economics Departments: its radical absence, which is guaranteed when an eerie silence engulfs the three neoclassical meta-axioms, emerges as a *prerequisite* for neoclassicism's dominance. Let us now put together the basic elements of such an explanation.

Before we proceed further, it is important to note that the merit of this functional explanation is that it is entirely consistent with a distaste for conspiracy theories. As it will transpire shortly, the offered explanation does not presume neoclassical economists in cynical pursuit of discursive power; no theorists are imagined who silence subversive voices within the profession so as to preserve the power vested in them by their models [see part (2) of the argument above which rules out such intentional cynicism]. In fact, our explanation works better when most neoclassical economists would have been (honestly) appalled at the thought that we suspect their practices as driven by anything other than scientific rigour. From experience, we can confirm that most neoclassicists believe strongly in the theoretical superiority of their models and may even have a moral commitment to pluralism. Nevertheless, even if we accept that these fine sentiments are all pervasive in the economics profession, our argument still stands.

To render coherent the functional explanation of neoclassicism's discursive power as the result of a general 'silence' regarding the three meta-axioms at the bottom of all neoclassical theory, we needed three arguments: The first [see (1) above] is that neoclassicism's power is beneficial for neoclassical economists (this is self evident). The second [see (2)] is that neoclassical economists are innocent of the charge that they are keeping quite on the three meta-axioms intentionally, so as to enhance their method's discursive power (we accept, therefore, their own denials that they would have conceivably done such a thing). The third piece of the jigsaw [see (3)] is the crucial one: we must now demonstrate that "phenomenon Y, which is caused by X, reinforces X through a feedback mechanism involving, unintentionally, members of group Z".

In other words, it must be argued convincingly that the enhancement of neoclassicism's discursive power, which is largely due to the hidden nature of its three meta-axioms, makes it *even less likely* that neoclassical economists will be open to a pluralist debate on their meta-axioms. Anyone who has worked in an Economics Department has surely experienced such a feedback mechanism. Research funding in economics is vast compared to the trickle that finds its way to the 'other' social sciences. It would not be forthcoming if economists regularly experienced philosophical angst regarding the axiomatic foundations of their wares. Naturally, the bulk of the profession's funding goes to practitioners who do not indulge in methodological debates; who

simply 'get on with the job'. No one wants to keep quite on the meta-axioms. They are just too busy building magnificent edifices on top of them, and being magnificently rewarded for it.

Nobel laureate Vernon Smith almost apologised, in a recent article (see Smith, 2002), for entering into a methodological discussion of the work he devoted an extremely productive life to. This is typical of the fear of methodological discussion instilled in the best and even the most liberal minds in the economics profession. By whom? By no one is the honest answer. The death of pluralism in economics is a crime without a criminal. It died long ago as a result of a particular dynamic within the profession which, operating behind the backs of even neoclassical economists, encourages them to produce all sorts of models (even of altruism and revolution, see Roemer, 1985) but surreptitiously penalises any deviation from, or even explicit discussion of, the three meta-axioms.

Of course, the pressing question is: *Why are public and private funds so uncritically lavished upon what turns out to be no more than a religion with equations?* Alas, this is a question that the present chapter cannot answer within a purely methodological context. For such an explanation we need to venture into political economy (see Arnsperger and Varoufakis, 2005, for an attempt).

Epilogue

Neoclassical economics, despite its incessant metamorphoses, is well defined in terms of the same three meta-axioms on which *all* neoclassical analyses have been founded since the second quarter of the 19th Century. Moreover, its status within the social sciences, and its capacity to draw research funding and institutional prominence, is explained largely by its success in keeping these three meta-axioms well hidden. The radical lack of pluralism in mainstream economics is, on this account, not to be blamed on illiberally minded practitioners. Rather, it is to be explained in evolutionary terms, as the result of practices which reinforce the profession's considerable success through diverting attention from the models' axiomatic foundations to their technical complexity and diverse predictions. A pluralist economics will remain impossible as long as the social economy rewards economists in proportion to their success in keeping their models' foundations opaque.

References

Arnsperger, C. and Y. Varoufakis (2005). 'A Most Peculiar Failure: How neoclassical economics turns theoretical failure into academic and political power', *Erkenntnis*, 59, 157-188.

Aspromourgos, T. (1986). 'On the Origins of the Term Neoclassical', *Cambridge Journal of Economics*, 10:3, 265-70.

Bowles, S. (1998). 'Endogenous Preferences: The cultural consequences of markets and other economic institutions', Journal *of Economic Literature*, 36, 75-111.

Cournot, A.A. (1960). *Researches in the Mathematical Principles of the Theory of Wealth*, New York: Macmillan, pp. 79-89 (originally published in French in 1838 under the title *Recherches sue les principes mathématiques de la théorie des richesses*, Paris: Hachette).

Dasgupta, P. (2002). 'Modern Economics and its Critics', in U. Mäki (ed.) *Fact and Fiction in Economics: Models, Realism and Social Construction*, Cambridge: Cambridge University Press.

Elster, J. (1982). `Marxism, Functionalism and Game Theory'. *Theory and Society*, 11, 453-82.

Fehr, E. and S. Gächter (2000). 'Fairness and Retaliation: The economics of reciprocity', *Journal of Economic Perspectives*, 14, 159-81.

Hargreaves-Heap, S. and Y. Varoufakis (2004). *Game Theory: A critical text*, London and New York: Routledge.

Hume, D. (1739/40,1888). *A Treatise of Human Nature: being an attempt to introduce the experimental method of reasoning into moral subjects*, (1888 edition edited by L.A. Selby-Bigge). Oxford: Oxford University Press.

Mantel R., (1974). 'On the Characterization of Aggregate Excess Demand', *Journal of Economic Theory*, 7, 348-353.

Rabin, M (1993). 'Incorporating Fairness into Economics and Game Theory.' *American Economic Review*, 83, 1281-302.

Roemer, J. (1985). 'Rationalising Revolutionary Ideology', *Econometrica*, 53, 85-108.

Smith, V. (2002). 'Method in Experiment: Rhetoric and Reality', *Experimental Economics*, 5, 91-110.

Sonnenschein, H. (1973). 'Do Walras' Identity and Continuity Characterize the Class of Community Excess Demand Functions?', *Journal of Economic Theory*, 6, 345-354.

Sonnenschein, H. (1974), 'Market Excess Demand Functions', *Econometrica*, 40, 549-563.

Varoufakis, Y. (1998). *Foundations of Economics: A beginner's companion*, London and New York: Routledge.

This article is republished, with permission, from the Summer 2006 issue of the **Yale Economic Review**

The Autistic Economist

Stanley Alcorn and Ben Solarz (Yale University, USA)

How many economists does it take to change a lightbulb?

- Two: One to change the bulb and one to assume the existence of a ladder.
- Eight: One to screw in the light bulb and seven to hold everything else constant.
- None: They are all waiting for an invisible hand.

The caricature of the economist – bumbling, impractical, disconnected from the object of his work – underpins a set of surprisingly sophisticated criticisms leveled against the discipline, particularly its realism, method, and ideology. None of these critiques is particularly new, nor is any entirely unique to economics. But over the last few years, they have been asserted against the dominant economic pedagogy in general and the neoclassical framework in particular with new force – a force strong enough to be labeled a movement. An amalgamation of unorthodox academics, discontented students, and skeptical non-economists, this movement may not always be unified in its diagnosis, but is certainly unified in their discontent. If only because one of the many criticisms is of the discipline's aloofness, the jokes as well as the criticisms should be heard.

"We wish to escape from imaginary worlds!" proclaimed a group of French economics students in 2000, petitioning for broad changes in their economics curricula. "We no longer want to have this autistic science imposed upon us."

The use of the French term "autisme" harkens back to an older meaning – "abnormal subjectivity, acceptance of fantasy rather than reality" – but it also refers to the continuum of neurological disorders. Steve Keen, associate professor of economics at the University of West Sydney and the author of Debunking Economics: The Naked Emperor of the Social Sciences, sees the aptness of the term as the strongest point of the critique. "It asserts that neoclassical economics has the characteristics of an autistic child," he said, criticizing the manner in which the discipline "hangs on to its preconceptions, when serious analysis shows that they are untenable."

Indeed, these characteristics are precisely those of the caricatured economist: marked deficits in communication and social interaction, preoccupation with , nd abnormal behavior, such as repetitive acts and excessive attachment to certain objects. Unlike the butt of a light bulb joke, however, this epithet comes with a freight of petitions, articles, and books—the work of a growing coalition that, following the French students, calls itself "post-autistic economists." The punch line is more than just a witty joke: it is a critique of substance and appeal posed both at the foundations of neoclassical thought and at its place within the discipline.

It Takes Two: the Realism Critique

Go back to the light bulb jokes and look at the economist who "assumes the existence of a ladder"; the analogy here is with the many simplifying assumptions made in the course of developing an economic model. But as Keen is quick to point out, "There's a very big difference between a simplifying assumption and a counterfactual one." By way of example, he notes the Capital Asset Pricing Model, developed by Bill Sharpe in 1964, and challenges the implicit assumption that investors agree on the future prospects of shares with correct expectations. This is equivalent, he argues, to assuming consumers could predict the future. For Keen and other leaders of the movement, however, this is not an isolated example of confusing simplifying assumptions for counterfactual ones: "Neoclassical economics makes many of the latter and then defends them as if they're the former."

The term neoclassical as it applies to economics was coined by the late nineteenth century economist and sociologist, Thorstein Veblen, who referred originally only to a common utilitarian approach and the common assumption of a hedonistic psychology. The term's modern connotation, however, alludes essentially to the competitive paradigm in which large numbers of rational, value-maximizing firms interact with rational, value-maximizing consumers in an economy with a complete set of perfectly competitive markets. Its origins as a school of thought can be traced back even further.

In 1854, the Prussian economist Hermann Heinrich Gossen published a treatise on The Development of the Laws of Human and the Rules of Human Action which he promptly declared commensurate to the work of Copernicus in its genius. The book, Die Entwicklung, for short in Prussian, was poorly received due to its dense, mathematical style. Years later, however, when William Stanley Jevons of England, Carl Menger of Austria, and Leon Walras of Switzerland independently sparked what is today known as the Neoclassical Revolution, the essence of their work could be traced back to that of Gossen, who had first posited that a connection exists between exchange value and marginal value. In 1870, the three European economists advanced the school of thought of marginalism, advocating that the most pertinent economic phenomena are producers' marginal cost and consumers' marginal utility – a doctrine which has survived largely unchallenged.

The resulting paradigm, having since grown in scope and complexity, was institutionalized in 1948 by Samuelson's canonical textbook Foundations of Economics - a text still used in many modern economics courses. Quoting its 3rd edition, "Neoclassical economics... is accepted in its broad outlines by all but about 5 percent of extreme left wing and right wing writers." Yet, a variety of recent work suggests that application of this broad outline may often have the character of Sharpe's assumptions; the neoclassical paradigm may not be a simplification of the real world, but rather a contradiction of it.

A powerful example of this is the critique written by economist Joseph Stiglitz, now a professor at Columbia University, of the assertion in the First Fundamental Theorem of Welfare Economics that every competitive equilibrium is efficient. Based on the work in information economics for which he won the Nobel Prize, Stiglitz finds that this most basic claim is not robust to the removal of the assumption that information is perfect. Removing even a few of the counterfactual assumptions of the competitive equilibrium means that markets will always be

incomplete and non-competitive in a way that renders the First Theorem essentially false. As he concluded in Whither Socialism? (compiled from the Wicksell Lectures), “Quite contrary to that theorem, competitive economies are almost never efficient.”

Consider, for example, the market for insurance: the notion that this market could be “complete” in any meaningful sense is mind-boggling, since it would require perfect information about an infinite set of unknown, possible worlds. The state space cannot be enumerated, much less insured against. The incompleteness of such markets is not an exception, but a basic fact, and reversing the counterfactual claim of market completeness renders the efficiency properties laid out in the First Fundamental Theorem counterfactual as well.

A separate, but related criticism of the neoclassical paradigm attacks the idea of the individual as a “rational maximizer.” Although models have attempted to integrate the insights of psychology and behavioral finance, the basic insight is one of non-rationality. The neoclassical theory, however, hinges on a contradiction: immaculate rationality, such as Sharpe’s assumption that individuals have a stochastic form of perfect foresight. This leap of faith – far beyond the classical idea of rationality as laid out by Smith and Ricardo, which insisted only on preferring more to less – collides head on with reality.

The insurance company’s quandary carries over to every individual decision-maker; the infinite market has its corollary in a pathological structural ignorance. The individual is no more capable of making decisions about infinite sets of unknowns than the insurance companies. Yet, supposedly, economic man makes such decisions in the course of daily life.

Homo economicus, the fictional actor envisioned by the neoclassicals, performing calculations instead of interacting with reality, could be diagnosed as “autistic” more easily than the economists who created him. More advanced and evolved than the average homo sapien consumer, this idealized construct is capable of analyzing an infinite string of data in an infinitesimally small period of time – all with seamless prescience and precision. Take as an example a trip to the supermarket, where actors are charged with calculating which basket of goods will maximize utility and minimize cost. With the number of combinations increasing exponentially with the number of options, the actor faces 100 combinations given 2 options when told to choose 0-10 units of each. But given just 30 goods, told once again to choose 0-10 units of each, the consumer faces 1030 combinations. Even if the consumer could rule out 99.9% of the combinations and calculate each remaining combination in one-billionth of a second, he would be faced with a task lasting 32 billion years, or a period longer than the age of the universe. Homo economicus does not even bat an eye.

That the actual psychology of decision-making differs significantly from this picture should be no surprise, and the insights of decision theory confirm this. The economic interaction of firms and consumers proceeds not like the tennis match in which each player calculates the Newtonian physics of ball trajectory and energy transfer while executing perfectly, but instead like the casual contest dominated by the imprecision of instinct.

Economists have attempted to integrate these insights without sacrificing the basic paradigm. As Judith Chevalier of Yale University says, a lot of economics now “focuses on questions like ‘how many irrational actors are enough to actually have an impact?’” But if irrational

actors are not a deviation from a realistic assumption, but the state of reality itself, the neoclassical framework is clearly turned on its head.

It Takes Eight: the Method Critique

The central post-autistic criticism of economics' lack of realism is inherently linked to that of method in general. To turn again to the light bulb jokes, the first and second punch lines are closely related; the attempt at holding all things constant is as contrary to reality as the assumption of the existence of a ladder. Moreover, the second requires the first; it is the unreal paradigm that requires the methodological acrobatics in order to get reality and theory to accord.

It is this connection between method and realism that makes economics so remote for the non-economist; the methods are often opaque because they are seeking to bend reality rather than revealing insights about it. Edward Fullbrook, research fellow at the University of the West of England and the coordinator of the online Post-Autistic Economics Network (www.paecon.net), captures this criticism as "a keystone of intelligibility." He states, "Economics must engage with 'real economic problems' and make its analysis intelligible to an educated general public if real democracy is to function intelligently." Holding things constant, instead of engaging with the inconstancy of real economic problems is one of the central criticisms of the economic method.

"Holding things constant" could be a metaphor for the neoclassical focus on static equilibrium rather than dynamics – a focus which post-autistics often identify as the central problem of the ruling economic method. "My major objection to neoclassical theory is its obsession with equilibrium," says Keen, "as if economic processes occur only in equilibrium. That's nonsense: economic processes, like those of all other dynamic and evolutionary systems, occur in time and far from equilibrium."

This is a criticism which cuts to the core of the neoclassical paradigm. In contesting not the properties of equilibrium but its very existence, the post-autistic approach points toward an economics that would differ radically from that going on in today's college classrooms, as well as in most economists' offices. It points toward an economics built up from reality, rather than built down from theory. The problem with trying to understand the economy with a focus on the single theoretical approach of equilibrium is that it cannot provide insights into the problems which defy it. In this sense, the overuse of statics is a problem of applying the wrong scientific metric. It is not that there are no situations in which equilibrium analysis is valid, but that it is a limited tool rather than a complete economic framework.

Implicit in this criticism is a caution against the overemphasis of any single approach. If there is a central post-autistic methodological critique, it is a demand for pluralism. This is not a unique criticism; in fact it can be brought to bear in all of the social sciences as well as the physical sciences. It is, however, a recognition of the fact that economics has been uniquely limited as of late in its menu of approaches.

As Nobel Prize-winning economist Ronald Coase pointed out in a speech at the University of Missouri five years ago, that one could (and many still do) teach economics today

using Samuelson's 1948 textbook is an indictment of the discipline's stagnancy. While physics and chemistry have been fertile ground for innovation, economics continues to rely on the same basic tools. Fullbrook and the post-autistics take issue not only with the neoclassical approach of Samuelson, but with the stagnant reliance on any single economic approach. "The nature of all conceptual analysis is to block from view aspects of the object of inquiry so as to concentrate on selected ones," said Fullbrook. "Economics is no magical exception. All economics analysis, whatever its 'school,' proceeds on the basis of concepts that admit only a partial view of the economy, thereby predetermining the set of possible conclusions. Therefore, to reverse the 'triumph of ideology over science' and its undermining of democracy, economics must analyze economic reality, as modern physics does with physical reality, from a pluralism of conceptual perspectives." The acceptance that there are multiple conceptual perspectives would allow each model to be applied where it is most valid, rather than applied by force even where they are not.

This pluralism is thus also a shift from an approach driven by methods, looking for markets everywhere because it believes it can model their equilibria, to an approach driven by problems, looking for solutions to economic realities. "I don't only think [economics] will change. I think it ought to change," Coase said in his speech. "We do need empirical work, but we need something additional: empirical work which actually changes the way we look at the problem." Once again, this is not a criticism unique to economics, but the fact that it is being raised with such vigor in this discipline by its own Nobel Prize-winning practitioners, shows economics is uniquely in need of such a critique. The most common defense of economists against these critiques is that they are aware of them and have already taken them into account. Yet, if the post-autistics are right, the concessions that have been made are superficial, and orthodox economics remains fundamentally autistic.

It Takes None: the Ideology Critique

The third and final light bulb joke punch line – the economists waiting for the invisible hand to screw it in – touches on the possible reason for economics' resistance to change. Blind faith in market forces is a problem both of realism – assuming perfect, complete markets exist which in fact do not – and of method – searching for a specific mathematical construct called a "market" rather than searching for a model adequate to a specific economic reality – but it is also something more. It is an ideology, associated in the popular consciousness with the "Chicago school" economics of George Stigler and Milton Friedman, and more accurately, with the policies of neo-liberalism – the laissez faire endorsement of the "free market." It is the fear of an encroaching ideology that has motivated most non-economist critiques of economics – a fear that economics is not a social science, but actually a tool of the free market enthusiasts for their own self-congratulation. In the minds of these critics, the First Fundamental Welfare Theorem of Economics is not simply inapplicable, but is actually capitalist propaganda.

Put this way, the ideological criticism looks paranoid, at best. It does, however, touch on something important. Economics is tied deeply to politics in a way that other social sciences are not; we have a Council of Economic Advisors, but no corresponding Council of Sociological or Anthropological Advisors. Indeed, Joseph Stiglitz is only one example of an academic economist who has made this transition to politics and back.

Yet Stiglitz and others often complain that academics are largely ignored, that the advice of economists is only accepted when it confirms ideological positions. This could be said equally of popular economic understanding: people in general do not typically have a great understanding of the workings of a macroeconomy, but they may well have a stock set of "economic" arguments to make about their political positions. It may be thought, then, that the reason for economics' stagnancy in the industrialized world is related to its close ties with a politics in a state of relative peace. The functioning of the free market system may not have all the perfect equilibrium properties that have been posited, but as long as it keeps working there is little need for an alteration of this basic understanding. Furthermore, if economists are only publicized when their research follows political ideology, this becomes the public face of economics; effectively, ideology incentivizes non-innovation. Who needs new models to understand the economy? Let the hand remain invisible.

The Post-Autistic World

Where, then, will the change called for by voices as diverse as Joseph Stiglitz, Ronald Coase, Steve Keen, and Edward Fullbrook occur? The suggestion by all has been to look to college campuses. As Keen says, post-autistic economics "is more of an appeal to the students of economics, rather than an attempt to convince existing economists to 'change camps.'" Those targeting the next generation believe practicing economists are too set in their ways and that all of the problems of economics are reinforced by the way it is taught. "I blame our textbooks and the sausage-factory approach to education that comes out of the false scientism in economics," said Keen. On this subject, the more mainstream Stiglitz might agree: "[Economics as taught] in America's graduate schools... bears testimony to a triumph of ideology over science."

Nor is this a belief held only by professors; in fact, the post-autistic movement began not because of the dissatisfaction of professors, but that of students in the École Normale Supérieure of Paris. Not only their goals but their tactics have spread worldwide. Sympathetic movements have occurred with mixed success throughout Western Europe and, in 2003, spread to the United States via Harvard University.

Changing the way economics is taught, then, would seem to be the central action to change the way economics is practiced. The question is what, exactly, must be changed. Fortunately, the criticisms of economics as a pedagogy, and not as a science, are both easier to grasp and easier to agree with. Economics courses at the undergraduate level typically place little-to-no emphasis on learning the tools of economic science, instead focusing on teaching algebraic simplifications of actual economic work, and then assigning problem sets in which students plug in values for the different variables. It is good practice, perhaps, for a few specific mathematical techniques, namely constrained maximization, but it is hardly a training in how to think creatively about dealing with the economy. The bedrock of economics as it is taught is not the subject matter – the economy – or even the approach – the neoclassical school of thought – but ideology, as Stiglitz said. The repetition of simplified and vulgarized economic conclusions is the main task of introductory, intermediate, and even some advanced economics courses, and little else sticks with the students.

Despite what a typical college curriculum might suggest, though, a post-autistic curriculum is not an inconceivable vision. In fact, the shift from ideology to problem-solving, from method-driven to problem-driven, from statics to dynamics, and from monism to pluralism is easier to imagine in course content than it is in individual research. The French petition and subsequent petitions at Cambridge and Harvard share many of the same, specific recommendations. All three call for opening up a debate between competing theories. The French students explicitly call for understanding current economics in its context within a broader historical continuum.

More specifically, Keen sees the need for various technical changes in mathematical and theoretical constructs. “Technical training would start with differential equations rather than simultaneous ones, and models would necessarily include time, rather than ignoring it via equilibrium constructs. Its history of economic thought would eulogize Schumpeter rather than Walras, and praise parts of Keynes rather than Friedman. Economic models would bear resemblance to those of meteorologists, though with the added difficulties of the absence of conservation laws, evolutionary change, and decisions being influenced by uncertain perceptions of the future.”

The meteorology analogy is apt. Indeed, the shift could be thought of as a movement from treating the economy as subject to unchanging, iron laws analogous to those of Newtonian physics. Instead, post-autistic economics would find its scientific analogy in the deeper but more tentative understandings of complex systems offered by ecology and meteorology.

Perhaps this would also give economists more humility about the power of their work. As Keen recalls, “A student of mine once commented that the mechanical analogy encourages economists to tinker with the economy as if it were a car; but if the analogy were that of a rainforest, would economists blithely recommend that the forest would work better if we removed some species from it?” The hope is that in changing curricula, there may be a corresponding change in the individual students themselves; to reeducate the Economist and cure his so-called autism.

The economist as humble ecologist is a great stretch from the aloof technician stumbling to change a light bulb, but it is not inconceivable. The goal is nothing less than a total transformation of the discipline. But the first step is nothing more than a simple change in perspective.

Japan's Alternative Economics

Sanford Jacoby (University of California at Los Angles, USA)

© Copyright: Sanford Jacoby 2006

Japan is back. Its economy has been growing faster than at any time since the late 1980s. Consumer spending is strong; employment conditions are good. Toyota recently announced a plan to hire more than three thousand new employees, the first time in fifteen years that it has hired that many workers. Toyota is poised to overtake General Motors as the world's largest automotive manufacturer. Not only manufacturers but also financial and service companies are booming.

Although Japan's recovery started four years ago, there are still many outside Japan who have not acknowledged it. One reason might be that we prefer hearing about Japan's misfortunes, a case of *schadenfreude.* Another reason is that Japan's recovery is controversial and seemingly a chimera because it goes against conventional wisdom.

From 1990 to 2001, when Japan was in the doldrums, pundits attributed Japan's problems to its distinctive form of capitalism. Markets were said to be excessively regulated and protected by government; the business community was faulted for its lack of entrepreneurial spirit; and corporations were criticized for being averse to downsizing and insufficiently focused on shareholder value. With the American economy riding high during those years, it seemed obvious to the pundits what Japan ought to do: become more like the Americans. Indeed, the prescriptions offered for reviving the Japanese economy contained precisely the same ingredients that, allegedly, had restored the U.S. economy to health in the 1990s: deregulation, new ventures, and a focus on shareholder value.

Some Japanese took the message to heart, despite the hubris of the messengers. The Koizumi government and its predecessors modestly deregulated and privatized industries such as telecommunications, transportation, energy and finance. But Japan's approach to deregulation was different from America's: it was more akin to what political scientist Steven Vogel terms "re-regulation," that is, it maintained a role for government to stabilize new market configurations.

Private and public efforts were made to spur the creation of new high-tech businesses and to launch a venture capital market in Japan. Newspaper articles lionized young entrepreneurs, like Masayoshi Son of Softbank and Takefumi Horie of Livedoor. In other ways, too, the door was opened to a more rugged style of capitalism in Japan. For years, it was considered socially inappropriate for Japanese companies to engage in hostile takeovers. But in the late 1990s, corporate raiders appeared on the scene, such as Yoshiaki Murakami, who several times acquired stock in underperforming companies in efforts to get more cash returned to shareholders.

Finally, the government revamped commercial law to permit -- but not require -- American-style corporate governance, which puts shareholders at the center of the corporation.

New rules allowed companies to repurchase shares, to issue stock options, and to adopt a U.S.-style system of independent corporate directors.

Many large Japanese corporations were reluctant to change, however. They placed the blame for Japan's slow growth on policy mistakes by government, such as sluggish resolution of Japan's banking mess and a policy of excessive monetary stringency pursued by the Bank of Japan. Until recently, these doubts were expressed quietly. But dissenting voices grew louder after 2001 when the U.S. economy was hit by corporate scandals (Enron et al.) and the collapse of its own bubble economy. It was around this time, too, that the Japanese economy finally began to recover.

Business leaders like Fujio Mitarai of Canon and Hiroshi Okuda of Toyota refuse to accept the idea that there is one best way--the American way-- of organizing an economy. Instead, companies like Canon and Toyota continue to staff corporate boards with insiders, pay executives modestly, and minimize employee layoffs. As Mitarai says, "The advantage of lifetime employment is that employees absorb the the company's culture through their careers. As a result, team spirit grows among them--a willingness to protect the corporate brand and stick together to pull through crises. I believe that such an employment practice conforms to Japanese culture and is our core competency to help survive global competition."

Mitarai's point is that Canon derives an advantage from the difference between it and its global competitors--that is, from the distinctiveness (the "brand") of its products and from the underlying business structure that helps to produce them. While a measure of skepticism is warranted here, so is recognition that big companies like Canon and Toyota are sensitive to social norms and seek to make the best of them. Large Japanese companies view themselves more as ongoing communities than as the property of shareholders. The community includes shareholders, to be sure, but it also comprises employees, customers, suppliers, and creditors. Rather than maximize shareholder value, which is the American mantra, managers seek to balance the community's interests to foster long-term corporate success.

It is an imperfect corporate model. During the 1990s, when growth was slow, large Japanese companies adjusted to slack demand by reducing new hires, which, as in Europe, shifted the burden of unemployment to the young. Nor is it a model that encourages high levels of entrepreneurial risk taking. But Japanese firms have instead focused on products and industries where they can make the kind of incremental improvements that are facilitated by highly-trained employees and a long-term perspective.

Also, instead of relying on venture capital to fund new firms, Japanese corporations reinvest their profits in corporate spinoffs--essentially new firms spawned by old ones--and in research. According to the OECD, Japan in 2005 had the highest R&D intensity (as a percent of GDP) of all advanced industrial nations. While it ranked second to the U.S. in the number of triadic (EU, US, and Japanese) patents, Japan's population is less than half of America's. Its inventive productivity would easily exceed that of the U.S. or the EU if the comparison were based on number of inventions per capita. While Japan has not produced a viable challenge to Ipod, few realize that 70 percent of the Ipod's semiconductor material comes from Japan. Japan does not have a prominent cell phone brand, but cell phones from Finland, the United States, and

South Korea are packed with Japanese components. Meanwhile, Silicon Valley is still struggling to recover from its 2001 implosion.

It's true that some Japanese companies have sought to emulate American practices. The bellwether in this group is Sony, whose recent performance trails that of traditional companies like Canon and Toyota. This is not good advertising for the shareholder-value model in Japan. Similarly, the arrest this January of Takefumi Horie for alleged financial improprieties has hurt those who portrayed Horie as the kind of brash, aggressive entrepreneur that was needed to restore vitality to Japan. One of Horie's main promoters was Prime Minister Koizumi, whose reputation has been tarnished along with Horie's.

Japan today is not the same as it was in 1990. Its economy is less regulated and more open than before. Yet its core economic institutions--both in business and in government--have changed only modestly. The reluctance to embrace change is not only found in places of privilege, such as corporate boardrooms and government offices. The average Japanese citizen is wary of reforms that will lead to higher levels of risk and inequality. Japan prides itself on its social cohesion which, although weaker than in the immediate postwar decades, is still stronger than what is found in the Anglo-American world, as evidenced by measures of income inequality.

If institutional change is not responsible for Japan's recovery, what is? An important factor is China, which has surpassed the United State as Japan's biggest trading partner. There is, however, more to the recovery than China. Japanese companies have been investing throughout Asia, including major new ties with India. Other factors are rising consumer confidence and investor optimism (what Keynes once called "animal spirits") that feed on themselves and generate growth. Also important are government-sponsored bank mergers, which have brought the financial sector back to health, and a looser monetary policy under the guidance of the Bank of Japan's governor, Toshihiko Fukui, who until recently pursued a zero-interest policy.

What are the lessons to be learned here? One is that pundits tend to underestimate the contribution to growth of appropriate macroeconomic policies, whether fiscal policy in the United States in the 1990s or monetary policy in Japan today. Conversely, there has been a misguided tendency in recent years to seek an optimal set of "micro" economic institutions to foster economic growth. Because the U.S. was the fastest-growing economy in the 1990s, the unfortunate inference was made that its approach to capitalism was the single-best solution to the problems globalization posed for advanced industrial economies. Hopefully we are now past the point when one or another model--whether Japanese, European or American-- is touted as the royal road. Instead, we should accept the fact that nations can and do pursue diverse paths to prosperity in today's global economy.

Game Theory, Freedom and Indeterminacy

Kevin Quinn (Bowling Green State University, USA)

© Copyright: Kevin Quinn 2006

> "A common opinion prevails that the juice has ages ago been squeezed out of the free-will controversy, and that no new champion can do more than warm up stale arguments which everyone has heard. This is a radical mistake. I know of no subject less worn out, or in which inventive genius has a better chance of breaking new ground, - not, perhaps, of forcing a conclusion or of coercing assent, but of deepening our sense of what the issue between the two parties really is, of what the idea of fate and free will imply."
> William James, "The Dilemma of Determinism."

> "All the influences were there waiting for me. I was born, and there they were to form me, which is why I tell you more of them than of myself."
> -Saul Bellow, *The Adventures of Augie March*.

> "Sovereignty, which is always spurious if claimed by an isolated single entity, be it the individual entity of the person or the collective entity of the nation, assumes, in the case of many men mutually bound by promises, a certain limited reality."
> -Hannah Arendt, *The Human Condition.*

How can we economists reconcile our conviction that we are free with what we spend our lives doing, namely, offering up causal explanations of human behavior? If we're so free, how come we're so predictable? If we are rational choosers, then, given our beliefs, desires and opportunity set, our choice is predictable. And if the preferences that shape our choice are in turn predictable, whether by biologists, evolutionary psychologists, anthropologists or sociologists, what sort of freedom is *that*?

In this paper I contend that classical game theory, and the "inventive genius" (see the James quote above) of the likes of John Von Neumann, Oskar Morgenstern, and Thomas Schelling, have given us a new way of thinking about the old issue of free will versus determinism. I claim that an appreciation of the indeterminacy that obtains in games with multiple Nash equilibria allows us to reconcile the scientific explanation of human agency with human freedom. This can be done if, and only if, the link between scientific explanation and determinism can be broken - and this is precisely what classical game theory allows us to do. In games with multiple equilibria, looking back from an achieved equilibrium, it is manifestly the case that *we* - though not any one of us taken individually - *could have acted differently*, in just the sense that champions of free will have always maintained was incompatible with science while being necessary for the ascription of genuine freedom.

The first section of the paper sets the scene with a survey of the traditional free will versus determinism debate, paying special attention to the determinist strategy that argues for the *compatibility* of freedom, properly understood, and determinism - and indeed for the

meaninglessness of an account of freedom that doesn't in fact presuppose determinism. The second section then fleshes out my candidate account of freedom as one that preserves important components of the traditional free will position - most importantly, the essential link that position makes between freedom and indeterminacy. To make the argument, I defend the indeterminacy of game theoretic explanations from those - many game theorists themselves - who argue that this indeterminacy is a failure of the theory in need of correction. In the next two sections I then examine and criticize the growing tendency among game theorists, fueled in part by embarrassment over indeterminacy, to abandon rationality altogether. This can be done either with the methods of evolutionary game theory (section 3) or with an appeal to conventions, salience or focal points (section 4). The next section makes the case that freedom understood along the lines I have proposed is a species of *positive* liberty, in Isaiah Berlin's sense, and indeed allows for a plausible interpretation of that much-maligned notion. I also address the question of "spontaneous order," in Hayek's sense and argue that the faith in the emergence of such an order in general can only be grounded on the non-rationality of human beings; that for rational agents, spontaneous order is not an option and politics is therefore inescapable. The last section concludes with a brief comparison of my account of positive freedom with that of the great political theorist Hannah Arendt.

Setting the Scene: Compatibilism and Its Opponents

A host of thinkers have tried to square freedom with predictability, or freedom with determinism - this is the *compatibilist* project, as it's called. Mill was a well-known exponent of this view.[4] We are free, he says, when we do what we want. The fact that we didn't choose our wants, that they are in principle predictable, shouldn't bother us. Kant, on the other hand (in a crude interpretation, to be supplemented below with a somewhat more subtle one), sure that genuine freedom was incompatible with determinism, located our freedom not in the phenomenal realm, where objects in space and time exist subject to causal laws, but in a mysterious "noumenal" realm. On its face, at any rate, he seems to throw out a scientific account of human agency in order to save something like a metaphysical conception of freedom. If explanation in the social sciences is conceived naturalistically - as no different in kind from explanation in the natural sciences - it would seem that the notion of a metaphysically free will can find small purchase, and must be rejected as a holdover from religious views of the world, condemned to obsolescence by the rise of science.

The debate between compatibilism and incompatibilism commences along with, and in response to, the scientific revolution of the 17th century. The most convincing and influential of the early progenitors of compatiblism was Baruch Spinoza, the dominating figure in Jonathan Israel's magisterial *Radical Enlightenment.* Israel writes: "That men suppose themselves to be free, Spinoza ascribes to their consciousness of their desires and appetites while failing to see 'those causes by which they are disposed to wanting and willing, being ignorant of those causes.'"[5] Here Spinoza is debunking the traditional conception of freedom, which is

[4] Martin Hollis, in his wonderful *Introduction to the Philosophy of Social Science (1994)* makes Mill the spokesman for compatibilism.

[5] Israel, *Radical Enlightenment (2001)*, p. 232

incompatible with determinism. One of Spinoza's British followers, Matthew Collins, describes the sort of freedom that *is* compatible with determinism, making the compatibilist case in essentially the same way it would be made by Mill nearly 200 years later:

> "Whenever the doing or forbearing any action, according to the determination of my will is in my power I am then always free and at liberty, that is, free from any agents hindering me from acting as I will, but not free from necessity. For when I will, or prefer, going abroad to staying at home, that act of volition as much determines me to act according to that preference, if it is in my power to go abroad, as locks and bars will hinder one from acting according to that preference. The only difference is that in the one case I am necessitated to act as I will, and in the other case contrary to my will.....This seems to me..to contain the whole idea of human liberty."[6]

The anti-compatibilists of the time were the Cartesians. Descartes's radical body/soul dualism, in what looks like an earlier version of Kant's later move noted above, locates the free will in the soul, not the thoroughly determined body. Human freedom is incompatible with scientific determinism, but real nonetheless, since located in a realm, the soul, where science holds no sway.

Flashing forward to the present, here is Julian Sanchez , reviewing a new book by the compatibilist Owen Flanagan, glossing the latter's argument, a mainstay of the compatibilist position, that not only is freedom not incompatible with determinism, *but that it is, in fact*, *incoherent without it*:

> The human capacity for free choice is another cornerstone of liberal thought that seems threatened by a thoroughly naturalized conception of persons. Real choices are supposed to be undetermined by what comes before. When I make a genuinely free choice, no set of antecedent conditions predetermines what I *must* do . But an exercise of free will is supposed to be something that an agent does, not something that merely happens. It would not count as free will if some non-deterministic quantum fluctuation in my brain caused me to do good rather than evil. These two conditions - indeterminacy and authorship - together define free will as traditionally conceived. But, as Flanagan observes, they are mutually incompatible. To the extent that my actions are undetermined - that I could have turned right just as easily as left -they are not bound to any of my past mental states. To the extent that my own experience and reasoning do explain my actions, those actions are determined and, therefore, not 'free' in the radical sense. [7]

I will call the compatibilist account of freedom "deflationary" as compared with the traditional conception, which I will refer to, following Sanchez, as "radical," or sometimes "metaphysical," freedom. The absence of determinism, the compatibilist argues, would not at all help the case for a non-deflationary, radical freedom.

The attempt to preserve freedom by appealing to indeterminacy and chance in nature itself, excoriated by the compatibilists, nonetheless has a long history. One of the most famous

[6] Collins cited in Israel, p.616

[7] Sanchez, "Self Delusions: Does Morality Require a Soul, in *Reason*, January 2004.

attempts along these lines was by William James, the American philosopher, following a nervous breakdown brought on by struggling to reconcile science and free will. His solution[8] was the postulate of a radically indeterministic universe- a non-solution, if the compatibilists are right. James scorned the compatibilists as "soft determinists," as a determinism which "says that its real name is freedom, for freedom is only necessity understood." Though flawed, James' move is interesting because, rather than embracing any sort of supernaturalism, it would make naturalistic, empirical explanations in general more expansive. Like the compatibilists he is a monist[9] - his thorough-going empiricism has no use for a non-empirical, realm, neither Kant's noumenal realm nor Descartes' mysterious soul - but his monism works by inflating nature, if you like, hoping to reconcile naturalism with more inflationary accounts of human freedom, rather than deflating the latter along compatibilist lines.

Dualism, of course, is not touched by the compatibilist critique, although the price of such invulnerability - to the extent that it involves postulating entities such as souls - is not one most of us would be willing to pay. Though Descartes' version is not widely embraced, dualism retains its appeal in some quarters. Like Descartes, later dualists deny that one can give a scientific account of human agency. If science only allows the choice between freedom as random, unpredictable action and the thin compatibilist notion, so much the worse for science. Think of Sartre's existentialism: people, unlike things, have no essence; our essence, as he put it, is to exist.[10] Escaping the causal nexus, thus, we are capable of radical choice, though constantly attempting to deny this about ourselves. When we think of ourselves as things, determined in our action, we are exhibiting what Sartre calls *mauvaise foi*, (bad faith).

A more subtle attempt along these lines is that of Kant. He argued that causality and determinism are imposed on the world by our reason; not a property of things-in-themselves but a human construction. Our freedom can never be a matter of knowledge, for knowledge, given the way we are constituted, can only ever be of phenomena, causally determined in space and time. But we are free, Kant argued, when we engage our *practical* reason, by acting in accordance with the moral law, a law we give to ourselves, in the teeth of inclination[11]. Our freedom is bound up with our status as rational agents, and takes the form of acting on obligations to respect both others and ourselves as rational agents. The moral law free agents give themselves carries the well-known injunction never to treat ourselves or others as mere means, always as ends - one formulation of the categorical imperative.

---

[8] In "The Dilemma of Determinism" (1968)

[9] A monist in this respect - in rejecting any appeal beyond experience - he nonetheless calls himself a pluralist, because he makes *experience itself* plural, meaning that the parts of the universe "have a certain amount of loose play on one another, so that the laying down of one of them does not necessarily determine what the others shall be."

[10] Sartre surely intended us, with this phrasing, to hear the echo of the medieval conception of God as *self-caused*: the only entity whose essence entails existence. Sartre's philosophy makes each one of us authors of ourselves in just the way theologians saw God to be.

[11] Amartya Sen's notion of commitment as 'counter-preferential' choice has a strong Kantian flavor. See his "Rational Fools" (1991).

Before trying to salvage something from the apparent wreckage of the metaphysical conception of freedom on the shoals of science, let me mention a parallel discussion of *political* freedom or liberty. Since Isaiah Berlin's seminal essay[12], it is a commonplace to distinguish between two concepts of liberty, negative and positive - usually, among self-styled Liberals, preparatory to anathematizing the latter. Negative liberty simply means the absence of coercion, the ability to do what one likes.

In Berlin's essay, positive freedom comes in several varieties. It may be, in the first place, the idea of participating as a citizen, along with other citizens, in democratic self-governance. Second, it may refer to the idea of being enabled to become "who one is." In this second conception, we are only free when we pare away non-genuine, inauthentic preferences and act on the basis of the remaining, better self. Berlin himself finds the latter conception at the root of utopian totalitarianisms, where the State takes it upon itself to force its benighted subjects to be free. Positive freedom of either variety entails that the uncoerced subject may well be unfree, because unable or unwilling to participate in self-government, on the first reading, or a slave to inauthentic desires, on the second; and the coerced subject, on the contrary - coerced by the will of the people or a dictator with one's allegedly genuine interests in mind, respectively - free.

There seems to be a natural connection between compatibilism, on the one hand, and an exclusively negative conception of political liberty on the other. On the compatibilist account, after all, what else is there for freedom to be but acting on one's preferences without interference? The first variety of positive freedom seems to privilege one preference above the rest and give it lexicographic priority. But it is empirically dubious that such a privileging obtains. Many of us are quite happy to trade-off a desire to participate in politics for other stronger desires; and efficiency would seem to argue for benefits of the division of labor here as elsewhere, with some people specializing in governance. The second conception of positive liberty in many formulations smacks of incompatibilism, the criteria for genuineness among preferences sounding often like a requirement of radical authorship, with non-genuine preferences having been caused by external factors, and genuine preferences not so caused. The picture of a self able to reflect on its own preferences - where that is not simply a matter of second-order preferences with no more authority than the preferences they sit in judgement upon - would also seem to defy compatibilist accounts.

The fact that the compatibilist account of freedom and a strictly negative account of political freedom have always met, and continue to meet, strong resistance despite the apparently compelling case that can be made for each, is, I think, significant. With the account of freedom I offer, I hope to capture some of the themes in this alternative literature while maintaining, like compatibilism, a naturalism about human agency (in this respect, my strategy mirrors James in its monism). In particular, I hope to capture the idea that freedom and indeterminacy are mutually implicating, and to show: that the concept of bad faith has a naturalistic application; that freedom is intimately connected with rationality, and with respect for the rationality of other rational agents; and that positive liberty understood as democratic self-governance has some claim to be seen as freedom *par excellence*.

[12] "Two concepts of liberty." (1969)

I hasten to say that my account will please neither compatibilists nor non-compatibilists. Non-compatibilists will most likely find it almost as deflationary as the compatibilist account, and find my re-interpretations of their views unpersuasive. Compatibilists, on the other hand, will find that it grants too much to the other side. But where positions are so dug in, with neither side conceding defeat over many centuries, a correct account, if such there is, will surely incorporate something from both camps - inevitably offending both. My candidate account, at any rate, satisfies this necessary, though certainly not sufficient, criterion! And I would like to think that William James would be pleased[13].

The connection between indeterminacy and freedom

James was right to link the freedom with indeterminacy, and to reject the idea that scientific explanation is incompatible with indeterminacy. The indeterminacy I want to link with freedom is the indeterminacy that obtains in non-cooperative games with multiple Nash equilibria played by rational agents with common knowledge of one another's rationality. Our freedom is then the freedom to coordinate on any of the multiple equilibria: the rational choice account of human agency, arguably the best scientific account we have, cannot say anything about which one that will be. If this right, then note that this is properly *our* freedom: isolated agents cannot be said to be free in this sense[14]. This I think helps to explain how standard compatibilist accounts can be persuasive: there is nothing that corresponds with radical freedom that can be said to characterize individuals *qua* individuals. At the same time it explains why radical accounts cannot be defeated, since there is something highly congruous with radical or metaphysical accounts that pertains to the *interaction* of rational agents with common knowledge of rationality: how we successfully coordinate is radically unpredictable, and it is at the same time *our* achievement, for which we are responsible. James thought that a universe full of chance might solve the problem of reconciling science and free will. But this just makes our actions thoroughly contingent: we are not *responsible* for them - they are not our actions, so they cannot be the actions, however unpredictable, of free agents. In my account, individuals who succeed in coordinating on one of many equilibria, by, e.g., talking together, have *determined themselves*: freedom is the freedom we have to so determine ourselves[15].

[13] The James who wrote: "Of the two alternative futures we conceive, both may now be really possible; and the one becomes impossible only when the other excludes it by becoming real itself. Indeterminism thus denies the world to be one unbending unit of fact. It says there is a certain ultimate pluralism to it; and so saying, it corroborates our ordinary, unsophisticated view of things. To that view, actualities seem to float in a wider sea of possibilities from out of which they are chosen; and *somewhere*, indeterminism says, such possibilities exist, and form a part of truth. ("The Dilemma of Determinism," op. cit., p.591.

[14] The liberty of one requires, if not the liberty of all, the liberty of at least one other!

[15]Consider a simple coordination game, such as driving on the left or right side of the road. In either equilibrium, each is driving on the side in question because others are. Thus, at the aggregate level, *we* drive on the left (right) side of the road because we drive on the left (right) side of the road - the connection with the notion of self-authorship is here obvious. *Our* actions in any particular equilibrium are their own causes.

This account has advantages over the standard compatibilist account, in virtue of its greater ability to capture some of what traditional accounts encompass. It is less deflationist than the standard compatibilist account, while remaining, I claim - and this is its advantage over the radical account - compatible, not with determinism, but with science. Obviously, this needs to be argued for.

Freedom as I understand it is compatible with scientific explanation, with naturalism about human agency, *provided that game theoretic accounts that stipulate rationality and common knowledge of rationality are so compatible*. This, for many, may appear to beg the question. For many, the very fact that game theory cannot tell us which of the multiple Nash equilibria encountered in so many games will be selected, is a signal failing of the theory, serious enough, indeed, to make its explanatory force suspect.[16] The fact that game theoretic explanations[17] imply indeterminacy (and thus freedom, in my sense) is for many, if not most, a reason, not to accept indeterminacy, but to reject game theory.

Quine taught us[18] that there are no beliefs in the web of beliefs we take to be our fallible knowledge at any time that may not, under certain circumstances, in the face of new evidence, be jettisoned, including, famously, what prior to Quine we were pleased to call conceptual or analytic truths. Admittedly, the belief that a scientific explanation, to be such, must make a unique prediction is a highly embedded belief - right up there with the belief that bachelors are unmarried!

Nevertheless, given the progress of our discipline, so, too, is the belief in rationality and the sophisticated development given to that concept by game theoreticians, including the idea of common knowledge. Certainly, in the wake of the seminal work of Thomas Kuhn[19] and the whole revolution in philosophy of science he inaugurated, whatever prior temptation one may have had to believe that there are any analytic truths about scientific explanation, to believe that the criteria for scientific explanation have not themselves evolved along with the growth of knowledge, ought to have been sufficiently allayed.

So it is arguable - I will so argue - that the belief that agents are rational has as much claim to being in the hard core of our web of beliefs as does the belief that scientific explanations must make unique predictions. Where they conflict - and they do conflict in games with multiple equilibria - I am inclined to jettison the latter, not least because doing so allows us, as I have argued, to salvage something of the equally hard-core beliefs about human freedom that the standard compatibilist account has never succeeded in undermining.

---

[16] In his witty principles primer, *Hidden Order*, David Friedman titles the few pages in the book that use game theory (the section on oligopoly, p.165)"TOO MANY ANSWERS." Hundreds of remarks by others along these lines might be cited - I don't single Friedman out - by people for whom more than one is "too many."

[17] That is, game theoretic explanations with rational agents and common knowledge of rationality.

[18] In "Two Dogmas of Empiricism." (1980)

[19] in *The Structure of Scientific Revolutions* (1962)

It is finally only the prejudice against the idea of unpredictability in an explanation that keeps us from saying, instead of "game theory fails insofar as it cannot allow us to predict a unique outcome," that "game theory *succeeds* at showing us why many of the interactions of rational agents with common knowledge of each other's rationality are in principle unpredictable. This unpredictability, I claim - our freedom - is *a fact about the world*, a fact that game theory can persuasively explain, not a failure of the theory. Game theorists, instead of being embarrassed about indeterminacy, or promising future refinements that will get rid of it, or, even worse, abandoning rationality altogether[20], need to hold their heads high and tell the critics, "We have been able to give, without any appeal to metaphysics or the supernatural or any sort of religious thinking, an account of the deep sense we have that *rational* animals, unlike all others, are free. And we needn't use anything more than plain old instrumental rationality here - we needn't appeal, like Kant and many others, to a scientifically suspect non-instrumental reason[21]. Pascal was right that we are "ni ange, ni brute," neither angels or brutes - not brutes, because we are rational; but not angels either, because it is plain old vanilla instrumental rationality that we have, nothing fancier, nothing of the angelic species that Kant imagined.

Kant was absolutely right, though, in two respects: first, in tying freedom closely to the idea of rational agency; and in his conviction, second, that freedom is bound up with respect for the rationality of others - treating them never as mere means. I would say that freedom emerges when we stop forming beliefs about others based on statistical probabilities, treating one another parametrically, on a par with the weather, and start treating one another as rational agents; it emerges, that is, with rationality. This is a far cry from Kant's moral law, I know: these are just instrumentally rational agents who are trying to advance their interests. And although freedom isn't associated with any categorical imperatives (do x unconditionally, whatever you happen to want), it *is* associated with the failure of any straightforward hypothetical imperative to be action guiding in the context of strategic interdependence and indeterminacy - "if you want y, do.....what, exactly?" [22]

[20] The sad topic of the next section.

[21] See Jean Hampton, *The Authority of Reason* (1998) on the "queerness" of non-instrumental reasons. I should say she rejects this position and argues that to the extent that science finds the idea of the authority of a norm queer, it undermines itself.

[22] Joseph Heath in his excellent *Communicative Action and Rational Choice* (2001) argues from indeterminacy to the need to postulate non-instrumental reasons for choice. In his account we have "normative" preferences which rank actions directly, along with standard instrumental ranking of actions based on the their varying perceived efficacy of achieving outcomes, and a weighting scheme which assigns weights to the two different sorts of reasons. I am uncomfortable with this sort of move, because it restores determinism. I argue from indeterminacy, not to a new and improved rationality, but to freedom. An excellent discussion of the implications of indeterminacy for game theory is Hargreaves Heap and Varoufakis, *Game Theory (1995).* They argue - or at least one of them argues; they disagree - that indeterminacy may sound the death knell for methodological individualism, that irreducibly social phenomena -such as a convention, on some understandings- may be required to "solve" the equilibrium selection problem in games with multiple equilibria. Again, for me this is not a problem that needs to be solved!

Abandoning Reason I: Evolutionary Game Theory

The following coordination game is justly famous; it is Rousseau's Stag Hunt:

	Player 2:	
Player 1:	Stag	Hare
Stag	6, 6	0, 2
Hare	2,0	2, 2

Payoffs: Player 1, Player 2

On opposite sides of a clearing, two hunters sit in the brush. A stag will be along soon, as will several hares. The stag can only be caught if both act together to trap it in the clearing. If caught the large game gives payoffs of 6 to each player. On the other hand, each can easily catch, without help, one of the hares who frequently appear. This choice would leave the other hunter, who had chosen stag, with neither stag nor hare and a payoff of zero; the smaller hare has a payoff of 2 for its captor. There are two equilibria in pure strategies, Stag/Stag and Hare/Hare and an equilibrium in mixed strategies which has each playing Stag (Hare) with probability 1/3 (2/3) and expected payoffs of 2. The game is incidentally a marvelous metaphor for the emergence, or failure to emerge, of a complex market-coordinated division of labor, where choosing Stag is the analogue of choosing to specialize, intending to trade the bulk of what one produces for a variety of consumption goods, which will have a very low payoff indeed of others haven't chosen to specialize as well; while the hare strategy is the analogue of autarky.

One way to achieve determinacy here is to abandon rationality altogether. Let people among a large population randomly pair up and play the game. Let p be the proportion of the population choosing Stag at any time, and let people be rational only in the sense that they learn from experience and gravitate toward the most successful strategy over time. p will then increase over time whenever the Return to Stag (6*p) is greater than the return to Hare (2) and decrease when the inequality is reversed. Then if $p > 1/3$ it will increase, and if $p < 1/3$ it will decrease. The dynamics of p are then perfectly determinate; if p is initially above 1/3, it rises to 1 over time; if < 1/3, it falls to zero. Knowing the initial p, we know exactly which of the pure strategy equilibria will be reached.

But what an enormous sacrifice this is to make for the sake of determinacy! The agents in this scenario are not rational agents, but brutes, no less brutish than their prey. In fact, as the reader doubtless recognizes, this is simply an application of the methods of evolutionary game theory, which are making more and more inroads among economists, alarmed enough about indeterminacy, or so it would appear, that they are prepared to sell their birthright - the proud

tradition of rationality - for a mess of evolutionary pottage.[23] The only change we would need to make to make the application exact would be to "hard-wire" a pure strategy into the agent and then postulate greater reproductive success for those hard-wired with the higher return strategy.

Achieving a determinate outcome would be assured, too, if we formed beliefs about each other just as we form beliefs about the weather, if we started with a guess and then adjusted our subjective p towards the last period's actual p adaptively. Starting from an initial distribution of subjective priors, the outcome would be entirely predictable. But this would be to ignore the fact that we are playing rational agents just like ourselves, to treat one another not as people but as things. The echo of Kant and of Sartre here is intended: we would be acting in bad faith, denying our freedom if we were to act in this fashion. Using game theoretic techniques in this way is using a mean and paltry version of the theory, one shorn of its very heart and soul: rationality. It is Ulysses without Leopold Bloom.

Abandoning Reason II : Conventions, Focal Points, Salience

Coordination games have been thought either to throw light upon, or alternatively to be enlightened by, the notion of a convention. In either case, this is a mistake. Margaret Gilbert's work[24] explains why, *pace* David Lewis[25], a convention is not reducible to one of the multiple equilibria in a coordination game which has been achieved. I want to argue against the reverse implicature , the idea that a convention can solve the "equilibrium selection" problem in a coordination game - relying on her arguments and those of Martin Hollis.

Suppose, then, that there is a convention among us that one plays Stag in the Stag-Hunt Game. How does this solve the problem?[26] Does it do so by creating the belief among us that the other will follow the convention? But that is inconsistent with how beliefs are formed in games among rational players whose rationality is common knowledge. I should believe that you will play conventionally, just in case I believe that you believe I will play conventionally; that is, if I believe that you believe that I believe that you believe I will play conventionally - and so on ad infinitum. But equally, I should believe that you will play unconventionally if I believe that you believe I will play unconventionally...and so on. This is obviously the same coordination game, with strategies of playing Stag or Hare, respectively, replaced by strategies of playing conventionally or unconventionally - and has two equally good equilibria. Rational people are not bound by conventions, or, as I would put it, rational people are free. Whether they will follow the convention is in principle unpredictable. When I act based on the brute belief that you will follow

[23] Don't get me wrong: evolutionary methods have their place in modeling animals. But once evolution has thrown up - not at all mysteriously - rational animals, matters need to left to the economists. The problem is not that the evolutionary psychologists don't understand our immortal souls - the problem is that they don't understand instrumental rationality.

[24] See her "Rationality, Coordination and Convention," "Rationality and Salience," and "Notes on the Concept of a Social Convention," all reprinted in her Living *Together* (1996)

[25] *Convention* (1969)

[26] Here I follow Hollis closely, op cit., p. 137 et seq.

the convention, I am not respecting your rationality, which requires that you play a best response to what you believe I will do.

What we need to do, rather, we rational agents, is to *agree* on a way to play. Gilbert argues that what we do when we agree on a way to play is to form what she calls "a plural subject" *We* agree. This plural subject, she claims, then gives each of reasons that are not reducible to individual reasons: from "We have agreed on Stag,"it would , she argues, follow directly, without any need to specify individual goals, that each of has a reason to play Stag. I am not very comfortable with this way of putting things, but I cannot decide whether I have a substantive or simply a semantic disagreement. Here is the way I would prefer to put it: coming to an agreement here is an exercise, quite literally, in *self-determination*. In the next section, I make this the defining characteristic of the political realm, the realm of positive freedom. What is irreducible, then, for me, is not, as I think Gilbert says, "the Social," but the Political[27].

Similar objections pertain to another candidate for equilibrium selection, Schelling's notion of focal points or salience. If I want to meet you in New York City, the fact that Grand Central Station is salient does not give me a reason to go there under the terms of classical game theory. However salient it is, I have just as much reason to go to a non-salient spot if I think you will. And I do think you will - you have good reason to - if you think I will. Believing you are rational, I believe you will play a best response to what you think I will do. To believe that you will go to a spot ***because*** it is salient, whether or not it's a best response to what you think I will do, is to believe that you are not rational: "Because it is salient" is not a reason. Of course, it may be a compulsion - but here again, even more obviously, we've left the realm of reason.[28]

Positive Freedom and The Inescapability of Politics

Let us call the realm of **the political** that realm, wherever it happens to arise in life, where instrumentally rational agents reach agreement on how to coordinate their behavior in games with multiple Nash equilibria, and thereby achieve self-determination. Then the realm of the political is the realm of freedom par excellence, as I have been using the term. If negative freedom is the ability to do what we want, then positive freedom is simply the ability to reach an agreement with others when it is not clear, due to strategic interdependence among rational agents who know themselves to be rational, what it is we should do to get what we want - when, that is, the game has multiple equilibria. Politics becomes the art of the possible, not in contrast to the impossible, as the phrase is usually intended, but in contrast to the uniquely determined: it

[27] This is somewhat misleading. Gilbert wants to analyze conventions themselves as fundamentally agreements. Her category of the social, that is, is already through and through political. I remain uncomfortable, though, with the "plural subject" locution: it seems to me to reify our agreement.

[28] In *Natural Reasons* (1989) Susan Hurley points out that Schelling himself never thought that salience as a brute fact could solve a coordination game. She quotes this, adding her own emphasis: " ' In the mutually recognized response of players to salient characteristics, the fundamental psychic and intellectual process is that of participating in the creation of **traditions**. The players must **jointly** discover and mutually acquiesce in a mode of play that makes the outcome determinate. They must **together** find rules of the game or suffer the consequences.'"(p.155)

is the realm where we have options. Nor is this a small realm, especially when it is appreciated that every iterated prisoner's dilemma with no terminal date is a coordination game.

Hayekians have always argued against political coordination in favor of the virtues of spontaneous order. This argument is generally persuasive only when coupled with their equally perennial denial that agents are rational in the sense of classical game theory. As we have shown above, and as Sugden's[29] interesting work has made clear, a collection of non-rational agents will indeed achieve a spontaneous order, a determinate equilibrium in games where they are multiple. It may not be an efficient equilibrium, but it will be an equilibrium nonetheless. Genuinely rational agents, on the other hand, have no idea what to do in such a situation: to achieve any equilibrium at all will require politics.

Let us take a look at one of Sugden's and John Maynard Smith's favorite games for an illustration.

	Player 2:	
Player 1 :	Hawk	Dove
Hawk	0,0	3,1
Dove	1,3	2, 2

Here there are multiple Nash equilibria, two asymmetrical (H/D and D/H), and one symmetrical the latter an equilibrium in mixed strategies with Hawk and Dove played with probablity 1/2 each. The mixed strategy equilibrium gives lower average payoffs per person, 1.5 versus 2, because it involves the resource being destroyed by mutual hawkishness with probability 1/4. Sugden ingeniously shows how non-rational agents (trial and error rational[30], that is) playing anonymous random opponents can stumble spontaneously and predictably into an equilibrium where the conditional strategy "Play Hawk, if you are in possession; Play Dove, otherwise" is adopted by each. (The conditioning factor could be anything: play Hawk if are the taller player, or if you are **not** in possession. e.g.; Dove otherwise. Sugden argues that some of these asymmetric roles, depending on the game, will effectively be more salient.)

But truly rational agents can't stumble into anything, and, for them, the indeterminacy here makes politics inescapable. This stands the Hayekian message on its head. Hayek would say that spontaneous order here is desirable compared with the inevitable distributional struggle

[29] in *The Economics of Rights, Cooperation and Welfare* (1986)

[30] "I shall assume that individuals tend to adopt those strategies that proved successful over a long sequence of games." And, "The theory of games is often defined as the theory of how games would be played by completely rational individuals...it is here that my approach to game theory diverges form the traditional one. Indeed, on a strict interpretation of these definitions, this book is not about game theory at all." op. cit. p.16

that an opening to politics would entail. Again, with sub-rational agents this is persuasive. But with rational agents, it is *only* a political settlement that can end what would otherwise be a potentially chaotic struggle for resources. Once there was an Eden of spontaneous order, where innocent a-rational agents had no need for politics. But having tasted of the fruit of the Tree of Rationality, despite having been warned, they were evicted from the Garden and forced to explicitly order what had once been spontaneously done.

Envoi : Arendt and Politics

Without departing (if my earlier arguments are convincing) from a scientific account of human agency, this account of the political captures, I think, some of what our greatest philosopher of positive freedom, Hannah Arendt, had in mind in defining the political as the realm of freedom. Arendt made the political the realm of unpredictable *action*, as opposed to predictable *behavior* . And the freedom she saw in the political realm was indeed "our" freedom - tied constitutively to the plural nature of the public realm. In the quote that appears at the head of the paper, she claims that no individual man can be said to be sovereign, only many men mutually bound by promises. Arendt would not, I'm sure, be pleased to have her ideas deflated in this way - she clearly rejected the economists' idea that we are simply instrumentally rational agents. In her *polis*, we are free in virtue of acting and speaking together, but as soon as we begin speaking about *how to obtain our individual, pre-political ends*, we have lost our freedom, falling into the realm of the social or what she sneeringly calls "national house-keeping." Jon Elster[31] wondered along with many just what it is we *do* talk about in that case. My account of positive freedom maintains the qualitative distinction between the political and the non-political that Arendt wanted, but gives us something to talk about in the forum, without appealing to any other kind of agency than the instrumental.

Works Cited

Arendt, Hannah, 1958, *The Human Condition*. Chicago: University of Chicago Press.

Berlin, Isaiah, 1969 , "Two Concepts of Liberty," in *Four Essays on Liberty*. Oxford: Oxford University Press.

Elster, John, 1986, "The market and the forum: Three varieties of political theory," in Elster and Aanund Hylland, eds., *Foundations of Social Choice Theory*. Cambridge: Cambridge University Press.

Friedman, David, 1997, *Hidden Order*. New York: HarperCollins.

Gilbert, Margaret, 1996, *Living Together*. Lanham, Md. : Rowman and Littlefield.

Hampton, Jean, 1998, *The Authority of Reason*. New York: Cambridge University Press.

[31] In his "The market and the forum" (Elster ,1986)

Hargreaves Heap, Sean amd Yanis Varoufakis, 1995, *Game Theory: A Critical Introduction*. (London: Routledge.)

Heath, Joseph, 2001. *Communicative Action and Rational Choice*. Cambridge: MIT Press.

Hollis, Martin, 1994, *The Philosophy of Social Science*. New York: Cambridge University Press.

Hurley, Susan, 1989*, Natural Reasons*. New York: Oxford University Press.

Israel, Jonathan, 2001, *Radical Enlightenment*. New York: Oxford University Press.

James, William, 1968, "The Dilemma of Determinism," in *The Writings of William James*. New York: The Modern Library.

Kuhn, Thomas, 1962 , *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press.

Lewis, David, 1969 , *Convention: A Philosophical Study*. Cambridge: Harvard University Press.

Perelman, Sidney, 1973 , *Crazy Like a Fox*. New York: Vintage Press.

Quine, W.V.O., 1980, "Two Dogmas of Empiricism," in *From A Logical Point of View*. Cambridge: Harvard University Press.

Sanchez, Julian, 2004. "Does Reason Require A Soul," *Reason*, January, 2004.

Sen, Amartya, 1990 , "Rational Fools," reprinted in Jane Mansbridge, Ed., *Beyond Self-Interest*. Chicago: University of Chicago Press.

Sugden, Robert, 1986, *The Economics of Rights, Cooperation and Welfare*. (Oxford: Basil Blackwell.)

Forum on Economic Reform (Part VI)

In recent decades the alliance of neoclassical economics and neoliberalism has hijacked the term "economic reform". By presenting political choices as market necessities, they have subverted public debate about what economic policy changes are possible and are or are not desirable. This venue promotes discussion of economic reform that is not limited to the one ideological point of view.

Reclaiming Policy Space for Equitable Economic Development[1]

Kari Polanyi Levitt (McGill University, Canada)

© Copyright: Kari Polanyi Levitt 2006

In 1944 Karl Polanyi published a book entitled The Great Transformation, which at that time attracted very little notice. But in recent years, since we have entered this era of neo-liberalism, the book has attracted increasing attention, because it was written during the war, in the light of the experiences of the 1920s and 30s and it was a trenchant critique and explanation of why the original liberal order of the 19th century, which actually lasted until 1914 or perhaps 1929, ended in such a disaster of war and Fascism. I mention this because we are now living in a time when neo-liberalism has given a new life to the previous model of economic liberalism which played itself out in those times. My generation of students of economics was interested in understanding the functioning of economies with a view to achieving full employment and social security from cradle to grave, not personal gain or how to invest or play the stock market. Favoured career options were university or public service; only the weakest students opted for the private sector. Keynes and his associates and students in Cambridge challenged prevailing doctrines, most famously by the publication of *The General Theory of Employment, Interest and Money* (1936), which proved that an economy could reach equilibrium with under-utilized capacity of labour and capital. During the war Keynes was instrumental in directing the British war economy. His small volume on "How to Pay for the War" illustrated the analytical power of the macroeconomic categories of modern national income accounting-production and consumption, savings and investment, etc- and described fiscal, monetary and administrative instruments to repress inflation in conditions of short supply which were successfully implemented in Britain. Although Keynes did not concern himself with post-war planning for underdeveloped regions, his indirect influence was pervasive. Many of the best and brightest Indian economists studied at Cambridge and the intellectual links between Cambridge and Indian economic planners and policymakers remained important. At this time also, students and future political leaders from Asia, Africa and the West Indies turned their thoughts to the economic transformation which would have to follow political decolonisation.

One of Keynes' closest intellectual collaborators was Joan Robinson, who was quick to recognise that it was not unemployment of labour declared redundant but rather the vast pool of wasted human resources in the form of underemployment in low productivity activities which characterised the emerging new nations. A similar observation was made by the Norwegian trade economist working for the League of Nations, Ragnar Nurkse, who suggested that surplus labour be mobilised for large, labour intensive, public works, as was done in China after the revolution of 1946. Another of Keynes' students was Hans Singer, whose initial interest in unemployment in chronically depressed areas of Britain turned to underemployment and underdevelopment. He is perhaps best known for the Prebisch-Singer thesis on terms of trade.

A number of emigré economists in Britain, influenced by their personal experience of late industrialisation in central and eastern Europe developed plans for the post-war transformation of underdeveloped regions. The contributions of Michael Kalecki, Kurt Mandelbaum, E.F. Schumacher and Joseph Steindl of Oxford University and Paul Rosenstein-Rodan of the Royal Institute of International Affairs laid the basis of development economics as a formal sub-discipline. These Central European economists were more familiar with Marx than with Keynes, and the success of Soviet five year plans played a significant role in approaches to development planning. It is well known that Kalecki's model of an economy with under-utilized resources of labour and capital was similar to Keynes', but presented in Marxian rather than the more familiar Anglo-Saxon analytical categories. His contribution to planning for economic development deserves to be more widely acknowledged.

An imaginative plan for a radically new international financial order was designed by Keynes and notwithstanding opposition from the several quarters, including the City, the Keynes plan for an International Clearing Union was published as an official government document in 1942 and officials from Canada and other dominions were invited to London for discussion. The intention was to permit policy space for nations to secure full employment without engaging in competitive devaluations or subjecting the economy to the punishing deflationary measures required by the gold standard and imposed on weak succession states by the League of Nations. A special purpose money (Bankor) for purposes of clearing international payments between central banks and backed by commodity stocks, would have precluded private trade in national currencies. Such an international financial architecture would have enabled countries with widely different economic and financial institutions to engage in international exchange. The resources proposed in the Keynes plan were six times larger than those allocated to the International Monetary Fund, established in 1944, a moderately modified version of the White plan proposed by the U.S. Keynes considered he had failed, and, in fact, it was the US dollar which replaced gold as international reserve currency.

In 1945, Karl Polanyi thought that only the United States believed in universal capitalism-now known as globalisation. In "Universal Capitalism vs. Regional Planning", he envisaged a world of regional blocks, including communist Russia, social democratic Western Europe, and the United States, to be followed by other emerging regions of the world.

The United Nations, founded in San Fransisco in 1945, brought together economists concerned with the eradication of underdevelopment and poverty in Africa, Asia and Latin America. It was charged with responsibility for financial and technical assistance to the underdeveloped regions. Responsibility for financial development assistance, however, was soon transferred to the IBRD, where the principal donor countries controlled policy and the United States had an effective veto.

Outstanding among the regional commissions of the UN was the Santiago-based Economic Commission for Latin America, under the direction of Raul Prebisch. *The Economic Development of Latin America and its Principal Problems*, accompanied by background studies of the experience of Latin American export economies in the 1920s and 1930s was drafted by Prebisch with the assistance of a team of brilliant young Latin American economists, and published by the United Nations in 1947. It made the case for reducing export dependence by domestic industrialisation and came to be known as the Prebisch Manifesto.

In the 1940s and 1950s, great minds applied themselves to the great problems of economic development and students chose to study economics to make the world a better place. Econometrics as a scientific tool of economic planning was pioneered by Jan Tinbergen and Ragnar Frisch who advised the government of Egypt in the construction of an innovative multi-sectoral development plan. Development economists such as Celso Furtado, Arthur Lewis, Albert Hirschman and Gunnar Myrdal approached the problem of underdevelopment from a historical, structuralist and institutional perspective, while Alexander Gershenkrohn, economic historian, analysed the way in which the first generation of late industrialising countries of Germany, Russia and Austria-Hungary challenged the supremacy of Britain in their days. There is a considerable similarity in the strategies used, with those used later by Japan, later still by Korea, Taiwan and other East Asian countries and in a very different way of course now by China.

By the mid-1950s development economics had gained recognition as a distinct sub-discipline of economics. Books were published and academic journals and institutes were established in American and British universities. A representative collection of papers by development economists from many countries, *The Economics of Underdevelopment*_, edited by Agarwhala and Singh, was published in 1958. Three major themes dominated the discourse; *market and state*, *trade and development* and *growth and equity.* Underlying these themes is the deeper issue of the relationship of the economy to society, which requires an approach beyond the scope of economic analysis. Karl Polanyi's warning of the consequences of "disembedding" the economy from its social matrix, points to the critical role of social policy in the design of equitable economic development.

The 1950s and 1960s witnessed the decolonisation of Asia, Africa and the West Indies and the determination of post-colonial countries to engage in national projects of economic transformation. In the context of the superpower rivalry of the Cold War, the Non-Aligned Movement of Asian and African countries was convened in Bandung by President Sukarno in 1954. The establishment of the United Nations Conference on Trade and Development under the directorship of Prebisch in 1964, served as a forum for third world countries to fashion a common programme for a New International Economic Order (NIEO). The early post-war decades were, on the whole, favourable to national economic development, and high average growth rates of the developing world, including Africa, equalled or surpassed those of the industrial countries.

Market and State

It was generally accepted that the state must play a central role in economic transformation because the private sector was either dominated by landed and commercial oligarchies with vested interest in the status quo, or was simply too weak and disorganised. The degree of state involvement in the economy varied across countries, but it was common practice that the provision of basic public infrastructure and its financing was universally undertaken by the state, accompanied by some form of long-term economic planning. In the first three post-war decades, countries were able to privilege domestic agriculture and industry by discretionary access to credit and foreign exchange, subsidies and a variety of protective commercial policies. The principal of sovereignty regarding natural resources and more generally the sovereign right of nations to formulate fiscal, monetary, commercial and all other aspects of government policy was not questioned, although in practice it was often violated.

Trade and Development

Issues of trade and development were contentious from the start. Policies of import substitution industrialisation, successful to varying degrees, met the unwavering opposition of international trade theorists, with reference to the theory of comparative advantage, and Prebisch was considered a dangerous radical. Indeed, the asymmetry of gains from international trade formed the bond which united countries of different ideologies in the formulation of the UNCTAD agendas. However, a decade of international conferences aimed at reform of the international economic order failed to produce tangible results. Arthur Lewis declined to participate in these negotiations. In his view the South, collectively, had all the resources required for economic development, and when that potential was realised, a more equitable international order will ensue.

In the 1970s, Taiwan and South Korea followed the example of Japan in strategies of late industrialisation; the city states of Hong Kong and Singapore were also highly successful and South East Asian countries embarked on programmes of industrialisation for domestic and export markets according to their different geographical and historical endowments and China made the turn to its unique model of communist market capitalism in 1978. In each of these cases of "late industrialisation" governments designed incentives specific to the circumstances and development objectives of each country.

Growth and Equity

With the notable exception of Nehru's India, development economists and development planners were not directly concerned with issues of equity or poverty. It was thought that capital accumulation would create employment opportunities on a scale sufficient to absorb underemployed surplus labour. Perhaps the most profound disappointment with success in economic growth was that it failed to do so, giving rise to the phenomenon of "growth without development", reformist and radical critiques of developmentalism and the search for revolutionary solutions. The use of per capita Gross National Product as an implicit measure of the welfare of nations was challenged by alternative measures of the Quality of Life. As it became evident that capital intensive technology could produce growth without employment, the significance of the informal sector- whether as problem or solution- came into focus. It was found that ISI had effectively increased external dependence by the requirements of imported inputs and capital goods to sustain employment in new industries. The foreign exchange constraint became the principal bottleneck to growth. The phenomena of marginalisation and social exclusion inherent in developmentalist approaches to economic growth pointed to the economistic bias of prevailing doctrines of development economics. The eminent Swedish economist Gunnar Myrdal was among the first to identify social expenditures on health and education as investments in the expansion of the human capacity of the working population. Under pressure from critics of growth without development, the World Bank identified Basic Human Needs as priority areas of expenditure, although the bulk of development assistance continued to finance large-scale industrial infrastructure.

The Return of Liberalism

In the fractured decade of the 1970s, the demise of the Bretton Woods Financial Order released constraints on international liquidity as capital was freed from national control. The flood of liquidity was a permissive condition of commodity booms, benefiting petroleum, bauxite and other commodity exporting countries, and large sovereign lending by commercial banks to middle income developing countries. In the industrial heartlands of capitalism, inflationary pressures eroded the value of financial assets and the profitability of capital in the real economy. Slow growth and economic instability in the industrial world and political revolutions, from Afghanistan to Nicaragua, from Angola and Mozambique to Grenada and ultimately revolution in Iran, were the catalyst for a profound regime change signalled by the accession of Thatcher and Reagan to office. The "Volker shock" precipitated the Latin American debt crisis of 1980s.

An ideological counter-revolution in economics replaced Keynes with policies of monetarism, deregulation, liberalisation and privatisation. Capital was enabled to reverse the gains made by labour in the industrial world and national developmental gains in Latin America and Africa. The policy leverage exerted by international financial institutions over Latin American countries indebted to commercial banks and African countries indebted to the multilateral agencies progressively constrained national policy space. As Ha-Joon Chang has pointed out, the policies which served late industrialisers of the 19th century and the more recent East Asian countries are now largely precluded by commitments made in bilateral or multilateral agreements.

Keynes was banished and development economics was demonised as structuralist heresy bordering on socialism. The World Bank declared that that there was one and only one economics and economic science could explain the functioning of the economy anytime, anyplace, anywhere regardless of institutions. Developing countries as diverse as anything you can find from, Asia, Africa and Latin America were no different from the leading industrial countries, only poorer. There was a changing of the guard at the World Bank; reformist economists including Hollis Chennery, Paul Streeten and Mahbub Ul Haq were replaced by Anne Krueger and Deepak Lal and a team of consultant trade theorists including Jagdish Baghwati, Bala Belassa and the Swedish economist Assar Lindbeck, who wrote a research memorandum placing the entire blame for the debt crisis on erroneous domestic policies pursued by Latin American governments.

In the passage of two decades, the priorities prevailing prior to 1980 with respect to the three major themes of development economics were reversed. The market was elevated to the principal economic mechanism and the state was downsized, stripped of fiscal resources and bound by a multitude of commitments made in bilateral or multilateral negotiations with creditors, including national treatment for foreign investors. The provision of basic infrastructure, both physical and social was privatised and/or subjected to criteria of cost recovery. Trade was enthroned as the engine of growth and economies were restructured to privilege exports over production for the domestic market, competitiveness rather than national welfare became the objective of economic policy. In many countries, liberalisation of imports destroyed agricultural and industrial capacity. In Jamaica, for example, 30 % of jobs in agriculture, fishing and forestry and 48 % of jobs in manufacturing disappeared in the decade of the 1990s.[2]

The neo-liberal experience has brought financial crises of increasing severity and frequency. The human costs have been enormous. Where growth has occurred, it has been accompanied by an unprecedented polarisation of income and the social exclusion of poor people from economic circuits of production and consumption. The prevailing doctrine is that trade liberalisation and foreign direct investment engender economic growth, inequality is perhaps inevitable and poverty should be addressed directly by targeted programmes to ensure social stability, a necessary condition for a favourable investment climate.

It is now widely recognised that these policies have failed. I am sometimes asked how development experts in the multilateral agencies could possibly believe that one set of policies- the so-called Washington Consensus- could fit the great diversity of countries. The answer is simple; the policies serve the interests of creditors and provide a favourable environment for foreign investors. These requirements are indeed rather uniform. The problem is that the assumption that such an environment engenders growth and development does not accord with experience.

A recent paper by Harvard economist Dani Rodrik states that most economists would now agree that 1) the reforms of the 1980s and 1990s have produced disappointing results, 2) the most successful countries in terms of growth have followed heterodox policies, 3) most successful countries have adhered to some generally recognised principles 4) policies appropriate to a particular situation cannot be inferred from these principles and 5) policy diversity is desirable. (Rodrik, 2004:1) In an exhaustive study of the relationship between episodes of growth and significant economic reforms, Rodrik found that the majority of growth take-offs are not produced by significant economic reforms, and the vast majority of significant economic reforms do not produce growth take-offs. (ibid:3) Rodrik proposes a diagnostic approach to identify bottlenecks to economic growth specific to a country and to develop policies directed at these, rather than an attempt to implement a comprehensive set of reforms which may moreover, fail to yield results. This is reminiscent of the classical structuralist approach of earlier Latin American economists.

If indeed countries which have been successful have followed heterodox policies and those which have followed the prescriptions of the World Bank and the IMF have generally failed, one can conclude that policy formulation and implementation should be returned to national authorities, who are politically accountable to their populations for success or failure, regardless of the nature of political institutions. The multi-lateral agencies and the economists they employ are not accountable to the populations which have suffered the consequences of their failed policies. The World Bank is directly accountable only to the creditors who provide it with operational finance.

The experience of the past 20 years has produced an unprecedented degree of inequality and social exclusion, both between nations and most significantly within nations, whether accompanied by high growth, low growth or no growth. While economic globalisation gives the impression of a world more uniform and homogeneous than it was 50 years ago, the realities of daily life of the majority of people are characterised by diversity and difference. Contrary to the general belief both of mainstream economists and Marxists, that the economy forms the base of society, we suggest that, ultimately, it is the cultural, social and institutional relations of a society which sustains a strong economy. An equitable economic order must rest on

an equitable political and social order. This requires a longer view, and an analysis of the political and social structures that underly the national and international economies.

Until the cleavages between populations of European, indigenous and African descent arising from the displacement of indigenous peoples of the Americas and plantation slavery are addressed, a modern market economy will be neither stable nor equitable. The chronic instability of Latin American economies is ultimately a product of the social and political exclusion of majority populations. In Africa , the promising beginnings of the 1950s and 1960s have been rolled back by neo-colonial structural adjustment programmes, crude appropriation of natural resources and the human tragedy of the devastating HIV/AIDS epidemic, particularly scandalous in view of the availability of treatment. The historical legacies of the incorporation of peripheral regions into the world economy are profound. Notwithstanding the reality and desirability of diversity of political, social and economic structures, a revaluation of the three themes of development economics points to a reversal of priorities prevailing in the past 20 years. The emphasis on economic growth must be replaced with an emphasis on the quality of life of the people.

Market and State

The state must take responsibility for the provision of basic infrastructure, starting with universal access to clean water and other essential services which most directly affect the lives of people. The state must reclaim its sovereign right over natural resources and ensure that all citizens benefit from the national heritage. All modern economies are mixed economies and the institutional forms of private, public and community involvement in the economy offer fruitful areas of institutional experimentation.

Trade and Development

Trade is beneficial but the extreme export orientation of many countries has destroyed domestic capacity and measures should be taken to restore priority to agriculture and industry serving the domestic market. Where entrepreneurs and businesses produce only for export markets, labour is simply a cost to be reduced, but where they sell in the domestic market, their employees are also the consumers of their products, and they have a collective interest in maintaining the purchasing power of the population. Domestic production of food for domestic consumption must be protected from destructive competition by imports, not only for important reasons of individual and national food security but because agriculture, forestry and fishing are organic relationships of people to the natural environment.

Foreign investment is desirable but should be required to comply with national regulation concerning employment of nationals, purchase of local materials, and adherence to environmental standards. On no account should foreign investors and non-nationals receive treatment more favourable than nationals.

Control over entry and exit of capital flows is a basic instrument of macroeconomic management and countries should reclaim the sovereign right to exercise it.

Growth and Equity

The biggest challenge we face is to address the enormous inequities which have characterised the experience of the neo-liberal model. It is an everyday observance in many countries, including those that have experienced substantial economic growth, that the quality of life has deteriorated, that the bonds that link us in society have loosened, that insecurity, both physical and economic, has increased. This suggests prioritising measures which directly impact the quality of life, not only of the poor, but of the whole society. Investment in the provision of universal primary health care and primary education and the provision of other essential public services of water, sanitation and public transportation address not only the needs of the poorer sections of the population, but if universally used, can help to restore social cohesion. In many countries, including the developed economies of the north, intensified competition has led to perpetual downsizing of employment and productivity gains have increasingly accrued to capital and persons employed in professional and business services. Where people cannot secure gainful employment, they join the ever increasing ranks of the informal sector, where, while some manage to make a decent living, very many are consigned to work which cannot secure a basic livelihood. The vast range of productivities and remuneration typical of a developing country calls for institutions to secure a more equitable distribution of national output. Proposals for basic income merit consideration as means of instituting entitlements.

As Myrdal pointed out a long time ago, a population that is lacking good health and basic education cannot meaningfully contribute to the economy. Ultimately, people are the most valuable economic resource of any country.

International Development Assistance

In the context of the pressures of globalisation, shared common historical experience of distinct, large regions suggests that equitable economic development should be conceived on a regional scale. We are reminded of the project of “extended nationalism” (Seers, 1983: 165) of regional blocks- based on geographic, historical and cultural commonalities- proposed by Dudley Seers in the early 1980s as a response to the evident failure of international negotiations for a more equitable economic order.

> “If and when nationalism is extended in this way, and a world of regional blocks replaces the neo-colonial system, the governments of the superpowers will feel less compulsion to meddle (whether by financial aid, diplomatic pressure or military force) in the affairs of other countries, and also be less able to do so: world peace will be more secure.”

Dudley Seers was an eminent development practitioner and consultant to UN Economic Commissions in Latin America and Africa and British development agencies in Africa, Asia and the West Indies, and founded the Institute of Development Studies at the University of Sussex (1963). A lifetime of experience led him to reject external assistance by international development experts, and he spent later years of work in the expansion of the European Community to include the poorer nations of South and Eastern Europe.

Seers was not the only development economist to become disillusioned with international development assistance. In the early 1980s, Gunnar Myrdal expressed the view that development assistance should not be directed toward building up the modern industrial sector, which could

only employ “a minimal part of the total growing workforce” while the rest became “economic refugees” from the agricultural sector. (Myrdal, 1984: 160) Because money is fungible, external assistance may serve to support corrupt and unpopular political regimes. He believed that assistance should be more effectively controlled by donors and directed exclusively at social sectors.

> “the only “development aid” I would find room for under present circumstances would be directed to the simplest and least costly measures to increase food production, to provide sanitation facilities and to increase their utilisation, generally to supply pure water, and also as far as possible to improve health care, particularly for poor families, and to give their children somewhat more of better schooling. This together with securing the availability of contraceptives could well claim the whole part of any so-called development aid.” (Myrdal, 1984:161)

The approach we have taken departs from current practice, where policies of economic and social development for many countries are designed by the international development industry. Responsibility for the welfare of the people must return to national political authorities, in the context of regional cooperation. This however, does not dispose of the responsibility of the rich countries of the North to share in the financial burden of human development. They should take prime responsibility for the provision of global public goods, by fiscal contributions and effective taxation of the operations of trans-national corporations. What is suggested here is that the international community take collective responsibility for those truly global problems which clearly require global action and far exceed the financial capacities of individual countries. The appropriate agencies are those of the United Nations, the only international institution where all countries have a voice. These requirements far exceed current levels of development assistance. Specifically, we suggest three areas requiring a global approach:

1) permanent provision for relief of victims of natural disasters which are likely to occur with increasing frequency due to environmental degradation,

2) issues of public health, which respect no borders; eradication and prevention of communicable diseases including HIV/AIDS, reducing toxicity from industrial and agricultural pollution and

3) restoration and preservation of the biosphere and long term management of natural resources.

The coordination of functional cooperation in these areas would be facilitated by the establishment of regional authorities.

This approach to international development assistance addresses the critiques of Seers and Myrdal. It restores a measure of policy space to national and regional political authorities, relinquished in unequal negotiations over the past 25 years, and places the responsibility for financing urgent human needs which can only be addressed on a global scale on the countries which have the resources to do so.

Notes

1. Revised text of a paper presented to The North South Institute, Ottawa, Canada, on January

19th, 2006, and to the VIII International Meeting of Economists *Globalization and Development Problems*, Havana, Cuba, February 7th, 2006.

2. Levitt, Kari (2005) *Reclaiming Development: Independent Thought and Caribbean Community*. Ian Randle Publishers. Jamaica

Bibliography

Breit, William and Roger W. Spencer, eds. (1995) "W. Arthur Lewis" in Lives of the Laureates: Thirteen Nobel Economists. MIT Press. Cambridge, Mass.

Chang, Ha-Joon. (2002) *Kicking Away the Ladder –Development Strategy in Historical Perspective*, Anthem Press, London.

Myrdal, Gunnar. "International Inequality and Foreign Aid in Retrospect" in Gerals M. Meier and Dudley Seers, eds. *Pioneers in Development*. World Bank and Oxford University Press. Washington, U.S.A. and Oxford, U.K.

Polanyi, Karl. (1944) *The Great Transformation: the Political and Economic Origins of Our Time*. Beacon Press. Boston.

Rodrik, Dani. (2004) "Rethinking Growth Policies in the Developing World" Luca d'Agliano Lecture in Development Economics. Torino, Italy. October 2004

Seers, Dudley.(1983) *The Political Economy of Nationalism*. Oxford University Press. Oxford. UK.

Opinion

What Exactly is "Development"?

P. SAINATH (India)

© Copyright: P. Sainath 2006

India's development debate has actually regressed this past decade. For one thing, a single, homogenised view of development is being shoved down from above. Whether it works or does not work is not the issue. Any departure from it is heresy. If you oppose the draining of people's water by Coca Cola and the poisoning of their wells, that's anti-development.

Until ousted in the recent elections Kerala's Chief Minister, Oommen Chandy used to correctly assert that his State has very serious problems like joblessness. But then he suggested the United Democratic Front wants to make Kerala like Bangalore, [prime city of the neighboring state of Karnataka, endlessly feted by such touts of neoliberalism as Flat Earther, Thomas Friedman. Editors] That was his vision. That's development. Fact: there is no major indicator of human well being on which Kerala does not outrank Karnataka by miles. Life expectancy, literacy, infant mortality ratio, sex ratio or schooling. Or even nutrition, health, equity, and the ending of child labor. But Mr. Chandy's view revolved around express highways, flyovers, enclave smart cities, and the rest of it. Kerala has few of those.

Kerala has a good network of village roads, though. When you drive from Mysore to Wayanad and back, it's easy to tell when you've crossed the border. If the roads are awful, that's Karnataka. But good village roads are not a sign of development. Massive traffic jams are. Bangalore's techno triumphs are undermined by the chaos of its traffic, poor public transport, and gross private "cities" High tech cohabits with low efficiency in a deepening urban nightmare.

Kerala's people have had the best access to education and health. This is one State in the country that turns out more nurses than doctors. Kerala nurses are everywhere. Highly educated, efficient, and indispensable. The products of a once-fine schooling system. This might well break down as the poor lose access to such training. For some time, Kerala has mimicked Karnataka by trying to commercialize education. The case that Mr. Chandy makes was clear. Our students are going to Karnataka for such costly courses. Why should Kerala lose this money? Let's mop it up right here.

There are saner options. Expand and improve the public systems that made Kerala a success in the first place. But that would be anti-development. Meanwhile, the farm crisis has seen hundreds of suicides in Kerala. The children of these and other bankrupt households now find themselves forced out of Karnataka's educational sweatshops. They can no longer pay the fees and must leave, their deposits forfeit, studies unfinished. Many cannot even retrieve their school certificates. The colleges hold on to those to extort more money from already shattered families.

There's nowhere to go. They cannot afford the new private colleges at home either. The nation's finest pool of nursing graduates shrinks this way.

Bangalore, once the `Garden City,' `developed' rapidly. It drained many of its vital lakes and ponds to exploit the real estate beneath. And did that with breathtaking speed. Call it accelerated development. Now you have areas that suffer water shortages much of the year because you've drained the lakes. And flooding during the rains because you've built houses on those lakes. It is as simple as it is stupid. But we crave for more of the same development.

In the media, development is about engineering and technology. Not about improvement of the human condition. Nor about trying to be non-destructive. It is not important that the engineering and technology work. We don't even scrutinize that. But without them, it's not development. So if you have localized water systems that meet people's needs, that's not development. But if you plan to spend a quarter of your GDP on a brainless interlinking of rivers, that's development. Never mind that no one knows what its fallout will be.

The giant corporate hospitals are development. Networks of small dispensaries that are far more vital to public health are not. Why treat a scratch with a band-aid when you can do an organ transplant? We have the know-how, after all. We're at the point where medical tourism is going to earn someone a lot of money. And why fight malaria through preventive measures, good sanitation, better public health or anything as dumb as that? Better to distribute - as the touts advize - bed nets "impregnated with anti-mosquito repellent." That way, there's technology, contracts, and rewards for corporates, consultants, and corrupt bureaucrats.

Never mind that you will distribute millions of nets to people who have no beds. Nor does it matter that malaria parasites are remarkably uncooperative. They refuse to sign the roster when you're asleep and insist on being more active when you're not. That is, at dawn and dusk. When millions of people make their way to or from the fields in this country. Of course, you could make a bold new fashion statement by wearing your mosquito net to work, but it might cramp your style if you're a cane cutter.

Central to the regressive debate is the faith that there is only one way of doing anything. The big-budget, super-scaled, privatized way. Also, with major names. Dabhol in the Enron era was a fine example of this. So now we go back to it. Had Maharashtra spent a small amount each year strengthening its once profit-making State Electricity Board, we would not have such enormous sums of money. Losses that showed up in welfare budget cuts. But why be deterred by some of the highest power rates on the planet? Look Mama, we're world class.

The `debate' sparked off by the Narmada-linked fasts in Delhi took the same route. The dams are the only way. All that matters is we show some concern over `rehabilitation.' (Even if we do little about it in practice.) That this scheme will never work is irrelevant. People are incidental, the project is the thing. That even the pathetic share of water for Kutch and Saurashtra is being diverted to better-off destinations barely merits mention. That the power produced will be precious little - well, what does that have to do with development, anyway?

As for consent and humane conduct, how can these stand in the path of progress? The Orissa police shot dead 13 Adivasis in Kalinga Nagar. A crime dismissed with token tongue-clicking. A big daily put it simply in an editorial the next day. Let's face it. People will be displaced by projects. The question is how to re-settle them.

Yet, Orissa is a State where thousands of acres of land were taken by force from people for projects that never came up. Hindustan Aeronautics Limited is just one instance from the 1960s. Some of its giant units for which the land was then grabbed finally sprang up in Bangalore and elsewhere. But the surplus acres never went back to the shattered owners. This is also the State where the same village has been displaced three times for different projects. And where the dams of the 1960s still bear plaques boasting of how many villages they submerged. That, after all, proved how massive they were. Events of a kind that will never affect the rich residents of Malabar Hill in Mumbai. Though this city razed 84,000 homes of poor people in the same week the tsunami wiped out 30,300 in Nagapattinam. Mumbai, though, did it in the cause of development.

The regression shows in other ways, too. For instance, in the way some of the most vapid concepts are now romanced. It's at the point where malls are seen as the finest `public spaces.' An English daily ran a piece this week titled: "Hanging out at the friendly, neighborhood mall." Ultimately, says the piece, "a mall is seen as a place that is non-corrupt, safe and accessible. A public utility that functions and does not favour any class of user." What's more "all the amenities are free." No charge for the bathrooms, folks. Never mind the claim that shops, some of which sell exotic jewelled pens, do not `favor any class of user.' And never mind too, what the lesser shops and chains do to small retailers and the jobs of countless thousands. This notion of progress sits well with the one-way-only view of development.

Of course engineering and technology can play a vital role in development. They should. They must. The questions that have in every case to be answered are: For whose benefit? At whose cost? Do you do something because it is a good thing to do? Or simply because you can? Are there different ways of doing it? Which is the best of them? Do people have a right to say no even if they're poor? Have they a right to resist?

It's odd the more primitive debate on this now comes out of Kerala. Accept that framework, and Uttar Pradesh and Bihar are way ahead of it. Countless big-budget `development' projects have been on forever. With little improvement in the living standards of the people in those States. Meanwhile, it might make sense to test one more indicator. Check how the bottom 30 per cent in each of our States is doing or has done over a period of time. It might give you a very different view of development.

P. Sainath is the rural affairs editor of The Hindu and the author of *Everybody Loves a Good Drought*. This piece initially ran in the Indian weekly Frontline. He can be reached at: psainath@vsnl.com.

Opinion

How Close Are We To 'Sudden Disorderly Adjustment'?

Margaret Legum (SANE, South Africa)

© Copyright: Margaret Legum 2006

What are we to make of the growing chorus of fears about the possible collapse of the dollar? Is it a case of crying wolf again?

Those fears link four elements: Iran's stated intention soon to open its own electronic International Oil Bourse; its resolve to sell oil there in euros, not dollars; the expectation that the price of oil will rise to over $100 a barrel, triggering world recession; and the demand for gold, rather than dollars, as a store of value.

Since the US is deep in debt, nationally and internationally, the dollar's value depends entirely on the fact that it is a reserve currency for other nations. We all have to keep reserves in dollars for two reasons. First, by an agreement made in the 1940's, the oil producing countries of OPEC agreed to sell oil only in dollars. That meant everyone had to hold dollars if they wanted to buy oil, resulting in two-thirds of all central bank reserves being in dollars.

That in turn means that the Americans have the privilege of producing the international currency. Creating money is nice work if you can get it. It is the equivalent of having a mint in your backyard. You can buy what you want with the new money, without having to supply the equivalent value of goods. America has been financing its annual deficit with the rest of the world – it borrows over $2 trillion a day - by simply making new money and spending it into circulation.

They will not be able to do that if we no longer have to buy our oil in dollars. Its value would fall as nations switch to other currencies to buy oil or to gold as a reliable store of value. The creation of dollars would not be available as a mechanism to cover the huge international debt. If that process began, there could be the kind of flight from the currency that has wrecked the economy of many nations within the past decade.

Even more alarming are suggestions that to avoid this possibility the American government is planning to invade Iran. The fact that the invasion of Iraq was preceded by unwarranted accusations of weapons of mass destruction, and that Hussein had threatened to switch sales of oil from dollars to euros, gives credence to such fears. The fact that Iraq's current chaos makes it a net importer of oil seems not to deflect American resolve.

What is the evidence for the possible imminence of this scenario? Associated Press on May 5 quoted top Wall Street analyst Bill O'Grady of A.G. Commodities: '*If one day the world's largest oil producers allowed, or worse demanded, euros for their barrels, it would be the financial equivalent of a nuclear strike."*

On May 8, an editorial in right-wing Forbes Magazine, written by Bush supporter Jerome Corsi, predicts: *"If Iran wants also to seriously threaten the dollar's position as a dominant foreign reserve currency, a war becomes almost certain. The Iranian oil bourse may never be mentioned*

by US policy-makers as an official reason the US decides to go to war with Iran, but it may end up being the straw that broke the camel's back.'

A UK network on sustainable development (localsustuk@yahoogroups.com) has collected the evidence that this scenario may be round the corner. It claims the Western media has up to now self-censored on the issue – sounding alarm bells as the gold price soared to nearly $700. It records Al-Jazeerah, on April 30, reporting that '*Oil producing countries such as Venezuela…and a few of the larger oil consuming countries, notably China and India, have already announced their support for the Iranian bourse'* An article : *Petro-Euro: a reality or distant nightmare for US'* quotes US security expert William Clark saying '*If Iran threatens the US dollar in the international oil market, the White House would immediately order an attack against it'.*

Gold is now at a 20-year high against the dollar, and the dollar at a one-year low against the euro. The Financial Times of May 16th, under the headline: *"Fears for Dollar as Central Banks Sell US assets"* reported that *'central banks sold a net $14.4 billion during the month, the largest sale since August 1998.'*

At the opening of the IMF meeting on April 21, Russia's Finance Minister said his country 'could not consider the dollar a reliable reserve currency because of its instability'. The same day the Swedish Riksbank halved its dollar holdings to buy euros.

At that IMF meeting the 2006 World Economic Outlook was launched, warning of a dollar collapse – due to global trade imbalances, spiraling US debt and the demise of the petro-dollar reserve standard. In the language beloved of obfuscating economists who hope thereby to soften the truth, it stated: *'Global current account imbalances are likely to remain at elevated levels for longer than would otherwise have been the case, heightening the risk of sudden disorderly adjustment.'*

'Sudden disorderly adjustment' is the current bankers' euphemism for the consequences of a dollar collapse. Others, including Morgan Stanley economist Stephen Roach, as well as financiers Soros and Warren Buffet, refer to it as 'economic Armageddon'. How close are we to that?

Margaret Legum is Chairperson on the Board of The South African New Economics Network (SANE)

EDITOR: Edward Fullbrook
PAST CONTRIBUTORS: James Galbraith, Frank Ackerman, André Orléan, Hugh Stretton, Jacques Sapir, Edward Fullbrook, Gilles Raveaud, Deirdre McCloskey, Tony Lawson, Geoff Harcourt, Joseph Halevi, Sheila C. Dow, Kurt Jacobsen, The Cambridge 27, Paul Ormerod, Steve Keen, Grazia Ietto-Gillies, Emmanuelle Benicourt, Le Movement Autisme-Economie, Geoffrey Hodgson, Ben Fine, Michael A. Bernstein, Julie A. Nelson, Jeff Gates, Anne Mayhew, Bruce Edmonds, Jason Potts, John Nightingale, Alan Shipman, Peter E. Earl, Marc Lavoie, Jean Gadrey, Peter Söderbaum, Bernard Guerrien, Susan Feiner, Warren J. Samuels, Katalin Martinás, George M. Frankfurter, Elton G. McGoun, Yanis Varoufakis, Alex Millmow, Bruce J. Caldwell, Poul Thøis Madsen, Helge Peukert, Dietmar Lindenberger, Reiner Kümmel, Jane King, Peter Dorman, K.M.P. Williams, Frank Rotering, Ha-Joon Chang, Claude Mouchot, Robert E. Lane, James G. Devine, Richard Wolff, Jamie Morgan, Robert Heilbroner, William Milberg, Stephen T. Ziliak, Steve Fleetwood, Tony Aspromourgos, Yves Gingras, Ingrid Robeyns, Robert Scott Gassler, Grischa Periono, Esther-Mirjam Sent, Ana Maria Bianchi, Steve Cohn, Peter Wynarczyk, Daniel Gay, Asatar Bair, Nathaniel Chamberland, James Bondio, Jared Ferrie, Goutam U. Jois, Charles K. Wilber, Robert Costanza, Saski Sivramkrishna, Jorge Buzaglo, Jim Stanford. Matthew McCartney, Herman E. Daly, Kyle Siler, Kepa M. Ormazabal, Antonio Garrido, Robert Locke, J. E. King, Paul Davidson, Juan Pablo Pardo-Guerra, Kevin Quinn, Trond Andresen, Shaun Hargreaves Heap, Lewis L. Smith, Gautam Mukerjee, Ian Fletcher, Rajni Bakshi, M. Ben-Yami, Deborah Campbell, Irene van Staveren, Neva Goodwin, Thomas Weisskopf, Mehrdad Vahabi, Erik S. Reinert, Jeroen Van Bouwel, Bruce R. McFarling, Pia Malaney, Andrew Spielman, Jeffery Sachs, Julian Edney, Frederic S. Lee, Paul Downward, Andrew Mearman, Dean Baker, Tom Green, David Ellerman, Wolfgang Drechsler, Clay Shirky, Bjørn-Ivar Davidsen, Robert F. Garnett, Jr., François Eymard-Duvernay, Olivier Favereau, Robert Salais, Laurent Thévenot, Mohamed Aslam Haneef, Kurt Rothschild, Jomo K. S., Gustavo Marqués, David F. Ruccio; John Barry; William Kaye-Blake; Michael Ash, Donald Gillies, Kevin P.Gallagher, Lyuba Zarsky, Michel Bauwens, Bruce Cumings, Concetta Balestra, Frank Fagan

---

Articles, comments on and proposals for should be sent to the editor at
pae_news@btinternet.com

Subscriptions to this email journal are free.

Back issues of this journal and other material related to the PAE movement are available at www.paecon.net.

To subscribe to this journal, send an email with the message "subscribe" to
pae_news@btinternet.com

To unsubscribe to this journal, send an email with the message "unsubscribe" to
pae_news@btinternet.com