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1. Introduction

"John, I can't make a damn thing out of this tax problem. I listen to one side and they seem right, and then – God! – I talk to the other side, and they seem just as right. I know somewhere there is a book, that will give me the truth, but hell, I couldn't read the book. I know somewhere there is an economist who knows the truth, but I don't know where to find him and haven't the sense to know and trust him when I find him. God, what a job!"

Warren G. Harding, US president (1920-1924) in a conversation with his assistant.

Economists are often portrayed as a quarrelsome lot. Paul Krugman (1994) stamps his feet about the stupidity of 'madmen in authority' like Laura Tyson and Robert Reich; Joe Stiglitz (2002) denounces the 'one-size-fits-all' attitude of IMF-advisors in East Asia, Latin America and Russia; and Ronald Coase (1998: 577) also acknowledges, as a sadder and wiser sage, that "I find it difficult to ignore the role of stupidity in human affairs." Policy makers, in turn, who want to have sound economic advice throw their hands in the air, despairing the inconclusiveness of the state of economic knowledge. President Harding had a hard time figuring out who knew the truth among his economic advisors and many a president today would mumble the same words. Why can't these economists decide what is the right thing to do? Surely, there must be some theory that survives all tests imaginable. The problem that outsiders, and even some insiders, are confronted with when they enter a conversation in economics is the idea of pluralism: the fact that there are many organising principles about one and the same phenomenon. And pluralism magnifies the decision problem, not only does one need to deal with theoretically derived trade-offs, but who is going to tell the difference between one theory and another. It would be most convenient if theories have to pass some Darwinian acid test, so in the end there would only be one superior theory. Alas, that is not the way the world works. Nowadays the number of theories, methodologies, and specialisations is almost without bound. The editors of the *Journal of Economic Literature* (JEL) have to think of new JEL codes for new categories each year. The big issue is: *is the pluralist state of economics good or bad?* Without giving the entire content of the paper away I will evaluate the pros and cons of pluralism for economics, with the eye of an academic and that of a policy maker. By and large, a pluralist approach is a beneficial state of affairs as long as different strands of thought are connected. This connection refers to both schools of thought within a science (pluralism) as between sciences (interdisciplinarity). To establish a connection the maxim 'Don't specialize without intellectual trade' is the most simple but effective guideline one can think of in situations of diversity. In that respect,

things look brighter than they did some twenty, thirty years ago. The present state of economics impresses me as a state of diversity with a common language binding the different strands of economics, the common language being good old 'price theory'. In the "ordinary business of life" the present-day economists make use of stories in which ideas like externalities, transaction costs, asymmetric information, fairness and reciprocity abounds. The world of general equilibrium, modelled so neatly in the work of Arrow and Debreu, is slowly but gradually moving to the background as more and more economists realise that talking about real-life economies is going to be a very tough assignment if you are not going to deal with problems of information, knowledge creation and institutions, elements which in the end make economies 'tick'. Thanks to the efforts of 'giants' like Ronald Coase, Douglass North and Oliver Williamson on whose shoulders we stand, the horizon of economists has widened and their efforts reveal that with simple price theory you can transcend the narrowly defined resource allocation questions that general equilibrium theory poses and you can move on to understand a wider class of phenomena.

After this short evaluation of the pros and cons of pluralism (in sections 2 and 3) the next question is how to educate future academics and policy makers and advisors to deal with a pluralist economic science. Are the standard economics textbooks well suited to deal with the present state of economics or is an entirely new type of text or approach necessary? I venture that these two options are both necessary: keep the core of economics, but improve the way students learn and practice economics. Even though I have no special affinity with the finer points of pedagogy, the present state of economics and the diversity of methodologies employed offer in my opinion a rich menu of stories to improve the present day 'chalk-and-talk' teachings of economics.

2. Is Pluralism a Public Good? An Academic Economist's Perspective

Why do we need *N* theories about business cycles? Why couldn't we be satisfied with just *N-1* theories, or let's act the naive optimist, why not decide on one theory being the best? Although there are a number of definitions of pluralism this essential dilemma will be my point of departure. Pluralism is all about the multiplicity of organising principles (Dow, 2001) or to put is slightly different, it revolves around different theories about one and the same phenomenon. Now one may well ask whether society at large, and not the society of scientists - benefits from such pluralist sciences. Why pay for all these engineers with white collars when all they produce is brooha? In other words, is the diversity of theories or organising principles a beneficial character trait of science?

Competition

The easy way out of this question is to murmur the cliché 'it depends'. It depends on what you mean by pluralism. If by pluralism is meant the idea that two people talk about exactly the same phenomenon but the two use different concepts in dealing with their subject and as a result of this 'language problem' or semantics cannot exchange ideas, then obviously pluralism is a 'bad'. So far I am not talking about substance but only about exchange and competition. Part of the idea of academia is that each and every participant engages in the ongoing conversation in the community of academics and when this is prevented by a language problem the academic ideal of 'community' is smothered. But there is more to this problem, because when each participant restricts his attention to his own set of rules and talks to himself in the safe surroundings of his room there can be no competition. Even worse, there is also no check on the validity of opinions uttered, as scientists are not only producers and demanders, they are also gatekeepers of the academic conversation. Under such Babylonian circumstances pluralism is tantamount to excessive duplication.

The trouble starts, of course, when you do start to think about the substance of ideas. It is troubling because who has the arrogance or knowledge to deem one theory better than another? In all honesty, no one possesses such knowledge although it is part of the game to advertise with the arrogance of young Turks that you do know. As Robert Lucas once told graduates on their first day in 'grad school': "We here at Chicago believe that what we do matters and is more important than events in Washington." (cited in: Klamer and Colander, 1990: 129). Schools of thought have a function as they make clear that they differ and in order to differ each and every graduate student learns to utter the words of professor X or Z. Of course, what you end up with can be a pluralistic approach to the subject in which everyone seems to be inventing the wheel in an imperfect manner or in which each and every school seem to be in conversation with each other but in actual fact the only thing they share is an agreement to disagree. The capital debate between the two Cambridges in the 1960s, lingering on in the 1970s, was perhaps the ultimate example of what Solow (1971: 10) called a "violent, unproductive, and confused controversy," that nevertheless filled the journals of that time.

The key to making pluralism work is the actual exchange of ideas. As McCloskey (2000: 149) cries out loud: Don't specialize without intellectual trade! The exchange of ideas is by definition a social phenomenon and this fact impinges directly on questions of theory choice and development in science. And although the noun 'choice' suggests that the neoclassical view is most suited to give

an answer to questions of 'theory choice', neoclassical theory remains largely silent on this subject. The reason why can be traced to the absence of transaction costs in the seamless world of neoclassical theory. The invisible hand of truth would direct us in the right direction. Of course, the question remains whether the metaphor of the invisible hand is an aptly chosen one. Can the market for ideas be mimicked by the world of Arrow and Debreu? I dare say no, and the reason why can perhaps best be phrased by citing Coase who criticizes neoclassical economics:

> "Exchange takes place without any specification of its institutional setting. We have consumers without humanity, firms without organization, and even exchange without markets." (1988: 3)

And the same applies to science: we have science without conversation. Trading involves costs and the same applies to economic science and at certain moments in time economists have gone to far in their specialization drive and even have reached to point of adverse specialization. The way we model science or research is essentially an intellectual exchange of ideas without talk or a 'conversation'. The 'invisible hand' view of science revolves very much around deriving rational choices of individual optimizers and aggregate states of the economy that satisfy some (aggregate) consistency condition. Perhaps this approach may yield a few extra credit points in the tenure system, but it does not adequately capture what's going on in science. Science is about social interaction and choice and this 'fact' implies that apersonal models of choice will not do. An economist who throughout his career has paid close attention to social interaction is Thomas Schelling (1978). His claim is that the equilibrium analysis of markets is a large and important special case: 'Equilibrium is simply a result. It is what is there after something has settled down, if something ever does settle down.' (1978: 26) To understand all social phenomena with this simple model would therefore be something of a miracle and Schelling makes the point that interactive behavior – 'What people do affects what other people do'(p. 27) – is the key to understanding truly social behavior. Micromotives imply macrobehavior. Slowly but gradually this point has been catching on and is nowadays known as the complexity approach to economics (see Arthur et al., 1997; and Durlauf, 2001), an approach which stresses the interaction among individuals and tries to incorporate empirical insights from sociology, economics and anthropology. Interaction based theories are, however, not sufficient to understand science, one also has to explain how institutions - the rules by which the game of science is played – come about and change. In that respect, one can learn a lot

from what sociologists of science teach us and slowly but gradually one can say the same about the economists of science who are making worthwhile contributions (see for overviews: Sent, 1999; Gans, 2000; and Klamer and Van Dalen, 2002).

Specialization

One of the institutions that helps scientists cope with the problem of exchange is the *clustering* in groups and discursive entities (Klamer and Van Dalen, 2002). Scientists cluster in universities, set up barriers to entry, organize professional associations in order to organize conferences and issue journals, constitute schools, subscribe to research programs, develop specialized research communities which will organize specialized conferences and issue specialized journals, and form networks of like-minded souls. The reason why clustering is such an often sought strategy can be traced to economies of scale and scope but when it comes down to issues of communication these reasons offer no firm grounds and other avenues have to be searched. A well-known theorem in signaling is that communication is optimal when sender and receiver have an identical 'make-up'. It helps explain why innovations in science are geographically localized and not evenly dispersed throughout the world and it also helps explain why professors of economics departments try to select staff who they can talk to. In order to make an intense conversation possible face-to-face communication with like-minded colleagues appears to be essential. The University of Chicago is perhaps one of the most outstanding examples in economics (Van Dalen, 1999) but the importance of geographic proximity runs throughout the history of other sciences as well (Zuckerman, 1977).

But, of course, science is no different from other areas of society and much of the benefits flow from the structure of science. Is science a close knit society or is every man or every cluster an island? The model in which we learn from others or in which we conform to opinions of neighboring colleagues or from neighboring disciplines is clearly a realistic one as the oeuvre by the bibliometrician Eugene Garfield (1998) shows when he models the entire world of science as an chain-like system. The basic feature of these models of learning is that people learn not only from their own experience, but as most experiments are time consuming people also learn from the experience of their peers. The central insight of the learning literature is that the interaction structure of individuals or groups of individuals matters a lot (see Bala and Goyal, 1998). The 'learning from neighbours' models is not only a plausible model at the micro-level, it is particularly powerful in its explanatory power at the macro-level. For instance, in theory it does not take much effort to start an

informational cascade when individuals learn by observing others (Bikhchandani et al., 1998). The role of opinion leaders or leading journals is critical in bringing about fads and conformity. It is in this respect that the Matthew effect in science (Merton, 1968) becomes dysfunctional if the ideas that are accepted are not entirely foolproof. Under such circumstances one can arrive at the case that behavior of a star, let' s say, Robert Barro running numerous economic growth regressions, is imitated because Barro makes it legitimate to do such simplistic research (and perhaps because it is so simplistic it is easy and inexpensive to copy such behavior).

There are two responses possible in putting fad-prone scientists in perspective, a theoretical and an empirical one. The theoretical answer can be found in some detail in Brock and Durlauf (1999) who claim that the role of social factors in science is far more complex than is often recognised. They demonstrate that, under some plausible interaction conditions, social factors may not hinder the development of science but *increase* the degree of consensus around a superior idea. The intuition behind this finding may seem counterintuitive but it makes perfect sense because once the consensus of the community focuses its attention on the superior theory, this consensus will speed up its rapid acceptance. Of course, one can still claim that judging theories to be superior to others – a key assumption made by Brock and Durlauf – is a questionable assumption and a speedy convergence to only one theory may just as well be seen as a bad thing.

The diversity of science which is central in Callon's (1994) argument for defending science as a public good becomes a relevant issue at this point. Diversity circumvents science and in the end also society from becoming stale or as Callon puts it : 'without this source of diversity, the market - with its natural propensity to transform science into a commodity - would be ever doomed to convergence and irreversibility' (p. 418). What Callon does not deal with is the question of the optimal amount of diversity. Diversity as such is no great quality if each and every scientist has a different idea and operates as a lone wolf. Perhaps one of the reasons why European economics departments until quite recently have been such a stale territory for economists may be pin-pointed to this quality of 'isolated' diversity (see Coats, 2000). A complete consensus of opinion (which is behind the worry about Americanization of science) may also not be wholesome as it would destroy original insights outside the false state of consensus.

The empirical response to the possibility of fads and ending up in a 'bad' state is that the evidence is mostly anecdotal and is not thoroughly scrutinized. *A priori* one would expect this reputation effect in bringing about cascades to reflect the property of increasing returns to the scale

of an individual's reputation. The higher the reputation, the easier it becomes to bring about fads. In examining the elements which might make a scientific research article influential, Van Dalen and Henkens (2001) show that the characteristics of a journal (the reputation of the journal and its editors) overwhelms the reputation of an individual in getting ideas accepted. So the reputation of journals outranks by far the reputation of the author, a message that also comes across in a refined network-analysis by Baldi (1998) who demonstrates that the reputation of the author of an article does not affect the reception of published ideas, whereas writing in a widely disseminated journal generates a distinct attention bonus.

Creativity

But… science is not only about being connected and competing for the applause of peers, it is of course also about the ability to innovate. And in understanding science one simply has to deal with the aspect of creativity. The equilibrium approach surely has its merits but in matters of creativity the tacit *principle of plenitude* ('every conceivable entity already exists'; see for a discussion Romer, 1994) becomes a straightjacket in thinking about science. One could arrive at the rather bold conclusion of the head of the patent office who recommended at the turn of the nineteenth century to abolish the patent system because everything had already been invented.

Triggering new ideas

The key to creativity is the ability to play with a subject, by some termed as 'blue sky' research (Portes, 1997). The more original work is the work that dares to move outside the boundaries of economics and invades the turf of political science, public administration, sociology, anthropology and psychology. By demonstrating that your theory also applies outside the 'sample', you have shown to have mastered your subject and as a byproduct you make ideas or at least you make other people think again. This is the way to proceed when you talk about interdisciplinary research. Interdisciplinarity is a difficult principle and much lip service is paid to supporting such research, but the efforts by research foundations and 'think tanks' in supporting interdisciplinary research reflect the efforts of a man bringing a horse to water, but he can't make it drink. Interdisciplinary research or policy groups are often a bunch of people put together, in the hope that diversity of itself will spark creativity. Of course, this is bound to fail and in fact most of the time scientists from different stripes of life that are living under the same roof are essentially ships that pass each other in the night.

To give researchers the chance to play their role as specialist and exploit their comparative advantage they need to connect. So they too are in need of a standard language or some common ground, sharing basic propositions or puzzles. It's no good for economists to try to mimic sociologists or anthropologists in their use of methods (and the reverse applies also to sociologists who try to mimic economists). However, it is a good thing to trespass the boundaries that exist. By acting the imperialist the conversation may flourish and make an intellectual exchange possible, even though languages may diverge. To give a recent example of such a beneficial conversation, Akerlof and Kranton (2002) have started to re-explore the economics of education by focussing on the role identity can play in schools and along the way they incorporate elements of sociology, psychology and anthropology. However, this meeting of different minds poses a language problem which can be resolved by plain pedestrian prose but it can also be resolved by such trespassers or intermediaries in science as Akerlof, Schelling and Hirschman.

Facing the real world

But there is a different source of creativity and that is the world outside your window. The inspiration should be to look outside and try to make sense of what's going on in the real world. Economics has on that count been too much inward directed, too much in search of questions posed by its own models. In that respect economics can take a more realist turn by moving inside the 'pin factory' and try to understand the management and technology of work, production and exchange. Of course, the true historian would say that there is nothing new under the sun. Ronald Coase visited American plants in the 1930s, he studied the monopoly case of the BBC and the FCC in the 1950s, Alfred Chandler tried to make sense of American entrepreneurs, Joe Stiglitz found inspiration for his work on moral hazard in the case sharecropping in India and his years at the CEA and the World Bank were also an inspiration to attack the governance structure of globalization, and recently we have seen initiatives by people like Truman Bewley (1999) and Ed Lazear (2000) and Alan Blinder on American business life, Diego Gambetta (1993) about the Sicilian Mafia, William Easterly (2001) about the reality of development economics or James Wilson (1989) about the inner workings of bureaucracy, and my own work together with Arjo Klamer (Van Dalen and Klamer, 1996, 1997) in discovering what makes economists tick, in science and in bureaucracies. Without intending to be offensive, economists should perhaps learn some investigative journalism: to note, watch and detect what's going on in the real world. There are excellent examples of this research methodology.

George Lowenstein (2001) about the rise and fall of the Long Term Capital Management group, Dava Sobel (1996) about the priority race in discovering the instrument to measure longitude. And in reviewing endogenous growth theory Robert Solow suggested that "it would be a good idea for economists who are interested in endogenous technology and growth theory to do a little observational work on industrial research laboratories." (*The Region*, September 2002). One reason why this has not been done very much is that "the kind of person who's good at observing things like this is not necessarily the kind of person who's good at making models." I will return to this failure later on.

The same realist attitude would also serve the methodology side of economics. Methodologists are often given the evil eye by practitioners. Irving Fisher could not suppress his disdain for methodologists in his presidential address to the American Statistical Association when he said: "I have usually felt that the man who essays to tell the rest of us how to solve knotty problems would be more convincing if first he proved out his alleged method by solving a few himself. Apparently those would-be authorities who are telling others how to get results do not get any important results themselves." In the age of Irving Fisher, Milton Friedman and Paul Samuelson the economist and the methodologist were one and the same person. But with the ongoing specialisation and professionalisation in economics (and every other science for that matter), methodologists and economists have drifted apart. Methodologists expound in a jargon that seems to be almost incomprehensible for the ordinary practitioner. In that respect, there is also a lesson to learn here as I think that methodologists shouldn't drift too far away from their intended audience: economists. And I think the best methodologists of today, like Mark Blaug, Kevin Hoover and Deirdre McCloskey, have their roots in economics and are a credible and informative liaisons in conversation. The rhetorics of economics (McCloskey, 1983) is indeed Reality Economics of a different kind, viz. Reality Methodology, but one economists cannot do without. Linking the actual practice of how economists talk and persuade and pinpointing the pitfalls of that practice may one of the biggest contributions a methodologist can make. Because it is human to err, having professional gatekeepers – methodologists who know how knotty problems can be – is part of the institution called 'academia'. No markets for ideas without appropriate institutions, and having arbitrators (read: methodologists) who can communicate with the suppliers of ideas is an essential ingredient.

3. Is Pluralism a Public Good? – A Policy Maker's Perspective

Still, academic economists expect policy makers to make their decisions based on the best available information, information that the academics themselves provide. Obviously, if you think pluralism is beneficial in the ivory tower, it surely must be in 'emergency room' in Washington DC, Whitehall or even in The Hague. You cannot afford to make large mistakes in matters of national or international welfare. So the initial answer to the question 'Is pluralism a public good?' is 'yes'. Stimulating competition in the market for policy ideas is a necessity. The real world is far too complex to be trusted to one gigantic (monopolist) advisor with only one *Weltanschauung*.

Still, policy makers are generally economists who were trained in an era in which it was preached that economics is 'Wertfrei', advice should preferably be given by committees or task forces of 'wise men' and politics should be left to politicians. And just like Warren Harding the thought that crosses the mind about economic advisors is still: "I know somewhere there is an economist who knows the truth". This model of economic advice has a certain 'Jim-'ll-fix-it' ring to it, the fairy tale figure of the benign king-philosopher who knows all and fixes all. Needless to say, this model of policy making denies the existence of pluralism and if it ever has worked it has only worked by sheer luck. So the first thing that has to be taught is that pluralism exists and that economic policy making under such circumstances differs markedly from the traditional infinitely lived social planner's model. Given the present-day desire among policy makers for 'road maps', 'blue prints' and 'action plans', bringing this subtle message across will be hard enough.

But let's suppose that policy makers have survived the shock that economists don't know the truth, what's to be done next? Policy makers everywhere are pragmatic and they need simple rules because in the end they also have to convince their principal, ministers and their ultimate principal: Everyman. At this point the world of academia should carry some responsibility in making economics an asset. But the largest part of the responsibility should rest on the applied economist. What we sometimes forget is that every theory can and ought to be simple. Frank Knight used to say that economics is so simple he was surprised why not everybody is a great economist. And of course, if you ask many highbrow economist about their key contributions it always seems to be the case that their theorems turn out to be simple maxims. But economics has become so specialised and technical that it is virtually impossible to cover all territories as an economist. The need for being a Renaissance economist is not necessary as long as the key message is brought across in plain English. The responsibility for a proper functioning of the market of ideas should rest to some degree with the suppliers of ideas.

But, as mentioned earlier, the largest part of the responsibility should rest with the users of ideas. The trick with policy work is not so much about reciting the entire *Palgrave* by heart, it is by having a keen eye for what's relevant, and as it turns out the gift to apply ideas is perhaps just as scarce a commodity as the gift to produce novel ideas. One can linger on at length about this key ingredient and try to devise 'blue prints' but in the end putting theory into action is a tacit skill. Like Sutton (2000) points out, there is more to observing reality with the idea that it is the representation of a true equilibrium model plus some 'random noise', or what he calls 'Marshallian tendencies'.

Alfred Marshall used the metaphor of tides in expounding his view on economics and apparently with some authority as most economists of the twentieth century were (and still are) persuaded by this image. Tides are influenced by two forces: the gravitational pull of the moon and the sun, which can be predicted rather accurately and by meteorological forces which are inherently difficult to predict. Luckily the primary forces – the gravitational forces - are far more important and by focusing on their own 'primary forces' economists can still arrive at a theory that works satisfactory although subject to some error. Marshall was aware of the limitations of economic science and asserted that economists can only capture tendencies as economic laws are bound to be less precise than, e.g., the laws of physics. In that respect we should not be surprised to see that the standard paradigm in economics does work in some places (auctions, option pricing) and, of course, it does not work in most places as economists with a reflective bend have discovered. Real business cycle theorists are, in that respect, betting on the wrong horse. What's more, policy makers do not need - to mix up some phrases of Ronald Coase and Deirdre McCloskey - 'social blackboard engineering: social engineers who look at the economy as a mechanism with the eye of a pure mathematician. The last thing a policy maker needs is a logical but senseless policy, or at least a policy that does not take account of the fine intricacies of real life economic transactions. The end result of such a 'one size fits all' attitude is havoc or at least badly designed policies based on badly informed policy advice. The number of 'reasonable' models is simply infinite and making a choice between models has to be supplemented by a skill or tacit knowledge which Keynes once summed up neatly in correspondence with Roy Harrod: "Economics is a science of thinking in terms of models joined with the art of choosing models which are relevant to the contemporary world."

Yes, but…

So pluralism is also needed in policy circles, but this time there is an extra proviso to be made, as there is more at stake in applying ideas than there is in producing ideas. If someone publishes an article on an esoteric subject, which by chance will never trickle down to an audience with a good pair of brains, no harm is done. But what if ideas are abused for political reasons or vested interests? Poverty amidst plenty, fraud, rent seeking, starvation, crime, you name it, economists can deliver it if their advice is not well applied or delivered. The application of economics to economies in transition in Eastern Europe and Russia are a case in point. And at this point I would even suggest, just like Ronald Coase (1974), that government involvement in regulating the market for ideas has to be far larger than regulating the market for, let's say, cars or petrol. There are essentially two reasons why a multiplicity of views in matters of policy is necessary (and perhaps much of what I bring forward applies equally to the world of academics) and needs to be 'regulated': one is to prevent folly in a dogmatic policy environment and the other boils down to safeguarding diversity in the social sciences. The first reason is about designing institutions for policy debates that minimise blunders in decision making, the other is about designing institutions that stimulate a bio-diversity of views.

1. *Institutions for minimising Marches of Folly*. Knowledge is not merely information, it is also interpretation. As a consequence of this simple observation pluralism is going to be a natural state, unless dogmatism rules, i.e. the 'madmen in authority' only allow one view and one interpretation. This is an extremely dangerous development that is akin to situations one would expect in command economies. But as numerous policy watchers have observed in the recent past the so-called 'Washington Consensus' has dominated every policy debate not only in Washington, but perhaps in every OECD country. From time to time, free societies seem equally likely to create circumstances or institutions that produce dogmatism. Interpretation of 'facts' and information is no longer free and is being governed by rules and preconceptions. The consequences of such an intellectual deadlock can be seen in *The March of Folly* (1984) the book by historian Barbara Tuchman, who describes how governments pursue policies contrary to their own interests, despite the availability of feasible alternatives. To have an open and imaginative mind is a valuable good. The selling of spectrum rights took almost 67 years from time of invention to application. Ronald Coase remembers how his ideas were classified as a joke and the history of economic thought provides us with similar errors in judgement. The path-

breaking ideas on adverse selection by George Akerlof were initially discarded as 'trivial stuff' which the editors of the *American Economic Review* were not in the habit of publishing. Friedman's idea on flexible exchange rates were put away as ridiculous and not realistic.

Of course, regulation on the market of ideas smacks of censorship. But it really is about how to structure debates when people have different world views. Just like competition among different government departments can be a good way to produce information (Tirole 1994) so can a policy debate profit from competition in advice or points of view. Dewatripont and Tirole (1999) give hints at how such a debate might be framed. The only way out of this situation seems to be to organise competition among advisors instead of trusting committees of wise men or by merging government departments into one gigantic Bureaucracy. However, competition is not sufficient as this competition for the president's ear has to be supplemented by gatekeepers – scientists and journalists – who can tell when the public is taken for a ride by the 'cons' among us.

2. *Institutions for protecting bio-diversity of views.* Having a conversation or a debate in matters of policy is only going to be a worthwhile act if a diversity of views exists. Economics may perhaps be seen as the Queen of the Social Sciences by its own practitioners, in policy circles, economists are still the barbarians who dare to speak of costs and benefits and who dare speak of privatising social security or the National Art Gallery. Economists are not listened to outside the safe circle of economists and in persuading our 'significant others' economists will fare better if they listen to what politicians or bureaucrats see as the key problem, how they are worried by transition problems, by income distribution and by the excessive use of incentives. Politicians have to simultaneously deal with an uncertain and biased policy advice and the other way round, policy advisors also have to deal with biased politicians. A bio-diversity of views is only going to last if the receiver of the economist's message can interpret it and apply it. The penultimate question is, of course, of how to create such minds. History seems to prove that keeping an open mind is not a widespread character trait in policy circles. As Stiglitz (2002, chapter 9) observes policy makers from the IMF have substituted economics by ideology. The Washington consensus (Williamson, 1994) seems to have played a far too dominant role in privatisation, fiscal policy and matters of regulation. Again just like in the case of academic economics, having a common language will certainly help but will not be a sufficient condition for

attaining an open mind. Innovating the education of economists, and the next section will deal with that issue, might help in attaining that goal.

4. Implications for teaching and curricula

Pluralism in both academia and among policy makers is a desirable characteristic of the economic debate. The trouble with economics is that bio-diversity of views is at risk as the standard view – whether it be Keynesian in the sixties and seventies or neoclassical in the eighties and nineties – is crowding out alternative views. This 'crowding out' effect seems to be reinforced the 'rules of the game' or the incentive structure inside science which favours received views. This is also the reason why Frey and Pommerehne (1997) claim that the more interesting developments in economics develop and occur outside the walls of the 'economics department'. The network externalities tied to the reigning standard view of the day makes life of dissenting economists hard, but then again being a dissenting economist right now may make for the Nobel Prize winner of the distant future.

How can a modern-day curriculum deal with the desirable aspect of pluralism? The key to intellectual exchange inside and outside academia will flourish if we at least share a language. And the most sensible thing to do is to share the language of neoclassical economics or good old price theory. As Coase (1999) has stressed in a recent lecture: "We will not replace price theory (supply and demand and all that) but will put it in a setting that will make it vastly more useful."

The use of price theory makes sense, not only from an economic point of view because it minimises the switching costs for those who have a 'foreign' language (Lazear, 2000) but primarily because neo-classical economics deep down embodies the meta-language which economists share: equilibrium, rationality and efficiency. But…at the same time the story does not end there, because learning the grammar of a language does not imply that you can make conversation from 'day one' you have mastered the grammar. There is more to economics than mere blackboard economics and practitioners seem to understand intuitively. The economics profession turns out more and more theorists who seem to lack a reality check on the ordinary business of life. In that respect the following quotation by Stephen Roche who heads the global economics division at Morgan Stanley is a telling one (cited in Cassidy, 1996):

> "We insist on at least a three-to-four year cleansing experience to neutralize the brainwashing that takes place in these graduate programs."

Economics has gone astray, at least that is the impression you get if you read the gatekeepers of science. Economists toil for the only coin worth having: the applause of their peers. Although this mechanism has its merits, it can easily lead economists to believe that the only principal they work for is the scientific community or their colleague down the hall. But this is just as wrongheaded as the politician who believes that party head office is the principal, and the bureaucrat who looks up to the permanent secretary or the minister as his ultimate principal. The ultimate principle in both economics and politics is the citizen, or as Klein (2001) describes the citizen: the Everyman. In communicating with Everyman a common language is needed. Just like armchair scientists, practitioners – economic policy makers and advisors - need to share a language in order to make the entire sequence of reasonings clear to the outside world or the Everyman.

Summing up, I acknowledge the need for standards in conversations and debates, in other words a common language. Now what does this imply for teaching economics? As anyone with a fair understanding of economics can predict, standards have the danger of 'locking in', creating path dependence. And this is exactly what can happen and perhaps will happen with designing textbooks and curricula. Paul Samuelson's textbook presented a clear break with the post-world war textbooks and since that time, textbooks have been more or less variations on the theme set by Samuelson. There are exceptions, but by and large most textbook writers follow suit in mimicking Samuelson or his modern day equivalent Greg Mankiw. So one of the challenges ahead lies in designing a standard curriculum that offers a language for all economic specialisations, but at the same time it should be a lively standard that can evolve as time goes by, and insight and experience grows. In thinking this through the following six maxims offer a starting point for such a standard:

1. Teach the *art of economic policy*. Economics is not merely an approach or a language as Gary Becker (1975) is wont to say. As Coase (1998) once criticised the economic approach of Becker and others: "We study the circulation of the blood without the body." Studying economics by studying the grammar rules isn't going to yield much insight. Economics is about the world outside the ivory tower. And in teaching, as well as in research, I am more and more persuaded to see the art of economics revolving around the interaction between Questions – Theory – Data (Leamer 1996). Asking the right questions about the data of the real world and in

turn choosing models which shed light on these data and questions is a trick that does not come easy but it is marriage of principles that produces the best of economics. With all respect for the contributions of someone like Gerard Debreu or Frank Hahn, their style of work should not set the standard for the teaching practices of economists. The art of economic policy is all about mingling normative and positive economics (Colander, 1994) and about discovering the rhetoric of economics. In that respect philosophy and methodology should be essential elements of an economics curriculum.

2. Teach economics by *learning from the past*. Economists sometimes perceive their job as that of an engineer and perhaps that is why the outside world also perceives economists just as reliable as engineers. The image is however a false one. The age of diminished expectations, as dubbed so adequately by Paul Krugman, is riddled with disappointments of social engineering. The ultimate question is, of course, why applying economics to real world problems seems to fail so miserably. One option is to learn from the past of economists, their thought processes, their controversies and the way in which economic circumstances influenced their outlook and advice. The debate about sticking to the golden standard in the nineteenth century and following the WW I, the best way to tackle the depressions, the restructuring of Europe after WW II, the establishment of the EMU and the enlargement of the European Union, the East Asian Crisis, and so forth. What this implies for the economics curriculum is that the history of economic thought and economic history can (and perhaps should) be taught in tandem.
3. Teach economics by *crossing disciplinary boundaries*. In practice this would amount to, by lack of a better phrase, *economic imperialism*. Acting the imperialist does not imply that economists should force other disciplines to yield to the Almighty Economist's methodology. The argument to push forward an imperialist attitude in teaching and practising economics hinges on four grounds. First of all, economics is a social science in that respect the view you offer students should transcend the narrow view of traditional economics in which the family plays a minor role, politics is out of the question and values are given once and for all. Second, the element of play should also enter the curriculum, as audiences are more apt to listen and learn when you can surprise and entertain. A third reason boils down to my claim that when you can play with your subject you have mastered it. And last but certainly not the least economics by imperialism helps to get a conversation going *between disciplines*. The prime contribution of economists like Lazear, Becker, Greif is that they stimulated controversies across disciplines. Lazear opened the

eyes of personnel officers, Becker infuriates demographers and sociologists, and Greif shows how the insights of game theory and agency theory can help to understand and reinterpret economic history.

4. *Merge* business economics with general economics. The issues which are dealt with in business administration, public administration and economics are becoming indistinguishable. The jargon may differ as well as the level of technical sophistication but essentially all subdisciplines are dealing with the same subjects. Furthermore, the techniques of neo-classical economics are used in territories where you might not expect them. The techniques of modern finance are used frequently in law and economics, marketing research techniques are used in labour market econometrics, and agency theory essentially laid the foundation for looking into questions of central bank independence and the efficiency of corporate governance principles. One could go on and on with the examples of economic theory which are used in different contexts. The message is clear: delineating economics long lines of business and general economics is an artificial distinction and no longer serves a purpose.
5. Practice *Reality Economics*. Economists, taking their cue from Milton Friedman's influential essay on positive economics, are not very enthused about asking their economic agents what goes on inside their black box. One should judge an agent by his actions not by his words is the tacit message economists bring across. Preferences do not have to be stated, they will reveal themselves by the deeds of agents. The funny thing is that the corner stone of every economist – the benefits of the division of labour – was explained by way of recounting the organisation of a pin factory. Adam Smith, or should I say his teacher Francis Hutcheson who already used the example of the pin factory, discovered the use of reality economics. Economists do not visit the pin factories of today and yet it is there that we can really get a feel for what 'productivity' and 'technical progress' really is, how it is brought about and how it is destroyed. The main benefit of growth accounting is to show how large our ignorance is, and reality economics is one way of getting nearer to the truth of the 'wealth of nations' than endless growth regressions and accounting exercises. Reality economics can improve this stalemate by asking people, listening and watching them and finally interpret what people do (with theory in the back of your mind). Reality economics or 'learning by asking', as Alan Blinder et al. practice in their book *Asking about Prices* (1998) seems to be going through a revival. Ed Lazear (2000) discovered from a visit to the Safelite Auto Glass company how a switch from time-rates of pay to piece-rates

stimulated productivity. And Truman Bewley (1999) discovered by interviewing business people, labour leaders, business consultants and counselors of unemployed why wages are more sticky than theory would predict or subscribe. Of course, there have always been economists of name and fame who have always practised this art. Alfred Chandler and Ronald Coase are perhaps economists that can serve as role models. The basic idea of reality economics, as I would like to dub this style of economics, is that it not only offers a source of inspiration but primarily a reality check on blue sky theorising. And for the policy economist Reality Economics offers not only interesting reading, it is even necessary as I discover more and more. Economists who have to make their hands dirty know that 'blackboard economics' is not sufficient to persuade their audience. Still they muddle through mumbling what the Washington consensus of the day is and this in my opinion can improve. Economic policy should move beyond macroeconomic statistics, which in the end can cover up any policy failure an economist or policy advisor wants to hide. Instead they should practice Reality Economics because then they will discover that markets can not function without institutions, that privatising the public sector has its limits and that technical progress is not something which you discover only in a laboratory but anywhere in society. By confronting theory with practice in the most direct manner possible you can make economists and policy makers think twice, and 'thinking twice' is perhaps the closest one can come to creating 'an open mind'.

6. Teach basic principles of economics (especially in the bachelors stage) in a *Socratic manner*. I think it is essential for bachelors to develop an intuition for economics by answering the age-old dilemmas of economics themselves. That's in my opinion the only way to get to know the meta-language of economics and at the same time see its possibilities and limitations. Economic theory as taught as a painstaking exercise of solving a hundred constrained maximisation problems is not going to get the message of economics across. This is, of course, not an easy task but it can be enhanced by using experiments and games (see, e.g., Bergstrom and Miller, 1997; and Holt, 1999). Recently, a Dutch commission led by Coen Teulings (see report of the 'Committee Teulings', 2002) came up with a similar advice for the future Dutch economics curriculum in high school. Of course, undergraduates in economics should extend their knowledge of basic economic principles. But in three years time - which is going to be the standard for becoming a bachelor in economics – one can not hope to learn economics in a very profound manner. The Masters stage of the economics curriculum is better suited in dealing with the deeper questions of

economics. By applying the meta-language of economics in different territories one can see how many miles a theory generates and what the pitfalls are of applying a particular theory.

4. Conclusion

"To a person of analytical ability, perceptive enough to realize that mathematical equipment was a powerful sword in economics, the world of economics was his oyster in 1935. The terrain was strewn with beautiful theorems begging to be picked up and arranged in unified order."

Paul Samuelson (1972: 160)

Economics was a 'stinch' for those who had mastered mathematics and applied it to economic problems. Like Paul Samuelson who was reminiscing over the state of economics in the 1930s, the new generation of economists could not help it. In a way the mathematical turn in economics was also a necessary step as it helped to focus on the essentials of a problem. On that account there is nothing wrong with mathematics. The real problem with economics starts when people really believe that with a beautiful mind you can solve all the problems in the world. Economic policy is a never a 'stinch', or to rephrase this: economic theory is a necessary element of applying economics but it never is sufficient. Still, when you listen close to what Paul Krugman or Tom Sargent have to say you will notice that they have fallen prone what Coase calls the vice of 'blackboard economics' (see also McCloskey, 1997): something is true just because you write (and prove) it on a blackboard. Paul Samuelson is a giant just like Adam Smith is a giant, but in retrospect he is exemplary for the professionalisation of economics that has taken place. The 'business of ordinary life' has on the one hand produced specialists who are out of touch with reality and on the other hand specialists who are in touch with reality but who throw their hands in despair what's to be done. Again there are the usual exceptions to the rule, but by and large the two-handed economist has become a one-armed economist, so much in demand by president Truman, who could not stand the endless "one the hand… and on the other hand" of his chairman of the Council of Economic Advisors, Edwin Nourse. The present situation amounts to a division of labour on the market for economists that has become counterproductive. The Golden Triangle of Questions-Theory-Data is split up among the 'specialists': theorists, measurers and 'journalists'. Theorists practice blackboard economics, econometricioners think that the data tell the whole story (or worse, let the data decide) and the

'journalists' or 'travelling salesmen' among us ask perhaps the right questions but they cannot back up their story by a frame of mind and the data to support it.

Economics may therefore appear as an easy subject, putting theory into action is an entirely different matter. Besides knowing your way around economic theory and statistics, you need the eye of a biologist, the sharpness of a spin doctor, the brashness of an investigative journalist, the ability to make an argument 'sing' like a poet, the gift of the gab of an orator, the stubbornness of a lone wolf and last but not least the common sense of the man-in-the-street. Of course, we can't all be this Utopian economist, even though some economists score good points on a number of dimensions. The best we can do is change our habits. Every conversation in economics that values pluralism as a public good is in need of a standard language. However, at the same time this standard should be language that adapts and evolves as experience grows. Price theory offers such a language (so, first of all, teach the *Basics of Economics*) and it can evolve by confronting theory with reality (by teaching and practising *Reality Economics*), by confronting the present ideas with the lessons from the past (by practising and linking *History* of economic thought with economic history), by confronting the insights from economics with that of other disciplines (by practising *Imperialist Economics*). By confronting theory with reality not only can economics become a more interesting subject for insiders and outsiders it will also make the users of economics think twice which is synonymous for 'having an open mind'. In short, changing course will perhaps not bring the truth any closer that Warren Harding was after, but it certainly will prevent the economist from making big mistakes and make economics the social science it deserves to be. "God, what a job!"

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