RENEWING CIVIC CONSERVATISM

THE OAKESHOTT LECTURE

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Introduction

Thirty years ago the most vigorous and exciting research programme in political economy was free market economics. I can still remember the excitement of tearing the envelopes off the IEA pamphlets for which I was a student subscriber. Friedman's lecture to the American Economic Association and Hayek's eloquent arguments for dispersed knowledge were my lodestars. I still believe they were right. They also answered a real need – Britain in the late 1970s did need a dose of market economics and Margaret Thatcher provided it. I am still a free marketeer. In fact I rather think we need another healthy dose of free market economics today.

But meanwhile we have – most of us - learned that free market economics, like patriotism, is not enough. Perhaps the crucial moment was the failure of the Harvard boys to deliver free market capitalism in Russia as the Soviet Union collapsed. It was a powerful reminder that a free market economy can only function in a cultural and moral environment that supports it. There may be a universal human instinct to truck barter and exchange, but to transform that into modern capitalism requires distinctive institutions and values – something which Michael Oakeshott himself well understood. We also understand more about those institutions in developed market economies. Marxists argued that capitalism would collapse because of its failure to deliver material wealth to the masses but now we realise that the much more serious challenge is Schumpeter's. He argued that capitalism, through its very success, could destroy some of the non-market moral values on which it depends.

This recognition that there is more to life than markets and indeed that markets cannot operate in a vacuum has led to a rediscovery of the values of community and compassion. This is a repeat of a historic pattern. After the high point of free market economics in late Victorian England we then had the British Idealists with their vision of a national community, and an intense debate about social conditions. This in turn led both to an extraordinary flowering of charitable activity and to the New Liberalism and the creation of the first welfare state.

Margaret Thatcher herself became increasingly aware of these challenges to free market economics in the final years of her premiership. Her response was a Christian one – we obviously had religious obligations to our fellow citizens. She would respond to critics of capitalism by referring them to the parable of the Good Samaritan or the parable of the Talents. She was appealing to moral principles which she believed had to shape people's lives in a free society, notably in her address to the Assembly of the Church of Scotland. Her whole cast of mind was actually rather different from what is now called Thatcherism - a world red in tooth and claw in which the devil takes the hindmost. This misunderstanding of her has led to a hollowing out of the traditions of British Conservatism. It has become for many of its critics and defenders alike almost indistinguishable from free enterprise rhetoric mixed with hostility to the state. This is a caricature of the Conservative tradition.

Margaret Thatcher's religious solution to the challenge of the moral framework for a free market economy was not going to work in a secular society. What can hold together Britain as a modern secular market economy without either religion or traditional class deference? What else is there? This still seems to me to be the question which Conservatives have to answer now that the argument for the free market has largely been won.

In my book Modern Conservatism, published in 1992 I insisted that the conservative tradition placed as much importance on our shared values and our sense of community as it did on the role of private property and free markets.

This emphasis on the importance of community has now been central to the political debate for almost fifteen years. The problem is that recognition of our need to belong to a society which is more than a market–place with a flag on top does not get us very far.

In part because the idea itself is hard to pin down. And in part because in this country where our sense of community is concerned it is especially hard to move from the abstract to the concrete.

In the US Christianity plays a much more important role and provides a moral framework to which even the most hard-bitten Republican can appeal. On the Continent there is much greater willingness to accept rules and regulations to protect the institutions of civil society. Churches in particular often have, for example, a much greater role in the welfare state than here. In Britain it is much more difficult to be explicit because so much is implicit – we are a club not a committee.

I tried in my book to give a real meaning to this talk of community. But it is particularly hard in our country. In the US Christianity plays a much more important role and provides a moral framework to which even the most hard-bitten Republican can appeal. On the Continent there is much greater willingness to accept rules and regulations to protect the institutions of civil society. Churches in particular often have, for example, a much greater role in the welfare state than here. In Britain it is much more difficult to be explicit because so much is implicit – we are a club not a committee.

An understanding of that implicitness – what Oakeshott would call "tacit knowledge" – means that many Conservatives are wary of the –ologies. Dr Johnson did not really trust Hume as a Tory, saying – "Sir , he is a Tory by chance", meaning that he reached his beliefs by a dangerously intellectual process. And when Hayek famously explained why he was not a conservative it was the obscurantism of many conservatives which he objected to. But Margaret Thatcher embraced intellectuals such as Ken Minogue who chairs this lecture today. And all of us in politics, regardless of our political persuasion, should draw on the most exciting and important developments in thinking about man and society.

Game Theory and the evolution of cooperation

The resource we should turn to is the most dynamic research programme since free market

economics. I mean the extraordinarily fertile area where game theory, evolutionary biology, and neurology are coming together. There is a flow of books and articles full of fascinating insights and theoretical advances. Every great university appears to have its contribution to make – here you have Brian Barry and Nicholas Humphries. I have learnt from friends such as Paul Klemperer, Gervas Huxley, and Matt Ridley. In particular Ken Binmore's book, Natural Justice, which seems to me to be of enormous significance.

The best place to start is game theory. I was fortunate when I was studying economics thirty years ago that one of my tutors, the late Michael Bacharach was an early and distinguished proponent.

Unfortunately, it has suffered from some terrible PR. Two geniuses of game theory star in famous films. The inventor of game theory, John von Neuman, was the model for Dr Strangelove, acted of course by Peter Sellers as a mad Nazi who can barely restrain his arm's indiscriminate urge to give a Hitler salute. John Nash does slightly better with Russell Crowe in A Beautiful Mind but the film's one attempt to define a Nash equilibrium gets it completely wrong. Perhaps it is not surprising if people are baffled by this strange new discipline which seems to be dominated by tortured geniuses.

Game theory is the rigorous study of the logic of human – or animal - in carefully defined circumstances – which is what games are.

The Prisoners' Dilemma

I will begin with the most famous game of all - the "Prisoners' Dilemma". I am sure lots of you will be familiar with the story.

Imagine that two bank robbers are charged with their crime and held in separate cells. If they both confess each gets 9 years.

If one bank robber confesses and the other bank robber refuses to do so, the snitch gets off scott free and his partner gets 10 years.

If they hold out and refuse to confess they face a minor tax evasion charge and each gets 1 year.

Suppose that our partners in crime had an understanding that if caught they will remain silent and will refuse to confess. Will they honour their agreement?

Well, let us think it through.

Suppose that your partner has confessed. If you stay quiet, you will end up in prison for ten years. In that case, the best thing to do is to confess so you only get 9 years.

Now suppose your partner has stayed quiet. In that case, if you stay quiet you will get one year

in prison. But if you confess, you can escape the charge.

It does not matter what your partner has done, the structure of the game is such that you will always be better of confessing. Confessing is the best strategy to choose whatever the other player has chosen to do.

According to game theorists the game has only one possible outcome; both players betray their partners. They both confess and both receive a prison term of 9 years. This is said to be the unique Nash equilibrium of the game. What is a Nash equilibrium? It is a set of solutions in a game where no one player can improve their position by changing their strategy. It is a *unique* Nash equilibrium because, in this case, there is only one such equilibrium.

The choice between confessing and remaining silent has become a metaphor for our ability to cooperate, share burdens, and generally be a good citizen. The implication that we will not be good citizens and that the two partners will not cooperate with each other is what all the fuss is about. Much of the vast outpouring of books and papers on this game has focused on whether this outcome is reasonable. However, the outcome of the Prisoners' Dilemma might seem "nasty" but this is a consequence of the payoffs built into the structure of the game. Change the payoffs and you change the game and its outcome. The Prisoners' Dilemma does not tell us anything very profound about human nature except perhaps that in some circumstances co-operation is difficult to sustain. You can also use the tools of game theory for the opposite effect – to show how co-operation can be sustained.

The Driving Game

I have not finished with the Prisoners' Dilemma. However before returning to this game I want to discuss another game - the driving game.

We play this game every time we set out on a car journey. The game has *two* obvious Nash Equilibria:

- In the first case, we all choose to drive on the left.
- In the second we all choose to drive on the right.

These are Nash equilibria because it is the best strategy for every driver to stay on the same side of the road as everyone else. There is also a less-obvious third equilibrium, but we will come back onto that later.

Note that in this case, the two obvious Nash equilibria are co-operative.

The driving game helps us to understand *two* of John Nash's ideas. The first idea is that the Nash Equilibrium is self-reinforcing. If you assume effective external mechanisms to direct behaviour – laws that we obey automatically for example – then most of the problems which game theory wrestles with disappear. But life is not like that. Game theory gets us to think about what we would do even without such a deus ex machina. In the case of the driving game, I drive on the

right because you drive on the right, and you drive on the right because I drive on the right. No-one can improve their drive home by "defecting" and driving on the other side of the road. The equilibrium is self enforcing. This self-enforcing feature of Nash equilibria is crucial to understanding why they have attracted such enormous attention.

Even in the absence of any edict by government most of us would obey the 'law'. The self enforcing nature of the custom that in this country we drive on the left requires very little enforcement by government - the custom polices itself as anybody choosing to break the custom will rapidly discover. Perhaps we can reinterpret Michael Oakeshott's account of the distilled wisdom imbued in our customs by saying that these time honoured ways possess the self enforcing property inherent in the concept of a Nash Equilibrium.

The second fundamental insight offered by this very simple game is simple: it has more than one equilibrium. In France it is the custom to drive not on the left but on the right. This feature of many games (that they have more than one equilibrium) is second insight we get from studying the driving game. Between them these two ideas begin to start showing what game theory brings to politics. Let us go back to that driving game

In this country it is the law of the land to drive on the left. In France, they drive on the right. This is one of the things a state does. It choose between equilibria. Indeed a rather poorly known Geneva Convention - the Geneva Convention on Road Traffic - stipulates that

> "All vehicular traffic proceeding in the same direction on any road shall keep to the same side of the road, which shall be uniform in each country for all roads."

> "Domestic regulations concerning one-way traffic shall not be affected."

So there you have it. If you drive the wrong way down a street, you're in breach of the Geneva Conventions.

One of the distinctive tasks which makes a political entity a government is the power to specify on what side of the road we should drive. In Sweden in 1967, the government passed a law so that at 5 a.m. one Sunday morning, they shifted from driving on the left to driving on the right. There are some wonderful photos of Stockholm that morning.

This may tell us something very important about what governments can or cannot do.

The first lesson is that government can help society to pick between the many competing Nash equilibria which may be available.

The second is that if we try to shift society to outcomes which lack the self-enforcing property of

Nash equilibria, we may fail. When politicians changes that are not going to form new Nash Equilibria, they may fail. Politicians sometimes put excessive faith in external enforcement of something which is not a Nash Equilibrium when they should be trying to create a new self–enforcing equilibrium. A classic mistake – if I might say, especially on the left – is to specify an outcome and assume it is easy to use the mechanisms of Government to get there.

Instead, it must think carefully about how to design an institution or a mechanism to make sure it is an equilibrium we can sustain.

There is a legitimate role for government in helping to move us to a new equilibrium. As with changing sides of the road, this can be for technological or logistical reasons. However, as social norms change, new legislation can be required to enable the shift. Conversely, legislation can find itself trying to preserve an old equilibrium which is no longer sustained by public support. One cannot imagine this happening thirty years ago. Sir James Fitzjames Stephen put it very well:

> *"the sentence of the law is to the moral sentiment of the public in relation to any offence what a seal is to hot wax"*.

That is what for example happened last year with the ban on smoking in most enclosed public places.

To see how remarkable this is consider what would have happened if the same law had been passed thirty years ago. I doubt very much such a law could have been enforced. Not because parliament could not have passed the necessary legislation but because a ban on smoking in public places would not at that stage have been acceptable to public opinion.

If the game theorists are correct that most law has this self enforcing property we reach the following conclusion: the statement that thirty years ago public opinion would not have supported a smoking ban is really saying that the shift in public opinion has enabled Government to help us move to a new Nash equilibrium. They did make mechanism changes to enforce the law, but the role of government was primarily to help society coordinate on this new equilibrium.

But there is more. If the game theorists are right this is not an isolated example. In my life time profound social change has been taking place. Feminism has transformed the role of women, whilst attitudes to race have gone through a transformation.

Once again laws enacted by parliament have played their part. The Equal Pay Act and successive race relations acts helped by creating a framework to enforce these norms, and so encouraged progress. However, it was by no means a foregone conclusion that this legislation would do much bring about any very deep seated change in attitudes or behaviour. Indeed opponents of this kind of legislation objected on precisely these grounds - that you cannot legislate to change morality. But who can deny that precisely such a transformation has taken place?

Who could have imagined 50 years ago that sexist and racist attitudes that were once almost universal, would be replaced by norms that are now enforced with as much enthusiasm as the Victorians enforced their very different morality.

The point I am trying to make is this: the self enforcing Nash Equilibria that persuade us to drive on the left, and that help to sustain the smoking ban are really no different from the norms we now observe towards sexism and racism. Driving on the wrong side of the road, lighting a cigarette in a pub, making sexist or racist remarks are all unacceptable in modern Brittain and they are unacceptable for fundamentally the same reason. They are a violation of the 'game of morals' that all of us play every day of our lives.

Just as will be punished if we drive on the wrong side of the road (and probably not by a policeman) so we will rapidly discover that we pay a price if we disregard the morals we now enforce regarding smoking in public, or by making sexist or racist remarks.

If the enforcement mechanisms are fundamentally similar, so is the role of government. Although it must be said Government is not acting in isolation, or on its own. Feminists, writers, and poets as well as politicians have played their part. By a series of incremental steps society has gradually coordinated on a new equilibrium.

Government has taken a role in these transformations, but it has been moving with the grain of public opinion. Although the police and courts to some degree can be said to stand outside society and enforce the law, they can only do this to a limited extent so long as there is sufficient support for those laws.

I believe that Ken Binmore's book *Natural Justice* formalises some ideas which lie deep in the Conservative tradition. When he refers to "the gossamer threads of shared knowledge and experience that hold an equilibrium together" he is referring to precisely the kind of tacit understandings discussed by Michael Oakeshott. Moreover, he is every bit as insistent as Oakeshott that what appears fragile may be more robust than anything well meaning planners and government officials may try to replace them with.

The self enforcing property of Nash equilibria mean that attempts to change our institutions may fail because those gossamer threads have a strength stubborn vitality that frustrates repeated attempts at reform.

But, if we are faced with more than one equilibrium society faces a co-ordination problem. Governments can indeed try to shift us between possible equilibria. How we solve these co-ordination problems is at the very core of our political debate.

Conservatives have always understood that we face constraints, and that these limit the range of viable social contracts.

We can forget that what was stable yesterday may not be stable today. Second, we may concentrate so much on sustaining the existing social contract, that we loose sight of the the opportunity to select a better equilibrium from the many available.

Left wing socialists agree but make the opposite error. They understand all too well the need for change, what they fail to understand the constraints they face.

They are forever proposing reforms that are unworkable because they call for behaviour that will never materialise in equilibrium.

Now Ken Binmore makes it clear he is not a Conservative – he sees himself as a Whig. His ideas are wide-ranging, and I am only scratching the surface today. I must not attribute to him political views he does not possess. However, as Hayek found out, explaining that you are not a Conservative does not stop us nabbing your ideas.

Now we must revisit the Prisoners' Dilemma.

Beyond the Evolution of Cooperation.

Even in the rather loaded scenario of the Prisoners' Dilemma, things look different if we change the game in one crucial respect; imagine that rather than this being a one-off decision, you face the same dilemma with the same partner in crime over and over again.

In this new situation it is possible that the Nash equilibrium can reward co-operation between players. If the prisoners were brought back to a similar situation again and again, they would have the opportunity to "punish" one another for confessing by confessing themselves in subsequent games.

This means it becomes possible to enforce agreements.

Robert Axelrod's book "The Evolution of Co-operation" explored this world of repeated games. What he did was to arrange a tournament between computer programmes playing "Prisoners' Dilemma" style games again and again.

In the Axelrod game, they would co-operate with one another and share a big pot.
If only one "defected", they could steal the pot.
If both defected, they lost most of the pot.

They would play the same game over and again. The aim was that computer programmes following pre-set strategies should "compete". They would follow pre-set strategies and we would see who would do best.

We have already found out that in the Prisoners' Dilemma game, confessing - "defecting" - is the best option when you play it once. However, Axelrod showed that the most effective strategy in

his game was called a programme called “TIT FOR TAT”. TIT FOR TAT would co-operate with the computer it was playing against, but if you tried to swipe the pot, it would punish you on a subsequent turn. If you reverted to co-operating, it would revert back too. In effect, it would mirror you one turn later.

I can still remember the excitement of reading Axelrod’s book, which set out this crucial insight. The Prisoners’ Dilemma can be resolved if instead of playing the game once we find ourselves repeatedly playing the same game.

Axelrod supported this with some historical evidence. We can imagine few scenarios more hellish than the trenches of the Great War. Drawing on research by Tony Ashworth, even in those terrible circumstances co-operative strategies emerged between soldiers in the two front lines to make life more bearable. Snipers would shoot to miss because otherwise you would never be able to get out of the trench. They would not fire at certain areas marked out by flags. Bombardments would not happen at certain pre-arranged times so on occasions you could get out of the trench and be relatively safe. You did not shell supply trains coming to the front line.

One account from a British soldier captures it very well:

> *“I was having tea with A company when we heard a lot of shouting and went out to investigate. We found our men and the Germans standing on their respective parapets. Suddenly a salvo arrived but did no damage. Naturally both sides got down and our men started swearing at the Germans, when all at once a brave German got up and shouted out, “we are very sorry about that ; we hope no-one was hurt. It is not our fault, it is that damned Prussian artillery.”.*

Ashworth calls these arrangements the “live and let live” system. They show how co-operation can emerge even without explicit commitments because frequent interaction permits us to adopt strategies that reward cooperation, and punish a failure to cooperate.

This is an example of reciprocal altruism. Each individual act by one of the soldiers refraining from firing may, on its own, seem altruistic but it was part of a system in which reciprocity is assured. It shows how co-operation can emerge without anyone appealing to a sense of community – in fact all the appeals were the other way. Even in these uniquely unfavourable circumstances repeated interaction meant that cooperation did on occasion emerge.

These ideas influenced my “Civic Conservatism” which was published in 1995. That went beyond talking about community to see the importance of embodying the idea in real live institutions. That is what gives communities some backbone and shape. It is deep in the conservative tradition to love our country because of its institutions. Civic conservatism was my attempt to carry that tradition forward. Institutions are places where people interact with each other sufficiently frequently for co-operation to emerge as a rational strategy. By then Tony Blair was going on about community but it did not seem to me that he really got the significance of institutions.

That seems to me to be a fundamental weakness of both the Blair and the Brown governments. Neither of them seem to get institutions. They much prefer to talk about values. But values are not worth much unless they are embodied and sustained in real live institutions which shape how people behave.

Perhaps I can give you just one example of the problem from my current responsibilities. At a meeting with some members of the governing body of Cambridge University last year I discovered that every week or two they were being phoned by one of the Treasury's top officials to ask why they had not yet changed their governance arrangements to meet Gordon Brown's views of how they should be organised. This shows an extraordinary failure to understand the proper job of a finance ministry and the need for self-restraint so as to leave room for other institutions to govern themselves. I am sure Sir Howard Davies would have a deft way of fending of such presumption by our old department.

However, simply providing space for institutions is not enough on its own.

Even in Axelrod's own repeated game, co-operation is not inevitable.

We will not necessarily fall into the good equilibrium. I mentioned there was a less-obvious third equilibrium to the driving game. We know a community can drive on the left, or it can drive on the right. However, what if drivers toss a coin and randomly choose a side of the road to drive on each morning? If everyone else is driving randomly, assuming I must drive somewhere, I might as well join in.

In the one-shot prisoners' dilemma, there was only one solution. Therefore it is tempting to believe that in the repeated version there is also only one equilibrium, the difference being that in this version, players will cooperate. However, this is not the case. In repeated games, you can find that there are many possible Nash equilibria. In the Prisoners' Dilemma, these need not be co-operative. Some of these equilibria can be very vicious. We can get stuck in a cycles of non-co-operation as well as developing strategies that result in cooperation.

Moreover, co-operative strategies can be fragile. Generals in the chateaux during the Great War developed systems whose role was to break up co-operative strategies with the enemy. The Great War will always be remembered for the exceptional bravery of men who were slaughtered in their millions rather than the reciprocity of the men at the front.

Government cannot therefore just stand aside and say co-operation will emerge. In Francis Fukuyama's words:

> *There is a certain assumption that civil society, once having been damaged by the excessive ambition of government, will simply spring back to life like brine shrimp that have been freeze-dried, and now you add water to them and they become shrimp again. It is not something*

that you can take for granted."

Moreover, even if co-operation does emerge, it is possible that the co-operation will not be what we want. That is what anti-trust law is about. We want companies to get together to pay for training but not to fix prices. We like the mutual support of friendly societies but do not like it when trade unions want to take secondary action in support of someone else's dispute. In the 1980s, Mancur Olson's great work "The Rise and Decline of Nations" explained how a society of co-operative embedded groups which were acting rationally could damage the economy. We have heard reports of the police saying that witnesses to the Rhys Jones murder in Liverpool will not come forward because they fear retribution. The Mafiosi ideas of *omerta* and *vendetta* are both forms of reciprocity which Governments have been trying to stamp out for decades.

The Government has a role in helping to create the conditions in which co-operation will flourish and it must break down co-operation which it does not think is good. This is a political judgement which sometimes comes down to normative values.

Evolutionary biology.

But before we go any further into that argument we need to take a step back and look at how evolutionary biology comes in, as pioneered by E.O. Wilson. This is emphatically not Social Darwinism, which has done such damage by misapplying the model of evolution to social change to justify a world of the devil-take-the-hindmost.

Game theory is an intellectual partner of evolutionary theory. We can use evolution to help us understand game theory by making it, literally, very natural.

I have just spent a little while showing why we cannot assume we will automatically get co-operative behaviour. But looking at the animal kingdom, we can see that co-operation clearly can pay off, and does indeed emerge.

As we know from all the best horror movies, vampire bats need regular supplies of fresh blood. They have had a bad press but I want to change all that. They have been misunderstood. We have now discovered that the vampire bats which come back from a night's hunting with lots of blood regurgitate some to share it with the other vampire bats who were less successful. This is not just restricted to their immediate relatives. It enables the colony to thrive. In Professor Binmore's words:

> *Although vampire genes are selfish, reciprocal sharing turns out to be sustainable as an equilibrium in the vampire game of life.*

Maybe vampire bats need a rebranding. It turns out that they are caring, sharing creatures after all.

Let me pause to acknowledge an important objection. You may think such anthropomorphism

should be left to Walt Disney. And you may think that this whole school of thought is getting dangerously close to committing that cardinal error of moving from is to ought.

Our ultimate authority on these matters should surely be the great David Attenborough. I love his nature films and one reason is the way he makes sense of animal behaviour, treating it as in some sense rational. Some of the key insights in biology have come from exactly this way of thinking.

Under the stresses of evolution, it actually looks as though genes are actively trying to maximise their fitness. They look as if they are – in some sense – "selfish". We know they have no motives, of course, but it looks like it. So much so, in fact, that much of the work of biologists such as John Maynard-Smith has been in showing how the evolutionary process can be modelled as though the animals were trying out sets of genes to see which ones work out.

There is something Aristotelian about evolutionary theory because it focuses on the fitness of the thing. This quality of fitness is deeply satisfying and this helps us to understand it. If it is not too far-fetched it is the quality possessed by say a leopard in its natural habitat and a craftsman who seems to have mastered the material in which he works, as described in Richard Sennett's excellent new book. In both cases there is a rightness to what they do

This is an approach to culture - and to ethics - which helps to understand how and why we do things. For example "The Embrace of Fatherhood" is a fascinating book on how fathers behave in the animal kingdom and was taken up by the fatherhood campaigners in USA. They tell recalcitrant young men who have fathered a child and will not take any responsibility for it to look at what a male Emperor penguin does to protect its egg during the Antarctic winter. It is an unusual way of getting young men to take their responsibilities seriously, but in America they are giving it a try.

How far can reciprocal altruism get us?

You may feel that, as so often, we have heroically discovered what Adam Smith and David Hume had already worked out. In fact Ken Binmore is avowedly a Humean. His contempt for what he calls "skyhooks", resting our morality on injuctions from above, is somewhere between Hume and Dawkins. Like David Hume he takes very limited assumptions about human behaviour and generates important and interesting conclusions.

What is heroic about this whole research programme is how far Binmore and others such as Maynard-Smith or Ridley get with very modest assumptions. In this respect it mirrors the intellectual structure of neo-classical economics - generating powerful results from a very limited account of human nature. For David Hume of course the model was Isaac Newton with an elaborate body of knowledge based on very modest foundations.

Some may dislike this reductionism. Life does not feel like this. And having escaped from the caricature of rational economic man why be in quite such a rush to embrace an account which

seems to have quite a lot in common with it? The challenge is to see how broad an account of human behaviour this model can offer.

There is a growing body of fascinating evidence on the different kinds of situations in which individuals alter their behaviour in response to changes to their environment. A recent Cabinet Office document "Personal responsibility and changing behaviour" summarises the vast and growing literature on this issue.

But this document takes the opposite approach. It is not reductionist. These behavioural theories are theories are trying to explain such things as friendship, justice, reputation and trust which are not inputs into our model of society.

However, the problem with much of the theory in this literature is that it assumes the existence of the very phenomena it is trying to explain. For example a model might make the assumption that individuals will exhibit some kind of altruism. The modeller then works out how an individual with these characteristics will behave. In other words the individual is assumed to maximise given the social preferences the modeller has attributed to them.

When an oceanographer models the movement of tides, or the formation of waves he does not assume the existence of either tides or waves. They emerge as a result of the behaviour of more primitive notions. Waves and tides are the necessary consequence of the relationships being modelled. They are emergent phenomena. For example, a physical model of the ocean is will not assume the existence of waves. It will assume the existence of water molecules. It is the water molecules that, in the right circumstances produce waves.

When the initial conditions are right, waves necessarily appear as emergent phenomenon.

The reductionism of which game theory stands accused follows the same methodology. Such things as trust and altruism are not present in the assumptions made by the modeller. They never appear as 'primitives' in the model. This does not mean they do not exist any more than the absence of waves in the building blocks used by oceanographers mean that the Atlantic ocean is as flat as a pane of glass.

The first advantage of this approach is that we gain a deeper understanding of the phenomena we are really interested - whether it be waves or altruism.

The second advantage is that armed with this deeper understanding we are more likely to be able to think through the consequences of adopting various policies, and working out which ones might actually work.

So, looking at altruism from this model should give us a clearer understanding of how and why it works. How reciprocal does our altruism have to be? Can it explain feelings of obligation to all our fellow citizens? What about all of humanity? The entire natural order?

Humans have got beyond vampire bats because we have developed much more sophisticated tools for cooperation to work. Professor Binmore's work has focussed heavily on these tools, and I cannot do them justice within the confines of this speech.

Work by Nowak has shown that the amount of reciprocity we are willing to undertake with another person is related to the likelihood of our ever seeing them again. The more likely they are to disappear, the less likely we are to help them. So here is the first stage in our process of building altruism. We need to have institutions where people will meet and mingle time and again. If they know for sure that they will see one another, they can engage in more altruism.

However, in a large society, we cannot count on meeting people again *directly*. This is not to say reciprocity will diminish but we need to have a system which uses reputation. Reputation allows us to enjoy *indirect* reciprocity. If I can punish another person by refusing to help them because they refused to help another person, we can build a virtuous circle. However, this requires that their reputation be known to me, and that their reputation be good.

The importance of reputation is shown in the particular effectiveness of small institutions. An extraordinary high proportion of social science experiments involve experimenting with the behaviour of US college students – they are the lab rats of the social sciences. So it is no surprise that one of the best pieces of evidence on this comes from student dorms. It shows you get much higher amounts of co-operation in smaller halls of residence. My own researches showed much worse problems of discipline and behaviour in larger schools. The popular preference for small institutions has a clear basis in fact, and now there is a theory to explain it. We are learning how many reputations people can hold in their heads at any one time. Institutions which rely on peer-group effects are more efficient if they limit the number of people involved to fewer than 150 people at a time – that is what some experts estimate is the limit of our neurological capacity.

But how do you get beyond 150? The next step is to move beyond our own ability to punish people, to creating webs of formal institutions to enable reciprocity beyond our social sphere.

A way in which this can be extended is through the use of customs. If we have a custom of open reciprocity, where I assist people regardless of whether or not they will have a chance to reciprocate, it can function so long as my own friends force me to maintain the custom. Observance of these institutions operates as a kind of bank which enable us to build up deposits of co-operative behaviour. This means that their functioning goes well beyond a narrow barter economy. This does not involve a conscious set of calculations. We end up with intuitive reciprocal impulses. Neurologists are learning more all the time about these reciprocating impulses which develop in childhood.

Prospect judged Noam Chomsky the world's leading public intellectual. His most powerful single idea is that there is a universal capacity for language but it is then expressed in different ways in different cultures. It has spawned a very creative research programme which has confirmed his basic account. Every baby has the capacity to learn all the world's languages but what the neurologists call synaptic pruning in the early years reduces that child's capacity to the

languages around her. A songbird which does not hear other songbirds singing at the crucial stage of its development can never sing.

That account of language can work for morality too – indeed the two are closely related, depending as they both do on human interaction.

I mentioned before that direct reciprocity relies on repeated interaction with the same people to learn reciprocity and co-operation. That is how we learn direct reciprocity as children. Then you learn about reputations and the observance of customs. Then you can start to apply it more widely as you meet more people. We will eventually reciprocate with people we do not know – a kind of spillover effect.

This lies behind many of the fascinating examples of persuasion which Robert Cialdini has analysed. A lot of persuasion works by creating a sense of reciprocity – it is what the Hare Krishna is doing when they give us a flower for free but promptly expects something from us in return. This is a crucial insight which can help us with building mechanisms to deal effectively with members of the public, one of challenges of modern government. Take for example a problem which affects restauranteurs and the NHS alike- people who make a booking and then do not attend. One tiny change in approach by the telephonist can have a big impact. After the telephonist has said given the time and asked the customer/patient to let them know if he cannot attend they should then pause. That gap in the conversation is filled by the customer saying "OK". And if that is said there is a much greater chance of feeling bound by a commitment so you phone to let the restaurant or doctor know if you will not be coming.

Reciprocity is not the whole story, of course.

Sometimes our transactions are one-offs and so we lack enforcement mechanisms. If we are unhappy about a car or a house which we have bought, what do we do? A threat not to buy a subsequent house from that person is unlikely to act as a deterrent. We either need some kind of intermediary who will deal with that person subsequently, or a mechanism of redress.

Sometimes, we do not know enough to use reciprocity to punish defectors. The General Medical Council, for example, is explicit enforcement mechanism. Its role is to prevent doctors taking shortcuts and endangering patients by enabling us to complain to people who do know enough.

These are very blunt instruments. But sometimes, as with the alumni associations of medical schools, reciprocity allows less obvious enforcement mechanisms, rewarding good behaviour and punishing bad behaviour – in this case through the mechanism of dinner party conversation. And the two can feed off one another. Damage to ones reputation by the formal institutions can allow punishment by the informal ones.

However, there are some troubling questions. If we think of culture as ebbing and flowing towards and away from equilibria, it might be tempting to think that if there has been constant competition between social forms and customs, why have we not all coalesced around one good

cultural form? If we can identify one, why not rush to adopt it? Is there such a thing as exceptionalism?

Despite the claims of the globalisation protesters, comparative advantage does not mean that cultures merge. Comparative advantage means that differences are rewarded. One reason for the failure of the British car industry in the 1970s was its attempt to compete with the Japanese at Japanese business models rather than focussing on the strengths which the British industry historically enjoyed.

However, there is also the simple fact that our ways of life are deep-rooted and differ across the world. Some of the equilibria which underpin our culture are phenomenally strong. Let me take one example.

Here in England we have a family form which is much more unusual than we recognise.

As the French demographer Emmanuel Todd has shown, England is a country where we have nuclear families in which we leave the parental home at adulthood to set up home independently with a new partner we have chosen ourselves. In many other societies your marriage could be to a relative and you might well stay with or close to an extended family – as seen in My Big Fat Greek Wedding.

Even where other countries do have nuclear families – in for example most of Western Europe - they tend to take very different forms, depending on whether inheritance is equal or unequal. In France for example inheritance laws give rights to every child automatically, over-riding what ever is in the will. In England by contrast the power to dispose of property is absolute and means no child has an automatic right to anything.

Not having big multigenerational family homes, the result is that, to quote one researcher, "the majority of ordinary people in England … are rampant individuals, highly mobile both geographically and socially, economically 'rational', market-oriented and acquisitive, ego-centred in kinship and social life". In one survey of 140 English families, 51 failed to maintain residence for longer than a generation. There was lots of buying and selling of property. On 43 occasions the house was passed on within the family of which 24 were direct blood inheritance. But there were 21 cases of the property being conveyed to someone outside the family and 98 cases of an open market sale. This is a fairly familiar story about life in England. However, this was a survey of thirteenth century England by the historian Alan Macfarlane.

It is possible that this family structure goes back even further. The Anglo-Saxon law codes are not the law-codes of a clan-based society, and the responsibilities placed on families were quite weak. There never was feudalism in England, and we never lived like the stereotypical Italians in Dolmio advertisements. Montesquieu thought the English way of life came out of the forests with the Anglo-Saxons. He might be right. The other countries in Europe which are dominated by this family-form are Denmark and the Netherlands.

How has this way of life survived for so long? It is not genetic. And after all, it seems vulnerable. In order to survive as a small family society, if you are not to live a rather limited life, it becomes more important that you are able to trust people from outside your family. English families have always had to turn to the Yellow Pages rather than a family member. This need to deal with strangers means we need to have institutions which enable you to meet people and put faith in them. We have a rich font of custom and courtesy which is a response to the fact that we must deal more regularly than people in other cultures with people who we do not know.

Family structure is one of the deep-seated equilibria which underpin our society, and impact other equilibria. There really is an Anglo-Saxon model which relies on deeply ingrained markets and a very rich civil society to fill gaps which are filled elsewhere by kith and kin. If you do not have a wider family to rely on, you need to be willing to get stuck into the marketplace.

Conclusion: The role of Government

Some of the things we have talked about today chime with old Tory insights.

- We must be cautious and sceptical about what Government can and cannot do.
- The processes of cultural evolution mean there is often wisdom in traditions.
- Sometimes, the threads holding our society together are delicate and hard to distinguish

However, it offers us new perspectives.

First of all, it clarifies what the role of Government is.

- It can help us switch between equilibria which already exist.
- If it wishes to shift on to new equilibria, it has some tools for creating new equilibria.

It does not tell us what a "good" equilibrium or a "bad" equilibrium is. That is a normative judgement for politicians, but this game theoretical toolkit does help people on the Left and on the Right to think about what the available options are.

As Ken Binmore put it in one of his most powerful passages:

> *"Love and duty are not the cement of modern societies, although they may be the mortar that holds the bricks of primitive societies together. Modern society is like a dry stone wall. Its stones do not need cement. Each stone is held in place by its neighbours, and it, in turn, holds its neighbours in place".*[1]

We should think of society as being like a dry stone wall or a masonry arch, holding together without social cement. The task of Government is to create the environment in which the social norms and institutions which enable reciprocity can flourish.

[1] Game Theory and the social contract, volume 1, p.24

Second, it clarifies what those institutions are and how they work. By using game theory and neurology, it helps us realise that they are enforcement mechanisms and arenas for reciprocity. A role for Government must be in protecting the institutions sustaining beneficial equilibria, and taking apart the institutions sustaining malign ones. There will be disagreement about which equilibria are which, and politicians need to be clear about the values for which they stand.

However, if Government is to maintain reciprocal altruism and co-operation, this approach helps us to better understand what is at stake and what it can do to help.

This exciting new interdisciplinary endeavour is helping us improve our understanding of society so that the next Conservative Government will be able to genuinely foster a better society based on stronger institutions.

DLW
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