

ON MISUNDERSTANDING GOVERNMENT: AN ANALYSIS OF THE ART OF POLICY ADVICE

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In the traditional economics literature government is treated as an agent exogenous to the economy. When economists confront situations where individuals cannot sign binding contracts, they invoke government as the "third party" that can enforce the contracts; after studying the macro-economic problems of a country, economists frequently go on to tell what government should do to improve the outcome. It is argued in this paper that this is an erroneous view of government and is the reason why the advice of economists and other social scientists have had so little impact on government behavior. The difficulties of advising an *endogenous* government are highlighted by developing a new game, the Cheater's Roulette. It demonstrates that even when the adviser and the politician have very similar objectives, there may be no straightforward way to transmit the knowledge of the adviser to the politician. Having analysed the subject of advising government, the paper goes on to discuss, more speculatively, some general issues concerning the modeling of an endogenous government.

1. ON MISUNDERSTANDING GOVERNMENT

THERE ARE situations in life where individuals, left to themselves, create inefficiency and anarchy. This was the concern that drove Hobbes to philosophize about the Leviathan that can bring order into chaos; and this is a concern that has provoked much contemporary writing. The Prisoner's Dilemma is the classic description of this predicament (see Taylor, 1976). It codifies how in some situations individuals, left to pursue their individual interests, can harm themselves. The Prisoner's Dilemma is an illustration of extreme externality between individuals. Smaller externalities are pervasive in life. They form the basis of our contemporary environmental concerns. If individuals work in their atomistic interest, then each individual may ignore the pollutants their actions inject into the atmosphere or the little damage that their factories may do to the ozone layer. However, the totality of these actions can leave all individuals worse off with severe environmental damage.

What should be done about this problem? To many the answer is obvious. The above discussion shows how individual rationality may fail to be an adequate organizing force in society and so what we need is government intervention to bring *individual* actions into alignment with *social* interests. Thus what the two prisoners in the Prisoner's Dilemma need is a third party to help

them maximize their own welfare (by, for instance, punishing the person who defects and confesses).

This advice for government intervention is flawed for a non-obvious reason. If the advice were followed it would bring about the kind of world being recommended. So in *that* sense there is nothing wrong with the advice. What is wrong is that it is unlikely to be followed, because it takes an excessively simplistic view of government. Government is treated as a benevolent agent, exogenous to the economy, whose intervention can be invoked at will. It ignores the fact that government is itself a collection of individuals with their own motivations and aspirations.

Likewise, as we just saw, dismayed by the outcome of the Prisoner's Dilemma, economists and political scientists often recommend that what is needed is a "third party" to induce individuals to behave in their group interest. The problem with this remedy is that if there is such a third party around then we had no right to model the game as a two-person Prisoner's Dilemma in the first place. The agent who is willed out of thin air should have been a part of the game to start with. If the presence of the third person means that we do not have a Prisoner's Dilemma then we never had a Prisoner's Dilemma; and if even with the third person included we still have a Prisoner's Dilemma then that *is* our plight – there is no escape from it.

In this same spirit the persons who comprise government should, strictly, be thought of as players in the "economy game". In his recent monograph on the political process, Dixit (1996, p. 2) takes a similar line: "Most important, I will argue that the political process should be viewed as a game . . . What follows from these observations is orthogonal to, and perhaps destructive of, the whole 'markets versus governments' debate."

If prices are high very few economists today would say that their advice is that the producers should lower the price. They do not give this advice not because the advice is wrong but because they feel it is a futile advice since producers have their own objectives and will not heed such advice. Hence, the profusion of advice that economists target at government reflects, more than anything else, how little they understand government.

Our poor understanding of government has showed up in other places too. Some economists argue that individuals should be entirely free to pursue their own interest, free from government intervention. This misses the point that government is itself an assemblage of individuals.

Similarly some economists believe that institutions that have emerged out of individual actions are optimal; they are there because their benefits outweigh the costs (Anderson and Hill, 1975; Posner, 1981). Government, according to this view, is an organization that distorts these natural civic institutions. Such a view is made possible only by not asking ourselves where government itself has come from. Government did not create government; so we cannot castigate it as one more manifestation of the evils of government. Indeed government is a fairly modern institution (Strayer, 1970). It has evolved through the ages, through a

multitude of individual actions. (We return to some of these issues in section 6.) Hence, if we maintain that individuals, left to themselves, bring about desirable institutions, then we cannot say that such institutions need to be protected from government because government is such an institution.

Moreover, to take the view that it is all right for individuals to bring about institutions which help them cooperate and enhance their well-being but that they should not create the Leviathan amounts to placing an exogenous constraint on *individual* effort. It is the fallacy that Newt Gingrich commits when he says that government should get out of charitable and welfare work and leave these to community efforts. What this misses out on is that government itself is one such community effort.

To see the intricacy of this argument and the ease with which we can err in our conception of government, let us consider Taylor's celebrated critique of Hobbes' (1651) justification for strong government. As Taylor observes in his *Preface*, in the West the most popular justification of the state is that "without the state, people would not act so as to realize their common interests; more specifically, they would not voluntarily cooperate to provide themselves with certain public goods". The roots of this view, he argues, go back principally to Hobbes (and also to Hume). Taylor's book is meant to be a critique of this view. He is right in challenging this view, which is based on the "third party" (or exogenous or "puppet") view of government which we have already taken to task. However, one does not have to be a careful reader to see that his criticism is very different from the one made earlier in this section. Taylor shows how individuals can voluntarily cooperate, for instance, through repeated play of the Prisoner's Dilemma. This then becomes the basis of his rejection of the Hobbesian recommendation whereby individuals create the Sovereign who then ensures order and cooperation among the citizens by "creating appropriate laws and punishing transgressors" (Taylor, 1976, p. 104).

The error in this viewpoint is to characterize the government-led path to order as a "coercive one" and the repeated Prisoner's Dilemma path as the "voluntary one". Hence, Taylor's critique also commits the fallacy of the exogenous conception of government. Since in reality government is itself a creation of the individuals and is run by the individuals, the government-led path to social order is nothing but a self-enforcing equilibrium among the individuals – a point that is made with great ingenuity by David Friedman (1994). After all even in the repeated Prisoner's Dilemma cooperation arises from the threat of punishment to deviators from the cooperative path. Just because in the Hobbesian route the "punishers" are *called* members of government this does not make the Hobbesian path any more coercive than the one sustained by a trigger strategy in a repeated game.

In brief, we cannot maintain that (a) individuals are always rational, (b) institutions that emerge from the actions and choices of individual are desirable and (c) big governments are undesirable.

Much of the popular debate concerning “big” and “small” governments is of such intellectually poor quality precisely because it is rooted in this fallacy. We can argue that governments are often too big and too oppressive but we have to construct such an argument on the negation of (a) or (b).

The endogenization of government is a large research agenda. The works of Buchanan (1968), Taylor (1976), Bhagwati, Brecher and Srinivasan (1984), Dixit (1996) and other contemporary writers have contributed building blocks to this project. In the next four sections, I also focus on a small part of this big agenda. The question that is addressed is this: Once we take an endogenous, game-theoretic view of government, how do we, as economists or political scientists, advise such a government? This question belongs to the genre of problems raised in O’Flaherty and Bhagwati (1996). I will argue that the conventional view on *how* we should give advice is simplistic and inadequate, being predicated on a flawed conception of government. Once this is corrected, advising governments turns out to be a subject of considerable intellectual challenge, which has the potential of bridging the gap between research and actual policy.

2. A SCIENCE OF ADVISING?

Viewed through Machiavellian lenses, the economist’s faulty conception of government is not so much an act of folly as a ruse or an act of strategem. It is the existence of such a “puppet government” (Bhagwati, 1990; Srinivasan, 1992) or what Milton Friedman (1986) called a “public interest” conception of government that justifies the existence of the traditional policy adviser. And economists like to give advice. As O’Flaherty and Bhagwati (1996) observe, “Many economists like to think of themselves as active participants in history, not as members of a contemplative order trying to understand a world they cannot influence”.

But a strategy constructed over such severe fault lines, as discussed in the previous section, cannot work too well. And indeed economists, and, more generally, social scientists have faltered when it has come to the “how” of giving advice.

It is a pity that there does not exist a science of advising. The accumulated expertise and knowledge of the social sciences have failed to translate adequately into action because we have neglected the study of the *process* of transmission of information from the expert (the adviser) to the minister, senator or politician (more generically, the advisee) who is responsible for putting plans into action.

Our traditional conception of government is not only empirically flawed, as argued above, but it also has problems of internal consistency with the standard model of economics.

Consider the Arrow-Debreu model of general equilibrium. In it individuals choose points from their budget sets, buy and sell goods; and out of this emerges what are called equilibrium prices. In this economy what person *i* says does not affect what person *j* does. In brief, it is an economy that works

in silence. This is not to deny that in the Arrow-Debreu world people may be chatting, laughing and singing, but it is simply that that aspect of their lives does not impinge on what happens in the domain of economics and in the market place.

Having studied such a model in which i 's speech has no effect on what j does, the policy economist has gone on to give advice. But what is advice but a set of spoken or written words? If the advice is based on a model in which such words cannot have any effect, then it is surely inconsistent to believe that the advice can have an effect.

This, in essence, is closely related to the "determinacy paradox" of Bhagwati, Brecher and Srinivasan (1984). Once we endogenize all agents the system we are studying may become fully determined leaving no scope for the policy adviser. While the mainstream of economics has overlooked this paradox, there is a small body of writing that has tried to contend with this deep problem.¹

There are two broad ways in which a piece of advice can be considered defective. First, advice can be "wrong advice" in the sense of it being based on an erroneous view of the world so that *if* it were followed, it would not bring about the kind of world it was intended to bring about. Second, advice can be "futile advice" in the sense that it either urges the advisee to do something that is beyond the advisee's control or against the advisee's interest.²

It is ironical but should come as no surprise in the light of the above discussion that the pervasive error of the advising economist has been that of futile advising.

In the *Economic Times* of July 12, 1991, Abhijit Sen presents, with his usual clarity, a set of detailed instructions about what the Indian government should do about India's foreign exchange problem. But having done so, and just as the reader begins to warm to the idea that here at last is the solution to a stubborn problem, Sen goes on to observe, "But for this [that is, for his advice to be followed] the existing culture in government must be turned upside down". But what is the value of advice the prerequisite for which is that government be turned upside down? This is virtually tantamount to saying that the advice cannot be followed. So whatever else be the value of such an essay, as advice it belong to the category of "futile".

In the *National Review* of September 30, 1996, we find Deal Hudson advising America on how to recover its "intellect and its freedom". "Our best bet", he argues, is the "church-related university, illumined by the light of faith, confident in its curriculum, rooted in history, concerned for the student as a whole person". In such a university, he goes on to urge, the primary concern should be "the development of character, the discernment of true values, and the

¹ Magee and Brock (1983), Barro (1984), Friedman (1986), Basu (1992), Srinivasan (1992), Austen-Smith (1990). The subject of endogenizing government policy and policy change in order to gain a better understanding of development is addressed in Ranis and Fei (1988).

² A more detailed taxonomy of "bad advice" is developed in Basu (1992).

preparation for heaven". The trouble with this advice is that it seems compellingly beyond the reach of anybody.

Without questioning the content of the advice, one can multiply the examples, given above, of advice that is futile – for which there is no hope of even the most diligent advisee being able to carry it out.

A very different set of problems arise once we move away from traditional models of the economy to ones where one person's utterances can influence another's action. Such a world raises not only issues of analytical interest to the economist or the game-theorist³ but also moral dilemmas for the adviser. And if we are to ever have a science of advising we will need to contend with these issues and dilemmas.

3. ADVISING ENDOGENOUS GOVERNMENT

To make room for advice that will not fall on deaf ears a *necessary* step is to move away from the Walrasian world to one in which information is imperfect and asymmetric. In particular, we shall assume that government consists of individuals (the politicians) with their own aims and objectives but who have inadequate information about the projects or plans from which they have to choose and implement one. On the other hand, there are the advisers who, through training, research or, for that matter, clairvoyance, have information about the effects of each project or plan. But they are not allowed to choose; they can only advise the politicians about what to choose. In brief, we are taking a small step towards a more realistic model of government by recognizing that (1) government is not an exogenous agent, but a collection of individuals with their own motivations and (2) information in society is incomplete and asymmetric. It is interesting to note that Green's model (Green, 1993), while addressing very different issues, nevertheless uses an argument concerning asymmetric information and communication to explain the emergence of parliamentary democracy.

These assumptions make it possible for one agent to influence another through advice. But (1) and (2) are by no means *sufficient* for this to be so. The aim of this section is to demonstrate this by constructing some simple game-theoretic examples.

If the adviser and the advisee have the same objective functions then all is well. There is scope for "cheap talk" and advice takes place in the usual way, that is, by saying that x should be done when the adviser believes that x should be done (Farrell and Rabin, 1996).⁴ Trouble arises if the adviser and the politician have different aims.

³ The rapidly-growing literature on cheap talk is testimony to this (see Crawford and Sobel, 1982; Stein, 1989; and, for a recent survey, Farrell and Rabin, 1996).

⁴ Even here there can be trouble if there is coordination of action needed between the adviser and the advisee and there is a non-zero probability of an advice failing to be common knowledge after it is announced (Rubinstein, 1989; Halpern and Moses, 1990).

Let me assume that the adviser works entirely in the interest of the people,⁵ while the politician is self-interested; and the people's (and, therefore, the adviser's) interest is not the same as that of the politician.⁶ The simplest illustrative example of this (see Basu, 1992) is where there are two projects: N (a nuclear power plant) and T (a thermal one), from which the politician has to choose one. Like all such projects the impact of each project on society is very complicated, and the politician does not know what effect the projects will have on his and other people's welfare.

We can formalize this information structure by supposing that there are two states of the world, w_1 and w_2 , which occur with probability $\frac{1}{2}$ each. In the language of game theory, "nature" makes an equi-probable choice between w_1 and w_2 . In w_1 , the payoffs from N to the adviser and the politician are 1 and 0 and from T the adviser gets 0 and the politician gets 1. In w_2 the payoffs from N and T are reversed. The adviser knows which state of the world has occurred and makes the first move. He has to choose between saying "Do N " and "Do T ". These two actions are denoted by N and T in state w_1 , and by N' and T' in state w_2 . The politician hears the advice but does not know whether w_1 or w_2 has occurred, and has to choose between the nuclear and thermal power plants. The politician's choice is implemented and the players reap payoffs as already explained. This game is described using the standard device of a game tree in Figure 1, and is called the *Orthogonal Game*. Note that nodes x and y belong to the same information set, which captures the idea that the politician cannot tell whether he is at x or y , when he is at one of them. In both these nodes he has just heard his rather taciturn adviser say "Do N ". And, since he does not know whether w_1 or w_2 had occurred, for him x and y are indistinguishable. His choice of the nuclear and thermal plants at these nodes is denoted by n and t .

What will be the outcome of this game? Will the adviser be able to influence the choice of the politician?

Let us first check intuitively how they will play this game. Suppose w_1 occurs. The adviser will of course want the politician to choose the nuclear project. Let us suppose that he is naive, and so says exactly that: "Sir, I advise you to go for the nuclear project", or, equivalently, "Do N ". The politician, knowing about her adviser's "strange" political leanings, would, it seems, promptly choose the thermal plant. This happens in the same way that a child told by the mother not to watch channel 29 that evening because there will be "a boring film" called *The Last Tango in Paris* knows that that is one evening when the child should not watch *Mr. Rogers' Neighborhood* and instead turn to channel 29.

⁵ Nothing formal hinges on this assumption but it prepares the ground for some moral dilemmas that are discussed in the next section.

⁶ It is important to understand that the fact that one may try to delude one's listeners does not in itself suggest a selfish motivation. As Goffman (1959, p. 18) points out: "It is not assumed, of course, that all cynical performers are interested in deluding their audiences for purposes of what is called "self-interest" or private gain. A cynical individual may delude his audience for what he considers to be their own good, or for the good of the community."

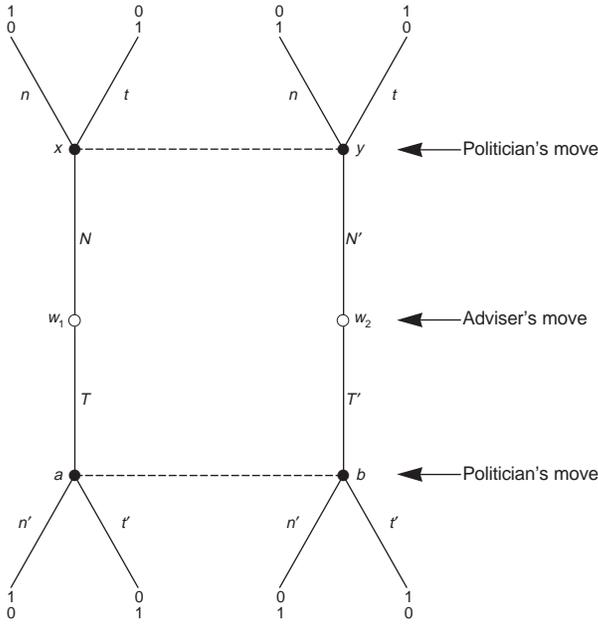


Figure 1. The orthogonal game.

If the adviser were rational and knew that the politician would do the opposite, then the above outcome would not occur. The adviser may then give the false advice “Go Thermal” and hope that the politician will go nuclear. Indeed there are not too many mothers who would instruct their child as in the above paragraph.

But, of course, if the politician knows that the adviser is rational and that the adviser knows that the politician is rational, then this simple trick of the adviser will not work.

It is actually easy to check that the only Nash equilibrium is one in which the adviser’s advice is completely uncorrelated to which state of the world actually occurs and the politician’s choice is completely uninfluenced by the adviser’s advice.

What the above example points to is not just the difficulty of advising but to some deep problems of communication in general. As Glenn Loury (1994, p.432) points out in his engaging essay on self-censorship and political correctness: “There is always some uncertainty when ideas and information are exchanged between parties who may not have the same objectives. Each message bears interpretation”. He goes on to point out how he himself (as a prominent commentator on racial issues in the US) has to be cautious (p.435):

“I must tread carefully as I try to express my particular ‘truth’. If you will ‘read between the lines’ for my true meaning [. . .], then I am determined to write between

the lines” – avoiding (or embracing) certain ‘code words’, choosing carefully my illustrative examples, concealing some of my thinking while exaggerating other sentiments – so as to control the impression I make on my audience”.

It may appear that the problem that the Orthogonal Game highlights is the difficulty of advising when preferences are *diametrically opposite* between the adviser and the advisee. As O’Flaherty and Bhagwati (1996) observe: “Saddam Hussein is unlikely to revise the Iraqi agricultural price system just because some American economists tell him that doing so would be nice.”⁷

This naturally leads to the suggestion that for an adviser to play a positive role there must be a reasonable affinity of interests between the adviser and the politician and, more generally, the speaker and the listener. Thus O’Flaherty and Bhagwati speak about the importance of the “coincidence of interests”, and, to stress that this need not be a non-generic special case, add that “coincidence does not have to be exact”. In the same spirit, Loury (p. 436) remarks, “If we know a speaker shares our values, we more readily accept observations from him . . .”; and “when we believe the speaker has goals similar to our own, we are confident that any effort on his part to manipulate us is undertaken to advance ends similar to those we would pursue ourselves”.

What I want to illustrate, however, is that the prognosis is gloomier than these observations suggest. Similarity of objectives is not enough. Anything short of an exact coincidence of preference may result in a complete breakdown in communication. This paradoxical result is driven by a familiar “infection” argument where a small anomaly or some informational event far away becomes pervasive and has real effects (see Morris and Shin, 1995). This is proved in the next section by constructing a game which I call the *Cheater’s Roulette*.

4. THE CHEATER’S ROULETTE

To illustrate the result mentioned in the last paragraph of the previous section consider a continuum of projects $\Omega = [0, 1]$. What effect each project has on the adviser and the politician is known by the adviser but not by the politician. The adviser gives an advice to the politician which takes the form of saying “Do x ”, where $x \in \Omega$ and the politician then chooses some $y \in \Omega$. We shall describe a way of measuring the nearness of the preferences of the politician and her adviser, and show that unless the preferences are identical the politician will not pay any heed to the adviser’s advice.

Some abstraction makes it easier to describe this game, which I call the Cheater’s Roulette. It consists of a roulette board, the circumference of which is a unit circle. Let us call the northern-most point 0 and the same point also 1 (in the same way that in a clock 0 and 12 refer to the same point). This is illustrated in Figure 2. The circumference then is our set of projects $\Omega = [0, 1]$.

⁷ And, as the orthogonal game shows, neither should Saddam Hussein not revise it *because* he has been asked to revise. Such a response would also make him vulnerable to manipulation.

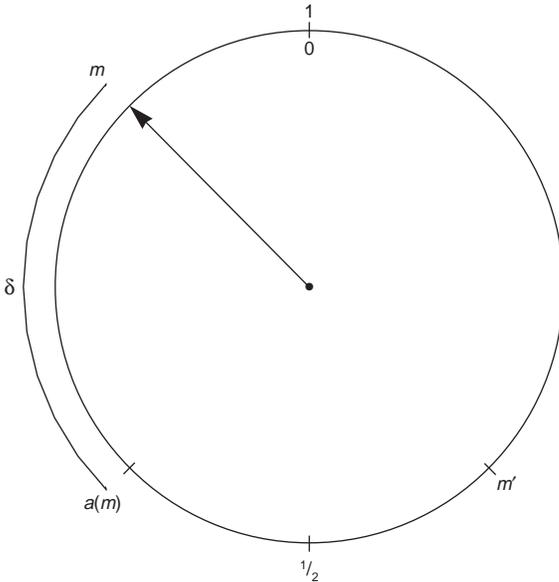


Figure 2. The cheater’s roulette.

The board has a “hand” which is pivoted to the center of the roulette board. The hand can be made to spin. The line with the arrow in Figure 2 denotes the hand. The game is played as follows. The politician sits where she cannot see the board. The hand is given a spin (by “Nature” let us say) and after it comes to rest the politician is asked to choose a point from Ω . If the hand comes to rest at point m , as shown in the figure, then the politician is paid as follows. She gets 100 dollars if she chooses m ; 0 dollars if she chooses the point diametrically opposite to m (i.e. point m' in Figure 2) and the payoff drops off linearly (though monotonically would do) as she chooses points further and further away from m .

This may be stated formally as follows. For any two points, $x, y \in \Omega$, the distance between them, denoted by $d(x, y)$ is the shortest distance between x and y along the circumference. It follows that

$$d(x, y) = \min\{|x - y|, 1 - |x - y|\}.$$

If Nature selects $m \in \Omega$ and the politician $x \in \Omega$, then the politician’s payoff is

$$100 - d(x, m)200.$$

Note that $d(x, m)$ can vary between 0 and $\frac{1}{2}$. Hence the payoff varies between 100 and 0.

The adviser in this game is actually an accomplice who watches Nature's selection and whispers a piece of advice to the politician about what she should choose.

The adviser also gets a payoff which depends on what Nature and the politician choose. This may be described as follows. Note that whatever Nature chooses is the politician's ideal point. Let us suppose that the adviser is to the "left" of the politician and define the "adviser's ideal point", $a(m)$, to be a point which is at a distance of δ ($\leq \frac{1}{2}$) to the left of m . An illustration of $a(m)$, where δ is $1/4$ is shown in Figure 2. To remind ourselves that $a(m)$ depends on δ we could write it as a $a_\delta(m)$ but I am not doing so for reasons of notational simplicity.

If Nature selects m and the politician chooses x , the adviser is paid 100 dollars if $x = a(m)$ (that is, if the politician chooses the adviser's ideal point), 0 dollars if x is diametrically opposite $a(m)$ and the payoff falls off linearly as x moves away from $a(m)$. Formally, the adviser's payoff is

$$100 - d(x, a(m))200$$

If $\delta = 0$, then the adviser's preference is exactly the same as the politician's and his every advice will be taken by the latter. The paradoxical result is this: if $\delta > 0$, then no matter how small δ is, communication will break down totally between the adviser and the politician. The only Nash equilibrium is one in which the politician ignores her adviser's whisper in making her choice.⁸ Attention is throughout restricted to pure strategies.

In order to sketch a proof of this, I need to introduce some new terminology. Let the adviser's strategy be denoted by ϕ where

$$\phi: \Omega \rightarrow \Omega.$$

For every selection $x \in \Omega$ by Nature, $\phi(x)$ is what the adviser asks the politician to choose.

The politician's strategy is c , where

$$c: \Omega \rightarrow \Omega.$$

For every advice $x \in \Omega$ given by the adviser, $c(x)$ is the element of Ω that the politician chooses.

Hence, if Nature selects $m \in \Omega$, the politician chooses $c(\phi(m))$ and her payoff is $100 - d(c(\phi(m)), m)200$. And the adviser's payoff is $100 - d(c(\phi(m)), a(m))200$. Since Nature selects by spinning the hand, it selects from a uniform density function on Ω . Hence, given ϕ and c , we can compute the expected payoff of each player. Let (ϕ^*, c^*) be a Nash equilibrium of this game. What we need to show is that $c^*(x)$ is independent of x (i.e. the politician's choice is independent of the advice she receives). That is, there exists $y \in \Omega$, such that $c^*(x) = y$, for all $x \in \Omega$.

⁸ Some reader may wish to skip the proof of this claim which stretches over the next few paragraphs up to the point where it says, "This completes the proof of the paradoxical result".

First note that if $y \in c^*(\Omega)$ then there exists points z and x strictly to the right and left of y , respectively such that⁹ $y \in [x, z]$ and no other point (i.e. other than y) in $[x, z]$ is in $c^*(\Omega)$. If this were not true, we could find $x, z \in \Omega$ such that $c^*(\Omega)$ is dense in the interval $[x, z]$. Then c^* cannot be an optimum strategy for the politician. Let y be in the interior of $[x, z]$, such that for some $r \in \Omega$, $c^*(r) = y$. Then if Nature selects m such that $a(m) = r$, $\phi^*(r)$ must be such that $c^*(\phi^*(r)) = a(m)$. Clearly then the politician would be better off deviating from her choice $c^*(\phi^*(r))$. This establishes the first sentence of this paragraph and thereby proves that $\#c^*(\Omega) < \infty$.

Denote $c^*(\Omega) \equiv \{x_1, \dots, x_n\}$ where x_1 is the first point in $c^*(\Omega)$ at or to the right of 0; and x_2, x_3, \dots follow clockwise as shown in Figure 3. Suppose $n \geq 2$.

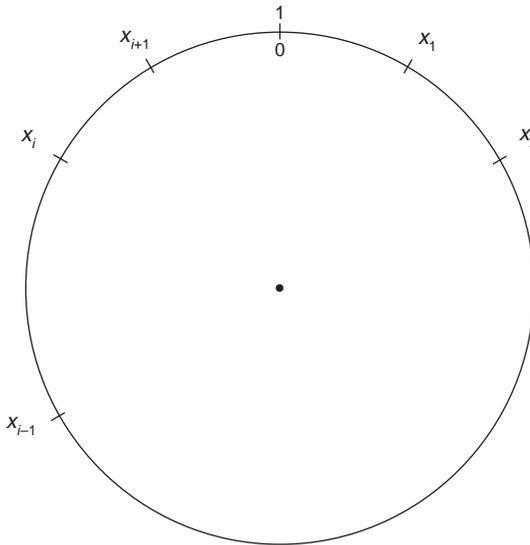


Figure 3.

It is now easy to check that c^* cannot be optimal for the politicians unless the length of x_i to x_{i-1} exceeds the length of x_{i+1} to x_i (lengths being measured along the anti-clockwise arc). If this is not the case it is possible to check that the politician can do better by choosing slightly clockwise away from x_i when the advice y is such that $c^*(y) = x_i$. Since the projects belong to a modular number system, it is not possible for the gaps between adjacent x_i s to increase

⁹ For $x, y \in \Omega$, $[x, y]$ denotes the shorter arc between x and y , the tie being broken arbitrarily for x and y which are diametrically opposite to each other.

throughout as we move in one direction. Hence, $n = 1$. *This completes the proof of the paradoxical result.*

What we have proved is this. There exists $x \in \Omega$, such that for all $y \in \Omega$, $c^*(y) = x$. In equilibrium the adviser's advice has no effect on the politician's choice. The politician just arbitrarily picks a point $x \in \Omega$. It follows that in equilibrium the adviser just babbles – he gives advice which conveys no information about the state that has occurred (that is, Nature's choice).

Before proceeding further it may be useful to explain my use of an unit circle, as opposed to the more conventional unit interval. The immediate reason for doing this is the mathematical convenience of being able to describe one person at being a distance δ to the left of another, irrespective of the latter's location. Second, this description can describe some very real problems. Some years ago, the Ministry of Finance in Delhi was considering changing the time of the annual budget of the Government of India (currently the budget year starts April 1). There were many real issues involved. A budget in October, for instance, would mean that we would know how the monsoons have been and therefore be better placed to plan ahead. There were in fact so many variables involved that expert advice was sought about when the budget year should start. If we now think of the unit circle as representing the calendar year from January 1 to December 31, then this problem has the same algebra as our model.

Can advice then have no role unless there is a total coincidence of preference? Despite the above result the answer to this question is in the negative. First, there is now a small body of literature that shows that even when precise advising can be shown to have no role, ambiguity in speech or vagueness of expression can be used to convey *some* information from the speaker to the listener (see the seminal work of Crawford and Sobel, 1982; also Stein, 1989). This in itself is a very interesting result because it shows how moving away from precision to ambiguity may help us to actually convey more.¹⁰

Second, we could appeal precisely to the fact that the outcome of the Cheater's Roulette is *paradoxical* and urge the reader to reject the game-theoretic solution. In this respect the Cheater's Roulette is akin to the Traveler's Dilemma (Basu, 1994) because in that game (in a sense) it is rational to reject playing the game rationally because it seems reasonable to expect that the other player will do the same. Now put yourself in the shoes of the adviser in the Cheater's Roulette and suppose that δ is very small, that is, the adviser and the advisee have almost identical objectives. If the roulette hand stops at m , one reasonable way of thinking is this. "A Nash equilibrium play could make both of us lose a lot. So why don't I advise something in the vicinity of m . Surely the politician will also realize that the Nash equilibrium play does us no good and so choose something in the vicinity of m ". This is not water-tight reasoning but

¹⁰ There is a related (though analytically distinct) result which shows how an incumbent politician confronting an ill-informed electorate may gain most by being ambiguous about his preference (Alesina and Cukierman, 1990).

nevertheless not one to be dismissed. Note also that “the vicinity of *m*” is an imprecise expression. But, as I had argued in Basu (1994), meta-rational behavior depends on the use of imprecise (and hence realistic) categories of thinking.

No matter how we seek to resolve the problem one thing is evident. Barring the non-generic special case in which there is a complete coincidence of wants, it does not pay to give the advice that one believes in. That is, the same morality that leads you to think that “X should be done” prompts you not to *say* “X should be done”. This creates a moral dilemma which may have no easy solution and this is the subject matter of the next section. But before moving on to it I want to dwell on two caveats of the present analysis and a related observation.

First, we have in this paper, for reasons of tractability, taken “advice” to be simple normative statements or, more generally, any message which can influence behavior by *informing* the advisee. However, in reality advice often takes the form of persuasion, which involves attempts to influence the advisee’s *preference*. What complicates this is the fact that people often voluntarily go for this kind of advice. This is true not just of the alcoholic seeking counselling, but in politics and in government there is the continuous play of forces jockeying and buffeting to influence preferences and of individuals voluntarily leaving themselves vulnerable to preference shifts.

Second, once we move away from the assumption of preferences being mutually known, communication (and, for that matter, certain kinds of actions) may acquire some new strategic element whereby the communicator seeks to influence the belief of the listener about the communicator’s preference. Preferences of political actors are often important to others because they indicate what the politician might do in contingencies which arise in the future (some of which may not even currently be conceivable). Thus it is arguable that President Clinton supported the Helms-Burton act aiming to punish companies outside the US that do business with Cuba not because he believes in it (there is actually some evidence suggesting that he does not) but because he wanted to *appear* more conservative before the presidential election and thereby create the expectation that in future decisionmaking he will pick the more conservative alternative.

By assuming that preferences are exogenously given and common knowledge among the agents, the present essay stays clear of these two complications. But they are important in reality and deserve to be on the agenda for future research.

Finally, the related observation. I have posed the problem of communication in the asymmetric context involving an adviser and an advisee. The same problem can however also arise when the agents involved are symmetrically placed, for example, the members of parliament taking a vote or the members of a jury deciding by majority. An interesting paper by Austen-Smith and Banks (1996) illustrates how the dilemma of not revealing one’s information sincerely can arise in the context of problems such as the celebrated Condorcet jury theorem. In their model this can happen even when all members have the same preference.

5. A MORAL CONUNDRUM

An act of speaking or writing usually has consequences for the world. The *Communist Manifesto* was nothing but some words on paper. So were the *Bible*, the *Koran* and even *The Satanic Verses*. But these “words” have had consequences for the world of action, creating or destroying wealth, stirring human beings into acts of bravery or cowardice. Hence, anyone who writes or speaks has to take into account the consequences of the writing and the speech. This is especially so for those who write for and speak to large audiences. Nevertheless, the scientist writing *positive* science can at least claim no *inconsistency* if he chooses to write whatever is the truth with no thought to the consequence of his writing.

On the other hand, a scientist, or, for that matter, anybody, making a normative statement may face a deeper moral conundrum, a problem which is virtually one of consistency. The politician beseeching the public to act, the economist advising the politician and the journalist urging the economist to say something, all face this problem. Unlike the positive scientist, these people cannot disclaim having a normative purpose because their very act of speaking reveals it.

As we have already seen, when an expert or an informed person utters something, people try (or should try) to elicit information from that utterance, in the same way that the politician in the Cheater’s Roulette tries to deduce the outcome on the roulette board from his adviser’s whisper. Similarly when you read or hear Mr Stephen R. Covey, the author of popular improve-yourself books such as *The Seven Habits of Highly Effective People*, tell you to be goal oriented or to keep “the end in mind” you have reason to believe that *he* believes in being goal oriented. Given that it seems unlikely that Mr Covey’s goal is to make *you* goal-oriented; and his much more likely goal is to maximize the sales of his books, you have reason to suspect that some of the things he advises people are the advice people *like* to hear. And you could decide, not totally unreasonably, that, given the great success of his books, following not his advice but him is the more profitable strategy. Of course, you may be wrong in attributing the best-seller motive to Mr Covey; he perhaps has a missionary purpose. But the fact remains that people do look for meanings other than the one explicitly stated,¹¹ which is the subject matter of Kuran’s (1995) persuasive book.

Now suppose you want to tell government: “Government should do *x*”. This will make people try to guess what you know and they do not, make them act in certain ways and, let us suppose, bring about the kind of world that you do not morally approve of. And suppose your giving the opposite advice will bring about a desirable world (in terms of your own morals).

¹¹ And, while on the topic of popular writing one may quote the celebrated Agony Aunt, Ann Landers, warning people not to be too literal: “Resist the temptation to tell your friends about your indigestion. ‘How are you?’ is a greeting, not a question” (*The Ithaca Journal*, October 5, 1996).

Then you face a moral conundrum because what is in conflict is not your self-interest with your moral judgement but your morals with your morals. Should you say what you believe in or should you say the reverse and bring about the kind of world that you believe in? Note that a person making a normative statement cannot even use the alibi of being normatively disinterested. He has to confront the dilemma.

In brief, this is a conundrum that one has to confront if one wishes to advise and pronounce publicly on policy. It may be possible to construct models of repeated advice which brings the two moral options discussed in the above paragraph into alignment. That is, it may be morally best to say what you actually believe in because otherwise your “strategic” behavior will get revealed in the long run. But at this stage we have no option but to leave this problem as an open-ended issue since even if there are repeated-game stories which can resolve it, these are not transparent. Till this is resolved we will be right in trying to read between the lines if not only what politicians and other government officials say, but also what the economic adviser and the economist in public life says.

6. REMARKS ON ENDOGENIZING GOVERNMENT

It is natural for the modern person to take government for granted. Government is a necessary concomitant of state and, for certain discourses, it is state. Yet in the history of human beings, state and government are relatively modern institutions. People belonged to tribes and had chiefs rather than governments and heads of states. This is true even in some contemporary cases. Many tribals, for instance those living in the Andaman and Nicobar Islands, are not aware that they are Indians. To them the agents of the state – the police, the civil servants – are not representatives of the “law” but, on the contrary, illegal trespassers on whom the use of poison arrows is considered well worth the poison. Barring some such small exceptions, all people treat government and its agencies as part of life.

As Strayer’s (1970) elegant little book reminds us this was not always so. Up to as late as the 11th century AD there were no states as we know now. There were some small city states and there were empires. According to Strayer, state as a moral authority, as an agent with a “monopoly of the legitimate use of physical force” – to steal a description from Max Weber, and as an institution for providing public goods is a phenomenon of the last millennium.

Why did the state emerge in the 12th and 13th centuries? This is a subject matter for history and one that may well require the longevity of an historian’s professional life for successful investigation, but one suggestion in Strayer’s essay is particularly interesting. The 12th and 13th centuries saw a steep rise in learning and literacy. It therefore allowed the codification of law and the signing of contracts in a way that may not have been possible earlier. This gave rise to the need for an enforcer of contracts and government soon became that

ubiquitous “third party”, the enforcer of contracts. Modern society, it is arguable, would be unsustainable without an institution for supporting contracts and covenants. The prosperity of contemporary economies owes as much to the slow evolution of this institution as it does to the many sudden scientific breakthroughs.¹²

It is now increasingly recognised that the “market” cannot function efficiently unless it is “embedded” in suitable institutions (Granovetter, 1985; Platteau, 1994).¹³ For reasons of *analytical* convenience economists often ignore this embedding feature. What is troubling is that, having made this assumption of treating the market as functioning in a vacuum, many economists forget that this was an *assumption*. This can be costly.

Let me illustrate this with an example. One of the two celebrated “fundamental theorems” of welfare economics may be stated, taking the liberty of colloquialism, as follows:

If individuals maximize their own selfish utility, then (given that certain technical conditions are satisfied) the competitive equilibrium that arises is always Pareto optimal.

In itself, this is a mathematical theorem which tells us nothing about the real world. Its application to the real world depends on how we interpret it, *beyond* what it actually tells us. One popular interpretation of this theorem is that it shows that if individuals are left free to choose whatever they want to, then society attains optimality. And, conversely, taxes and other government interventions which limit the feasible sets of individuals tend to result in suboptimality. In defence of this position one would typically point out that in the standard competitive model in which the theorem is established, it is assumed that individual consumers are free to choose any point (or basket of goods) from within their budget sets (or what their incomes permit).

Let us now think for a moment what are the kinds of choices a person can in reality make. It is true that a person can choose from a variety of alternative baskets of goods which lie within his budget; but a person can also choose to rob, steal and plunder; he can try to take away the endowment of another individual, invoking the age-old principle of more being better than less; he can commit blackmail, larceny and arson. Hence, when we allow an individual to choose any point within his budget set, there are two ways of viewing this. We could view this as giving him great freedom: he can choose *any* point; or view this as very restrictive: he is not

¹² In understanding the state, an alternative to studying its origins is to examine the conditions for its existence. “Functional theories of the state”, as these are called in the political science literature (Tilly, 1975), study the concomitants of the national state. Like the market, the state also is in reality embedded in other institutions. An understanding of the latter can give us insights into the very meaning of the national state.

¹³ Bowles and Gintis (1992) try to show that the Walrasian model instead of capturing the consequences of perfectly-rational, self-interested behavior by individuals, describes a situation where individual rationality is restricted to certain domains of decisionmaking.

allowed to choose anything (from the large menu of options he has in life) apart from choosing a point from his budget set. If we follow the latter, then here is a view of the fundamental theorem which is a “dual” to the popular interpretation: The fundamental theorem shows that society attains optimality if individual choice is severely restricted and in particular confined to choosing points from within the budget set.

One may argue that the restriction of not allowing theft of other people’s endowment, larceny and blackmail is not a restriction at all but is in the self-interest of the individual. If that is so then we need to formally show this by starting with a model where all these “extra-economic” activities are allowed. And once we start from such a large domain, to get to the case where the pure general equilibrium model works, we need the institution of government or some other related institution¹⁴ to prevent individuals from finding some of these “extra-economic” activities worthwhile. Since this exercise of embedding the market model has not been done thus far, we do not really know whether the model of the market, abstracted from its social and political moorings, can ever be realised. This would be an easy agenda, if government was conceived of as an exogenous body that makes it costly for individuals to steal and rob. But as argued through this essay, this is not a permissible strategy. We have to allow for the fact that government is run by individuals, who respond to incentives, and explain the survival of government and government’s power from a model of individual decision-making.

In order to model the survival of government and the people’s respect of authority, we need to make room for “triadic” arrangements (Basu, 1986) in our economic models. We need to allow for the fact that *i* respects government authority for fear of what *j* will do to *i* (for instance ostracize *i*) if *i* shows open disrespect towards governmental authority. In Friedman’s (1994, p. 10) words “I will accept one [the tax collector] and fight the other [the robber] because of my beliefs about other people’s behavior – what they will or will not fight for [...] We are bound together by a set of mutually reinforcing strategic expectations.”

Once we have modeled government as an endogenous part of the economy, we can no longer will government into action whenever we wish and however we wish, nor can we treat it as the repository of exogenous variables for our macromodels; but we shall have a description of an economy that reflects reality much better, and, though the policy advisors will probably have to practice greater reticence than they currently do, they will know better *how* to give policy advice.

¹⁴ A range of alternative institutions that can emerge out of individual initiative to help cooperation is discussed in Ostrom (1990). The position that I am taking is that government is also one such institution.

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REFERENCES

- Alesina, A. and A. Cukierman, 1991, The Politics of Ambiguity. *Quarterly Journal of Economics* 105, 829–850.
- Anderson, T. J. and P. J. Hill, 1975, The Evolution of Property Rights: A Study of the American West. *Journal of Law and Economics* 18, 163–179.
- Austen-Smith, D., 1990, Information Transmission in Debate. *American Journal of Political Science* 34, 124–152.
- and J. Banks, 1996, Information Aggregation, Rationality, and the Condorcet Jury Theorem. *American Political Science Review* 90, 34–45.
- Barro, R. J., 1984, Discussion [of Sargent's paper]. *American Economic Review* May, 74, 179–187.
- Basu, K., 1986, One Kind of Power. *Oxford Economic Papers* 38, 259–282.
- , 1992, Bad Advice. *Economic and Political Weekly* 27, 525–530.
- , 1994, The Traveler's Dilemma: Paradoxes of Rationality in Game Theory. *American Economic Review* May, 48, 391–395.
- Bhagwati, J., 1990, The Theory of Political Economy, Economic Policy, and Foreign Investment, in: M. Scott and D. Lal, eds., *Public Policy and Economic Development* (Clarendon Press, Oxford).
- , R. Brecher, and T. N. Srinivasan, 1984, DUP Activities and Economic Theory, in: D. Colander, ed., *Neoclassical Political Economy* (Ballinger, Cambridge, MA).
- Bowles, S. and H. Gintis, 1992, Power and Wealth in a Competitive Capitalist Economy. *Philosophy and Public Affairs* 21, 324–353.
- Buchanan, J. M., 1968, An Economist's Approach to "Scientific Politics", in: M. Parsons, ed., *Perspectives in the Study of Politics* (Chicago, Rand McNally).
- Crawford, V. and J. Sobel, 1982, Strategic Information Transmission. *Econometrica* 50, 1431–1451.
- Dixit, A., 1996, *The Making of Economic Policy* (MIT Press, Cambridge, MA).
- Farrell, J. and M. Rabin, 1996, Cheap Talk. *Journal of Economic Perspectives* 10, 103–118.
- Friedman, D., 1994, A Positive Account of Property Rights, in: E. F. Paul, F. D. Miller and J. Paul, eds., *Property Rights* (Cambridge University Press, Cambridge, U.K.).
- Friedman, M., 1986, Economists and Economic Policy. *Economic Inquiry* 1–10.
- Goffman, E., 1959, *The Presentation of Self in Everyday Life* (Doubleday, New York).
- Granovetter, M., 1985, Economic Action and Social Structure: The Problem of Embeddedness. *American Journal of Sociology* 91, 481–510.
- Green, E. J., 1993, On the Emergence of Parliamentary Government: The Role of Private Information. *Federal Reserve Bank of Minneapolis Quarterly Review* 2–16.
- Halpern, J. Y. and Y. Moses, 1990, Knowledge and Common Knowledge in a Distributed Environment. *Journal of the ACM* 3, 549–587.

- Hobbes, T., 1651, *Leviathan* (ed. R. Tuck, Cambridge University Press, Cambridge, 1991).
- Kuran, T., 1995, *Private Truths, Public Lies: The Social Consequences of Preference Falsification* (Harvard University Press, Cambridge, MA).
- Loury, G., 1994, Self-Censorship in Public Discourse: A Theory of "Political correctness" and Related Phenomena. *Rationality and Society* 6, 428–461.
- Magee, S. P. and W. A. Brock, 1983, A Model of Politics, Tariffs and Rent-seeking in General Equilibrium, in: B. Weisbrod and H. Hughes, eds., *Human Resources, Employment and Development* 3 (Macmillan, London).
- Morris, S. and H. S. Shin, 1995, Informational Events which Trigger Currency Attacks, mimeo: University of Pennsylvania.
- O'Flaherty, B. and J. Bhagwati, 1996, Will Free Trade with Political Science Put Normative Economists Out of Work?, mimeo: Columbia University.
- Ostrom, E., 1990, *Governing the Commons: The Evolution of Institutions for Collective Action* (Cambridge University Press, Cambridge, U.K.).
- Platteau, J. P., 1994, Behind the Market Stage where Real Societies Exist: The Role of Public and Private Order Institutions. *Journal of Development Studies* 30, 533–577.
- Posner, R. A., 1981, *The Economics of Justice* (Harvard University Press, Cambridge, MA).
- Ranis, G. and J. C. H. Fei, 1988, Development Economics: What Next? in: G. Ranis and T. P. Schultz, eds., *The State of Development Economics: Progress and Perspectives* (Blackwell Publishers, Oxford).
- Rubinstein, A., 1989, The Electronic Mail Game: Strategic Behavior under Complete Uncertainty. *American Economic Review* 79, 385–391.
- Stein, J. C., 1989, Cheap Talk and the Fed: A Theory of Imprecise Policy Announcements. *American Economic Review* 79, 32–42.
- Srinivasan, T. N., 1992, Bad Advice: A Comment. *Economic and Political Weekly* 27, 1507–1508.
- Strayer, J. R., 1970, *the Medieval Origins of the Modern State* (Princeton University Press, Princeton).
- Taylor, M., 1976, *Anarchy and Cooperation* (John Wiley, London).
- Tilly, C., 1975, Western State-Making and Theories of Political Transformation, in: C. Tilly, eds., *The Formation of National States in Western Europe* (Princeton University Press, Princeton).