

# Freedom Within Reason

## *From Axioms to Marxian Praxis\**

by

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## *ABSTRACT*

This paper examines the theoretical implications of the *a priori* definitions of rationality and freedom which permeate orthodox economics in particular and the liberal discourse in general. Based on a Hegelian critique of ahistorical approaches to the meaning of Liberty and Reason, it focuses on the insurmountable problems that the axiomatic approach inflicts upon game theory, contractarian theories of justice and Rational Choice Marxism. It considers the postmodern critique and the method of deconstruction but concludes that the meaning we seek is best gleaned through Marx's conception of praxis.

## *Freedom within Reason: From Axioms to Marxian Praxis*

### **I**

Does being free mean that we are not unfree and are we rational if we are not irrational? If liberty and rationality are notions not dissimilar to those that nature throws out, then their definition is possible by means of negation provided they and their opposites are mutually exclusive. In the same way that a substance is organic if it is not inorganic, a woman will be thus declared free if she is not unfree or a deed rational if it is not irrational.

An initial criticism of this definition may throw the spotlight on its absolutism. A person can find her environment to be more or less oppressive or act in a manner that displays elements of irrationality without being downright stupid. Indeed, even economists have argued that the problem with their discipline is that it does not recognise degrees of irrationality or unfreedom. In the case of the latter, economic models have been castigated for their failure to capture the loss of autonomy due to unequal wealth or property rights, and in the case of the former they have been criticised for making unrealistic assumptions concerning the ability of agents to think clearly.

To illustrate the above and motivate the forthcoming criticism on which this paper turns, suppose we have a field encircled by a fence. Inside we have freedom or rationality and outside we have their opposites aching to get in but prevented from doing so by the fence. Orthodox economic theory in particular and liberalism in general are completely taken by this essentially Humean metaphor. The tentative criticism identified in the paragraph above suggests that the demarcation of freedom and rationality from tyranny and senselessness may not be so neat. Parts of the fence have caved in and there is a grey area in which the two concepts live in an uneasy symbiosis with their opposites. The mixing is not complete, as there are inner defences that do not allow the barbarous outsiders a complete walk-over, but it is serious enough to warrant studies of bounded rationality (in the context of limited computing ability) and of degrees of liberty (in terms of distributive justice). No doubt these amendments accommodate the initial criticism by conceding that some tension between rationality and liberty on the one hand and irrationality and unfreedom on the other must be entertained. At the outset social theories are built upon the assumption that the fence is intact and then, once the social world is better understood, the assumption is relaxed and new insights are sought as the fence begins to baulk. Nevertheless, the spatial paradigm is at the centre of such theory.

The criticism advanced in this paper goes deeper as it rejects the very possibility of properly understanding rationality and freedom in terms of geographical metaphors. By the very nature of these metaphors (eg. the fence) their portrayal of liberty and

rationality implies that the social and historical milieu of the persons who will be endowed with these gifts is independent of such notions. In this way no account will be taken of the simple proposition that rationality and freedom demand not only a physical capacity to act freely and rationally but also that the agent has reached a certain level of social development and is *conscious* of these notions. And this is the rub. Before I can do something with my freedom of speech I must have something to say. If my faculties permit me to attain my objective, I must have an objective before my action is deemed rational. Moreover, I must be wise in the way I choose my objectives. By contrast the naturalistic perception, of which the fenced field is one example, is far less demanding. To coin another such metaphor, the main condition for a satellite to break loose from a planet's gravity is that its vectorial speed exceeds a certain threshold - either its speed exceeds the threshold or it does not. Though we may say that the satellite has been set free if it does, we must be careful not to mistake the metaphorical resemblance between this freedom and the freedom of human agents for something more profound. Nor should we succumb to the temptation of identifying the efficiency with which targets are reached with rationality. The former is an adequate rule to use in ballistics but quite inappropriate as an inclusive guide to rational behaviour.

Unfortunately, the metaphorical definitions of Reason and Liberty that we observe as part of the liberal and neoclassical narratives *seem* correct because our language permits associations between notions such as 'free fall' and 'free speech'. The danger comes from our tendency to accept analogous definitions for concepts whose analogy springs from the common metaphor our minds utilise in order to attain comprehension. If the analogy is epiphenomenal, it is likely to cause serious confusion. For instance, the conditions that must hold before the phenomenon of an object travelling through the ether is definable as a 'free-fall', can be described without reference to the object itself. In other words, 'free-fall' is definable *a priori* and by means of a natural science rule that is independent of the object. In contradistinction, the phenomenon of 'free-speech' is not. Any attempt to construe it without reference to the determinants of what a person has to say, is pregnant with the danger of describing an instance where a voice synthesiser recites a speech randomly selected from its memory banks as a manifestation of free speech.

Similarly, although we can specify *a priori* measures of the speed with which a computer performs a calculation, it is impossible to use similar criteria for assessing the rationality of humans unless we are happy to think of rationality solely in terms of the axioms that usually reside in the first few chapters of a neoclassical microeconomics textbook (I will refer to this as instrumental rationality). It transpires that the type of definition of liberty and rationality espoused reveals a social theory's make-up. I will be arguing that to define these notions *a priori* and by means of metaphors that exclude the social and historical background is to dehumanise and impoverish social theory.

In this paper I focus on the implications of this dehumanisation of social theory. By depleting the meaning of rationality and freedom, bourgeois thought achieved two things: First, it imposed its own perception of the two notions on all people and at all

times and, second, it paved the way to a celebration of their loss. The former obtained as axiomatic definitions were put into place which, although philosophically weak, turned the bourgeois urge to accumulate into the major determinant of what it means to be rational and free. The latter resulted from the discontent caused by the repercussions of the axiomatic approach. By denying their substantive meaning, the choice of metaphorical narrative for the two notions strengthened the hand of those who wish to claim that the loss of abstract theories of rationality and freedom is a blessing in disguise. Should bourgeois thinkers worry or will they take this postmodern twist in their stride? On the one hand, they will feel threatened because their positivist models will no longer be presentable as positive analyses of the social world. On the other hand, the postmodern reaction to Reason and Liberty is functional to bourgeois thought if the postmodern revelation that the latter has no clothes is a better disguise of its nudity.

Finally, the paper concludes that if we are to reclaim freedom and rationality we need to distance ourselves from the axiomatic definitions which are based on ontologically static binary oppositions between notions and their opposites. Moreover, we must also resist the sirens of Rational Choice Marxism (RCM) and postmodernity and turn to old fashioned dialectical materialism. However, our arrival at dialectics must complete a journey of renewal and not just a journey home. Rational Choice theory may be incapable of enlightening the *meaning* of rational or free choices, but it does illuminate the way in which bourgeois thought generates insurmountable internal contradictions. Postmodernity may fail to expose the folly of bourgeois naturalism without debunking progressive thinking, but it does point to a tendency toward metaphysical determinism by those who have been sloppy with their dialectical reasoning. There is a lot to learn from the ability of bourgeois theory to undermine itself in order to frustrate the development of a progressive social science.

## II

If one is to define rationality before anything is said about the human subjects who will then be endowed with it, one is forced to adopt instrumental (means-ends) rationality. For if a more substantive type of rationality were to be admitted, one would have to know the societal values surrounding agents (eg. Kant) and their history (eg. Hegel) before discussing their Reason. Nevertheless it is often said that although instrumental rationality is insufficient (in that it needs to be supplemented by other forms of Reason), it can still offer some useful local explanations when the preferences of agents, as well as their environment, are stable. Shaun Hargreaves-Heap (1989a), for instance, argues the case for retaining instrumental rationality without relying on it exclusively. On a similar note, Allan Carling (1990) insists that local explanations with given objectives and social structures are not to be scorned. Indeed, he sees in these explanations the foundation of

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<sup>1</sup>See for instance Martin Hollis' (1987) description of the cunning with which Reason contrives to bind itself inextricably to social context once agents acquire a social dimension.

Rational Choice Marxism and invokes them as ammunition against those who argue that any use of instrumental rationality for the purposes of historical explanation is illegitimate - eg. Ellen Meiskins Wood (1989).

In defence of the use of instrumental rationality, examples are cited in which a particular social situation places persons in circumstances describable by a prisoner's dilemma that offers an appealing explanation of why instrumentally rational agents may act in a self-defeating manner. If one is more ambitious, one can use this result for one's own purposes. For example, one can argue that *it may be more rational to be less instrumentally rational* (an essentially Kantian proposition) or, in a revolutionary flourish, go further and develop an argument in favour of *collective action as an instrument for changing the objectives of individuals* and thus transforming their social relations in ways conducive to superior social outcomes. Unfortunately such transitions cannot be analysed in terms of instrumental rationality since the latter needs unchanging aspirations and reasoning before it is operational. Granted that the offered narrative is attractive, is it more than a restatement of what Hobbes, Hume, Rousseau and Marx have already debated in splendid prose? I think not. But what of the argument that it may be a useful restatement of what we already know? I would be happier to accept the validity of this statement if it were not for the serious danger that the Rational Choice narrative comes wrapped in.

The foremost advocates of asocial and ahistoric *a priori* definitions are, not surprisingly, neoclassical economists. When asked to produce evidence that genuine and original social explanation can be procured as a consequence of models in this manner, they quickly present us with the notion of the **Nash equilibrium**. For the uninitiated, suppose you are involved in a strategic situation in which you are compelled to make a choice. However, the outcome of your choice depends not only on what you choose but also on what others choose. In cases where none of your choices is dominant (that is, is best regardless of what others do), what you ought to choose critically depends on what you think that the others think that you think...*ad infinitum*. The Nash equilibrium is what game theory has to offer as a way out of the infinite regress.

Interestingly, this relatively recent neoclassical exploit has attracted attention from theorists whose agenda is quite different. Rational Choice Marxists (RCMs) have argued that the analytical power of the Nash equilibrium should be harnessed by progressive social scientists in order to dissect social relations and establish a micro-foundation for historical studies of social change. According to Jon Elster, for example, the Nash equilibrium offers a way of understanding complex social interaction with a simplicity reminiscent of the irreverence with which Alexander the Great approached the Gordian knot. By contrast, Ellen Meiskins Wood (1989,1990) is concerned that RCM assumes the structures that need to be explained and that, by the time the Nash equilibrium is called

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See his Introduction in (1986a) as well as chapters 1 and 8 of Elster (1986b).

upon to deliberate as to which is the best choice of the rational actor, there is very little left to explain.

Unlikely as it may seem, there is an implicit consensus between neoclassical economists, RCMs and critics like Wood who have an intrinsic distaste for attempts to illuminate history by focusing on the decisions of individual or collective agents in a rational choice framework. The consensus concerns the capacity of the Nash equilibrium to explain how agents will behave given their objectives and environment. Wood may disagree with RCMs about the value of developing such explanations if the price that has to be paid is a neglect of classical Marxism, but she does not challenge the proposition that, given objectives and environment, history-free *a priori* definitions of rationality can yield such explanations. Similarly, RCMs are prepared to accept wholeheartedly the usefulness of tools like the Nash equilibrium even if they wish to put them in the service of heterodoxy.

In this section I want to agree with Wood but also to take her repudiation of the rational choice paradigm further by challenging the above consensus. For it is not only that rational choice theory assumes most of what it tries to explain (as Wood correctly remarks) but that, even after it has made its assumptions, its explanatory power is overstated. The cause for this failure is the impossibility of a sensible ahistorical *a priori* definition of rationality and its main repercussion is that we can no longer confidently expect to know what a rational agent will do even if we know her objectives and the precise environment in which she functions. The best way of illustrating the argument is by means of a simple example.

Neoclassical game theorists recognise that not all social interactions (in their language, games) have clear-cut solutions. If there exist more than one equilibrium strategies (or actions), it is unclear what a rational actor will do. Indeed, an increasingly large collection of papers is trading on the multiplicity of equilibria and the resulting need for selecting between them. RCMs have been made aware of this difficulty and some have constructed elegant analyses of collective action and evolution based on the non-uniqueness of equilibrium solutions. However, this recognition is founded on the belief that in social interactions where there exists a unique equilibrium, the outcome is an

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<sup>2</sup>I admit that this may be an unfair comment in that Wood (1990) has accused John Roemer for having his hand tied by "...the narrowly formalistic requirements of the model and his subjection to the conceptual demands of neoclassical economics". This sentence can be loosely interpreted to cover the criticism of rational choice theory advocated in this section. On the other hand, Wood (1990) identifies the problem with rational choice theory in its inability to specify "...the social structures which set the terms of what is reasonable and preferable in any given context...". It is my view that rational choice theory, even if it has a perfect understanding of these structures, may be incapable of capturing the 'reasonable and preferable' choices. The purpose of my criticism is to augment, not to dispute, Wood's criticism.

<sup>3</sup> See for example Hargreaves-Heap (1989b) who tells a story of how agents involved in games with multiple equilibria generate historically contingent social conventions.

open and shut case. It is a belief that cannot be sustained simply by assuming instrumental rationality and, thus, it is a belief that must be deflated.

Consider a heuristic game (of the sort employed by RCM) where the working class is pitted against capitalists and where both sides have three strategies at their disposal. Strategies range from the cooperative (within capitalist confines) to the combative. The workers' second strategy is to struggle for a higher portion of the surplus without attempting to overthrow capitalism, while their third strategy is openly to contest the bourgeois state and its property relations, ie. the revolution. Capitalists on the other hand must choose between retaining a liberal-democratic environment, enforcing anti-labour legislation which bans strikes and, lastly, calling in the military thus discarding the liberal-democratic cloak of legitimacy altogether.

Before the reader despairs at the above description, let me confirm that it is meant as an entertaining rather than an historically useful example. Nevertheless, it serves its role of revealing the problem with conventional rational choice theory. Since equilibrium game theory is supposed to give answers based entirely on payoffs and timeless *a priori* rationality, game theorists would happily tolerate my choice of labels for the various strategies. Similarly, RCMs cannot afford not to do likewise in view of their adoption of the analytical tools of game theorists in precisely this context. As for the rest, I plead that they bear with me for a little longer.

		<i>Capitalists</i>		
		<i>Liberal Ban strikes Democracy</i>		<i>Military Repression</i>
		1	2	3
<b>Workers</b>	<i>Cooperate</i>	1	10,100- 5,90	+5,80
	<i>Struggle for higher portion 2 of surplus</i>	50,50	+15,80-	2,70
	<i>Revolution</i>	3 +	150,-50	10,-10
				-10,0-

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<sup>4</sup>Some RCMs (eg. Jon Elster) will protest that I paint in classes as social actors. Other members of this priesthood (eg. Allan Carling) will be happy with this depiction. Nevertheless I think that both sides have something to learn from this game. Its importance stems from the its implications concerning the extent to which it is rationality that motivates the equilibrium outcome. If some RCMs do not like the description of the players, they are at liberty to call them Jack and Jill.



Table 1

In table 1 we have a typical game where no strategy is dominated - that is, each strategy is rationally playable depending on the agent's belief. For instance, if workers believe that capitalists will choose strategy 1, then their best response is 'revolution' (strategy 3). If they anticipate that capitalists will introduce anti-union legislation (strategy 2), their best action is to intensify the struggle within the capitalist framework (strategy 2). I mark the best responses of the row player with a plus sign and those of the column player with a minus sign. Quite clearly, workers will act according to what they think that capitalists think that workers will expect capitalists to...

This is a good example of the type of analysis to be found in rational choice and game theory. The starting point is to assume that payoffs can potentially capture the motivation of players (see Hollis, 1990 for an objection). If the choices of players are to be rational, they must be based on expectations rather than played thoughtlessly. The problem is how to choose the right expectations. Game theorists observe that there exists only one outcome which results from choices which confirm the expectations that support them: outcome (15,80) where both sides have chosen their second strategy. Workers would only play 2 if they expected capitalists to play 2 and vice versa (observe the coincidence of the plus and minus signs at that outcome). It so happens that at (15,80) both of these expectations are confirmed. Moreover, (15,80) is the only outcome that confirms both players' expectations - that is, it is an equilibrium.

It is easy to see why (15,80) is the only equilibrium outcome. *Any* other outcome can only be reached if at least one of the two sides is motivated by expectations that are proved wrong. For example take outcome (150,-50) - that is, the case where there is a revolution while the capitalist class tries to retain its dominance by sticking to liberal-democratic institutions and processes. For the workers to rebel they must have expected capitalists to play their first (liberal) strategy. At outcome (150,-50) this expectation has been proved correct. However, capitalists will only play that strategy if they expect workers to cooperate. Thus, at (150,-50) capitalists will have regretted their decision as it was based on an expectation that was proved to be erroneous.

"So what?", one may rightly ask. What if (15,80) qualifies as the Nash equilibrium by being the only solution which confirms the expectations of both agents? This observation is of analytical value only if we believe that rational agents gravitate towards choices that invariably make them feel vindicated viz. their expectations *after history has unfolded*. Notice that no evolutive argument in favour of a convergence between beliefs and actions is possible here in view of the absence of historical time (the game is only played once). John von-Neumann and Oskar Morgenstern (1944), the founders of game theory, wrote:

"We repeat most emphatically that our theory is thoroughly static. A dynamic theory

would unquestionably be more complete and therefore preferable. But there is ample evidence from other branches of science that it is futile to try to build one as long as the static theory is not thoroughly understood".

The influence on these pioneers of natural science is evident. Unfortunately it is an influence that leads the analysis astray since rationality (ie. the motivating force behind human actions), unlike natural forces, is cognisable only within a social complexity. It is the argument of this paper that attempts to build a sound static theory of rational choices is next-to-futile. Moreover, the dynamic theory built upon any such static theory is bound to inherit the problems of its foundations.

If we believe, as we should, that social interaction can lead to instances where rational agents regret decisions they have made (something chess masters often do), then the discovery of a unique Nash equilibrium sheds no light on the question of what constitutes a rational choice. And yet rational choice theory axiomatically imposes the condition that rational agents must have expectations that are *always* confirmed by history. Based on this assumption, it goes on to build the magnificent castles that are to be found in the prolific game theoretical literature. Unfortunately, they are built on sand as there is no reason why rationality ought to engender symmetry. Let us make no mistake here: the only way one may take (15,80) to be the unique solution is if one assumes that agents choose *ex ante* in a way that their expectations are confirmed *ex post*. Put bluntly, rational choice theory can select one solution as *the* solution if and only if it assumes away the most important aspect of strategic interdependence, namely the uncertainty in the mind of players about whether their conjectures are good ones or not. As Hollis (1990) puts it, if our agents were computers "...we would be asking whether they were two computers or one with interconnected routines".

To give a flair for the alternative outcomes that may eventuate, consider the following train of thought that will lead workers rationally to initiate a 'revolution':

"We will rebel (strategy 3) because we expect capitalists to choose their 'liberal-democratic' strategy (Strategy 1). If they knew that we contemplated 'revolution', they would of course choose to suppress it (Strategy 3). However, we think that they expect us to be fearful of this possibility and to 'cooperate' for this reason. Hence, we think that they do not anticipate a 'revolution', as they are confident that we dread the prospect of a crushed revolution [that is, outcome (-10,0)]. They will therefore, we believe, choose the liberal-democratic road. Hence our best course of action is to rebel."

Will their expectation that capitalists are about to choose the 'liberal-democratic' strategy be confirmed? Perhaps, but not necessarily. The condition for this to occur is that capitalists think as follows:

"We pursue the 'liberal-democratic' road because we anticipate that the working class will 'cooperate'. The reason why we expect this is because we believe that they fear that we are about to unleash a military coup (strategy 3) expecting that they will rebel. And why do they think

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<sup>5</sup>This is so in strategically interesting circumstance where no strategy of any player is dominated.

that we expect them to rebel? Perhaps because they think that we fear that they believe that we will play 'liberal' in which case we should expect them to rebel!"

If the above capture the two sides' thoughts, then outcome (150,-50) will appear as the result of perfectly rational choices. That one of the two sides (in this case the capitalists) will eventually realise that its conjectures were false, is a normal byproduct of social conflict. The important point here is that, since there are different consistent trains of thought which support each and every outcome in this game (including the equilibrium), an *a priori* definition of rationality cannot by itself elucidate this game. Even though the structure of payoffs (that is, the social context according to Wood) is given and there is a unique equilibrium, there is no plausible theory of what will happen. In the Appendix I list the rational trains of thought that may lead either side to choose any of its three strategies.

In conclusion, Rational Choice theory is not at all about discovering the rational *core* of human actions and thoughts. It can narrow outcomes down but only if it imposes the condition of symmetry without regard for the canons of rational discourse. But then it should be referred to as Symmetry Choice Theory and RCMs, if they remain committed to the Nash equilibrium, should become Symmetry Choice Marxists!

### III

Fencing irrationality out in genuinely strategic situations does not work. The *a priori* assumption that players are rational needs to be augmented by an illegitimate requirement concerning their conjectures if it is to produce a solution. Nor does it work in defining freedom as the moral space which is kept clear of unfreedom. Those who have tried to define liberty in negative naturalistic terms (eg. Robert Nozick 1974) either feel the need to transcend their own definition at some level (see Isaiah Berlin 1953) or end up with what Robert Paul Wolff (1980) refers to as a conception of rights and liberty which would "...immobilise us all, making us much like a bizarre gathering of morally musclebound rights freaks, lovely to look at, but unable to lift a finger for fear of encroaching on one another's moral space".

Freedom as a concept is thus brought to us by a spatial metaphor whose roots can be traced to the eagerness of landlords to keep trespassers at bay. In this sense it is a metaphor that lends itself to the pure exchange paradigm to be found at the heart of

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<sup>6</sup>The usual rejoinder to any criticism of Rational Choice theory in general and game theory in particular is that there are refinements and extensions that the critic is unaware of and which accommodate the criticism. However, I believe that this constitutes an illusory escape route. In Varoufakis (1991) I show that every refinement or extension of equilibrium theory (eg. the introduction of time and forward looking agents - in technical terms *subgame perfection*, asymmetric information and sequential or Bayesian equilibria etc.) is founded on the notion of equilibrium as outlined here. If the foundation is rotten, it takes more than ingenuity to build a robust explanatory structure.

liberal contractarianism. To be free is thus to make rational choices unimpeded and to trade at the market place at will - the bourgeois ethic suitably distilled into a conception of liberty. Hegel describes the freedom emanating from market exchanges better than recent advocates of economic liberalism (eg. Milton Friedman 1962) when he writes:

"Only because the other sells his good that I also do so; and this equality in the thing as its interior is its value, which has my complete consent and the opinion of the other - the positive mine as well as his, the unity of my will and his".  
[Hegel (1942)]

Before investigating further the centrality of market relations to the notion of freedom, it is interesting to recall what makes the ahistorical *a priori* definitions of liberty and rationality so attractive to liberal theorists. In Hobbes, freedom and rationality are the two prerequisites for survival. Reason helps one find the best response against the barbarians living outside one's person, and freedom ensures that one will not have constantly to look over one's shoulder. In Locke, the spatial metaphor manifests itself vividly in his famous *proviso* where the allocation of property rights over unclaimed resources is determined. In both cases, the primary objective is to determine moral laws which leave as little room as possible for others to meddle with one's person. Market exchanges fall naturally into place as they are seen as voluntary and conducive to the maximum degree of socialisation while permitting only the minimum interference with one's 'space'. Human identity is thought to pre-exist the socialisation phase and, consequently, freedom pre-dates the entry of social agents on stage. Thus the proclivity toward *a priori* definitions of rationality and liberty that are not informed by history or by the social linkages between the agents.

Of course the reason why this line of argumentation is problematic is that identity and personhood are a product of, rather than a prerequisite for, socialisation. If we are to erect the fences of Reason and liberty before the agents appear, then however well shielded they may be from each other they will be compatible with neither rationality nor freedom. Hegel may have celebrated the market relation as a liberating institution but he justifies it in terms of its capacity to forge a theoretical and practical relation between self and other. In contradistinction to Hobbes, Hegel points out that survival is a prerequisite for those other things that constitute social identity. "Self-consciousness attains satisfaction in another consciousness" [Hegel (1931)].

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<sup>7</sup>Seyla Benhabib (1984) adds that for Hegel "from the standpoint of exchange no characteristic of individuals is relevant apart from the fact that each owns a certain property desired by the other." There is an interesting parallel here with the so-called *Harsanyi doctrine* mentioned in the Appendix in reference to the discussion in the previous section. In game theory, it is assumed that rational agents will behave in exactly the same way if they face the same payoffs and are fed the same information. This can be interpreted as an extension of the bourgeois/modernist assumption that it is only property endowments that make social actors different.

<sup>8</sup>See Nozick (1974) for an example of the uses to which the Lockean proviso is put by modern libertarians.

His perception of the market relation, although utterly sympathetic to that concept, turns on the thought that pure exchange between economic actors allows them to reflect upon each other and thus to become who they are.

"The concrete return of me into me in the externality is that I, the infinite self-relation, am as a person the repulsion of me from myself and have the existence of my personality in the being of other persons in my relation to them and my recognition of them which is mutual" [Hegel (1942)].

The market becomes the arena in which freedom prevails, not because it ensures non-intervention by one on the other, but because it sets the scene for the dialectic of recognition between agents. Before a social encounter takes place, an imposition of naturalistic conditions for rights, freedom and rationality turns such concepts into impediments to human subjectivity. It is the predicament of liberalism that, in its efforts to offer an ahistorical definition of the ultimate human goods, it does away with the subjectivity that makes those goods important. If a market exchange is therefore seen as nothing more than an exchange which leaves the agents wealthier but ontologically identical as before, then the contract cannot have any moral weight. Hegel shows that the commitment of agents to honour contracts forged at the market place, develop precisely because they have rights which are not their private property and which cannot be sold freely. If freedom was definable strictly by the voluntarism of buying and selling, then every aspect of human subjectivity ought to be a commodity. In that case, no contract would have moral authority for the same reason that the slave cannot offer the master meaningful recognition as long as slavery entails complete subjugation. We must conclude that the moment we accept that human subjectivity is shaped by social interaction, freedom is not possible prior to socialisation. This insight complements the thought from the previous section that the process which shapes agents' perception of gains and of each other also shapes their normative expectations which trigger particular trains of thought and rational decisions.

Of course, one can remain a liberal without rejecting the proposition that freedom must be important for non-voluntaristic reasons and also that rational action is irreducible to instrumental procedures. Following the lead of J.S. Mill, John Rawls (1972) accepts the argument that private contracts must derive their legitimacy from somewhere other than further private contracts, and suggests that the way forward is to establish whether free and rational agents would accept the principles under which society is to be organised. In an ingenious twist whose purpose is to retain the ahistorical *a priori* definitions while augmenting them with public rights, he invents the veil of ignorance behind which agents will decide which societal principles are legitimate and suitable as a social contract. He argues with great elegance and skill that it is *because* of asocial and ahistorical *a priori* freedom and rationality in the original

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<sup>9</sup>that is, if market exchange is "...something embodying merely a common will and resulting from the arbitrariness of the parties united into a state" [Hegel (1942)]

position that the socialisation of agents, from which the legitimacy of the market obtains, materialises. Of course, the proof depends on accepting the original position in which pre-political agents can begin rationally to socialise without knowing their political roles.

The irrepressible problem here is that the moral legitimacy of pure exchange as a guarantor of freedom relies entirely on the choices made by agents before the market exchanges commence. Before the social context is collectively chosen behind the veil of ignorance, it must be demonstrated that the final choice was made after *all* potential alternatives were considered. Unfortunately, even the most imaginative of peoples cannot transcend *as a whole* their society readily and consider in a vacuum alternatives that history has not yet shaped. As Bob Sugden (1989) puts it in a related debate, "the belief that one ought to follow a convention is the product of the same process of evolution as the convention itself". Ancient Athenians, if asked to consider alternative socioeconomic organisations behind Rawls' veil of ignorance, would have probably come up with a social contract involving some form of slavery. This would not make slavery a characteristic of civil society with uninterrupted legitimacy throughout history. It took the praxes of Spartacus and countless others to forge a sustainable perception of a slavery-free society. We must therefore conclude that the Rawlsian defence of the liberal tradition fails to redeem the liberal definition of freedom and rationality. In other words, it fails to support the possibility of sensible all-inclusive axiomatic definitions embedded in logical, as opposed to historical, time.

If it is the social location and the history of agents that resolves social puzzles (like the one in table 1), the social terrain becomes the locus of human actualisation. It is on this terrain that they gain the subjectivity and self-consciousness which makes freedom at all possible. In capitalism it is the freedom of individuals *qua* property which promotes their mutual recognition and thus development. Hegel endorses capitalist market relations not because they *respect* human freedom and allow rationality to work properly (*a la* Hobbes and Locke) but because they are the culmination of an historical process which *creates* freedom and rationality. However, for Hegel it is important that market relations treat buyers and sellers symmetrically if freedom is to be made available regardless of social position. In the market for apples and oranges there is little doubt that there is no systematic force working against such symmetry (or in Hegelian language, recognition of self by other). It is in the market for labour that things become tricky. Marx (1972) writes:

"In the market, as the owner of the commodity 'labour-power', [the worker] stood face to face with other owners of commodities, one owner against another owner. The contract by which he sold his labour-power to the capitalist

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<sup>10</sup>Hegel (1953) writes: "Rationality, taken generally and in the abstract, consists in the thorough-going unity of the universal and the single. Rationality, concrete in the state, consists (a) so far as its content is concerned, in the unity of the objective freedom ...and subjective freedom; and (b) so far as its form is concerned, in self-determining action on laws and principles which are thoughts so universal". Hegel relates rationality and freedom as concrete mutually dependent notions that are intelligible only within an historical continuum.

proved...that he was free to dispose of himself. But when the transaction was concluded, it was discovered that he was no 'free agent', that the period of time for which he is forced to sell his labour-power is the period of time for which he is forced to sell it, that in fact the vampire will not let go 'while there remains a single muscle, a sinew or drop of blood to be exploited'" [Vol. 1, Chapter 10]

In a society whose wealth is produced in a market in which the seller of human labour finds herself, most of the time, unable to indulge in reciprocal recognition with the buyer, Hegel's moral description of the marketplace breaks down. For how can the dialectic of recognition proceed when production is based on the non-market exchange that ensues the labour contract? Once the worker enters production, the market paradigm evaporates and the extractive power that Hegel saw markets as putting an end to, returns with a vengeance. Any society incorporating a wage system cannot, according to Hegel's own principles, be genuinely free.

C.B. Macpherson (1973) revamps the liberal definition of freedom by arguing that, instead of defining freedom as the requirement that one must consent to anything that is taken from her (the invocation of the fence metaphor), we ought to define it as one's freedom not to consent to such a transaction (a thought incompatible with any spatial metaphor). Presented with a contract from a potential buyer who wants something from us, the litmus test of the purity of the exchange is whether we have the option to say 'no' and not whether we actually say 'yes'. One is free to turn down a contract provided one has alternatives. If my alternative to signing a declaration passing all of my property to the supplier of a glass of water (while on the verge of collapse in a desert) is dehydration and death, then such a contract is hardly a case of 'free exchange' *a la* Nozick or reciprocal recognition *a la* Hegel. One must have alternatives before one is free. And since what constitutes a reasonable feasible set of options is historically determined, all that Macpherson's definition has done for the moment is to restate Hegel's opposition to ahistorical axiomatic definitions. However, it does offer us the opportunity to go further.

If capitalist social relations are marked by an incomplete market for labour, then one wonders why workers are prepared to enter such a market. Are they not free to choose? Macpherson's reformulation of liberal freedom emerges as relevant since they may be doing this not because of their freedom to agree but because of their unfreedom to do otherwise. Moreover, by agreeing to enter such a market, they give away the right to be part of continual market relations. From the moment they sign the contract, the rest of their working experience is not at all a market relation between them and the capitalist. In an important way, workers freely sell their labour. In an equally important way, they are unfree to do otherwise. Any notion of freedom that cannot handle this conceptual tension misses the point. As a social organisation, capitalism encourages workers to give up public rights which they must have if they, as well as the capitalist, are to

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<sup>11</sup>that is, if the buyer purchases labour power and receives labour (whose value exceeds that of labour-power) because of the nature of exchange which is only partly market based.

achieve the mutual recognition which, according to Hegel, is a prerequisite for freedom in society. The meta-narrative of liberalism seeks to gloss over this difficulty by explaining liberty by means of a metaphor that leaves no room for such tension. However the moment history is introduced in the liberal discourse on freedom (eg. Hegel) it becomes evident that the project has failed. The only reason why workers systematically give up their right continuously to exchange (that is, they enter the wage system) is that this is their only access to means of production. The private ownership of the means of production may endow capitalists with extractive power over the workers but, in Hegelian eyes, both exploiters and exploited miss out on becoming free.

## IV

If the above is correct, ahistorical *a priori* rationality proves insufficient in strategic circumstances, and specific socio-economic environments do not confer freedom if freedom is to be construed in terms of a spatial metaphor. This is the point of departure for Hegel and for Marx who see both Reason and liberty as products of the historical process. It is also the point of departure for postmodern writers like Michel Foucault, Jacques Derrida and Jean-Francois Lyotard who have been arguing that the reason we fail to discern the rational choice in section II is because of the emptiness of the signifier 'rational'. The weakness of our language is responsible for creating the need for a demarcation between rationality and irrationality along the lines of a naturalistic paradigm.

Speaking of the fence as a metaphor (in quite a different context to ours), Derrida (1973) writes that "no border can be guaranteed inside or out", implying that every border marks a difference which, though real, ought not to be confused with a demarcation which has the power to define what it separates. Foucault (1967) adds that we ought to abandon the search for meaning of terms that have none and recognise that there is plenty of 'Reason in Madness'. As for freedom, hiding behind fences that supposedly guarantee our negatively defined liberty, is futile. It is so because the metaphor of the fence, as indeed any metaphor, is no more than a figment of our language which requires such metaphors in order to formulate concepts but is immediately hijacked by those metaphors and therefore loses its access to meaning.

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<sup>12</sup>There is a recent claim that history can be accommodated in the context of evolutionary game theory (EGT). EGT rejects the axiomatic approach to rational choice and substitutes it with quasi-Darwinian functionalism while retaining the assumption of frozen individual objectives. Its functionalism distances it from Rational Choice theory while its reliance on an unchanging human agency divorces it from history. See chapter 8 of Varoufakis (1991) for more on the contest between the evolutionary and historical explanations.

<sup>13</sup>In a famous passage Marx (1974) makes it clear that men and women produce their rationality as they create the rest of their lives.

<sup>14</sup>In Varoufakis (1991b) I claim that it is possible to canvass a postmodern critique of game theory by showing that deconstructing the narrative of instrumental rationality may prove profitable for our players.



Postmodernists do not spare anyone's metaphor. Having ridiculed the liberal fence, they are equally deft at deconstructing Hegel's metaphorical depiction of history and to portray it as a discontinuous river majestically proceeding towards the sea of reciprocal recognition. They are so inclined because the postmodern critique hits at the heart of foundationalism: the method of starting from *some* assumption about the human condition which is then taken as self evident. Game (and Rational Choice) theory is attacked on the basis that it is *founded* in this manner, rather than on the basis that there are better foundations. This leads to an equally fierce attack on any meta-narrative, leaving history as no more than a chain whose links are different versions of the present. Confronted by the question of exploitation that concerns Marxists, they comment wryly that we are all simultaneously oppressors *and* oppressed in exactly the same way that our motivated actions are at once irrational *and* rational. Postmodernity interprets the loss of the concreteness of the concepts of freedom and rationality as the inevitable decomposition of the metaphors underpinning all foundationalist social theory. Crucially, they celebrate this loss and warn against any attempt to re-establish what it means to be free and rational.

Even though the postmodern position may seem neutral viz. the contest between on the one hand Hobbes, Hume and Locke and on the other Hegel and Marx, its denial of the possibility of transcending the present (either temporally or theoretically) protects any current socio-economic status quo from a progressive discourse. Ryan (1982) writes: "The turn against theory in the name of first order narrative explanations is a part of the process by which such interests are shielded from rational critique". To the extent that the status quo is defended by means of a narrative drawn from Hobbes, Hume and Locke, postmodernity is an unwilling ally of the latter.

However, there are elements of postmodernity which may enable a more sophisticated pursuit of the Marxist project hinted at in the previous section, if only by keeping Marxists on their toes. Too often in the past we tolerated blanket explanations of historical phenomena by those who hid their unsophistication behind certain linguistic forms. We were told that the reason why the working class in Britain failed to become a 'class for itself' was that the 'subjective' conditions were not there. Perhaps they were not, but this is not an explanatory theory. Imprisoned in the schematic metaphor of progress based on a unidimensional passage from changes in means of production to discrete changes in social relations, we tolerated the development of authoritarian regimes in Eastern Europe hoping that, eventually, the process of industrialisation would magically remove authoritarian political institutions and, thus, that socialist democracy would flourish.

Christopher Norris (1985) singles out the method of deconstruction of metaphors from

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<sup>15</sup>For instance, Kant assumes the ability to *know* things, Hegel our *consciousness* through the dialectic, Marx our *materially constituted* perception and Wittgenstein our ability to attach *meaning* to things.

the rest of the postmodern litany and argues that Marxists can find it useful. If what he means is that Marxists ought constantly to question the appropriateness of their metaphors, and to worry about the possibility that the metaphor may have been rendered inadmissible by some historical twist, he is correct. On the other hand, the work of Derrida has been done for him by Hegel and Marx. It was Hegel who focused on the contest between theory and narrative by criticising Kant for having elevated ideas to an *a priori* status when their true status is distinctly transient. And it was Marx who castigated the metanarrative dwelled upon by philosophers, arguing that there are no immobile absolutes, no spiritual beyonds and that every absolute represented a mask justifying exploitation of humans by humans. Although we do not need Derrida to tell us what Marx had already elaborated (that is, that philosophical abstractions in themselves have no value or precise meaning), if Derrida incites us to return to the roots we neglected for so long, then all is well.

The problems of truth-seeking and of defining liberty and rationality, have two things in common. First, they are seen as illegitimate by postmodernists, and second, they are solved simultaneously by Marx. Ironically, if postmodernity's contribution is simply to insist that transcendental solutions are illusory, it finds unexpected support from Marx who leaves little room for confusion when writing:

"The question whether human thought can arrive at objective truth is not a theoretical but a practical question. It is in praxis that man must prove the truth, that is, the reality, the exactness, the power of his thinking. The dispute over the reality or non-reality of thinking isolated from praxis is a purely scholastic question" [Theses on Feurebach II in Marx (1964)].

"The problem of knowledge in the abstract is a false problem. Abstract logical consistency, theory divorced from social activity and practical verification, have no value whatever. The essence of man is practical, and the essence of society is praxis - acts, courses of action, interaction. Separated from praxis, theory vainly comes to grips with falsely formulated or insoluble problems, bogs down in mysticism and mystification" [Theses on Feuerbach VIII in Marx (1964)]

Defining praxis as activity viz. other humans, Marx seizes Hegel's argument, namely that freedom and Reason are hollow in the absence of praxis, and refutes social theories which seek truth in an historical vacuum. When agents encounter social interactions (eg. table 1) which Aristotelian logic is unable to solve single-handed, they transcend their pre-political nature. The observation of historical change (and also of changes in cognition that occur in historical time) is central here. How does it come about if everything is self-referentially tied together without any external relation or foundation? There must be *something* which gives the process its dynamic. This something is the dialectic which we can simply think of as the foundational quality of society that gives it its dynamic.

From this perspective, Reason becomes dialectical in that it is a concrete concept which does not live in separation from the history of human praxes. A simple way of

conceptualising it is as a *process* of rationality creation which co-determines the individual's motivation and the rules of rational choice. It is a process that is characterised as much by logic as it is by experiments with alternative rationalities. And it is a process that Rational Choice Theory, loyal to its static spatial metaphors, cannot keep up with. Similarly for societies. As feudalism was about to vanish following the praxes of individual agents, suddenly it became intelligible as a socio-economic organisation and furnished us with the French revolution concept of liberty. At that point in history the meaning of freedom (and of Reason) was upgraded as a result of human social activity. Ever since, that meaning is threatened by ahistorical axiomatic definitions.

The above interpretation of dialectical Reason will not please all Marxists. For it entertains the possibility of an indeterminacy only history can resolve. However, if the only way of undoing this indeterminacy *theoretically* (as opposed to *practically*) is to breach the canons of rational explanation (as game theorists do in the game of table 1), then so be it. Note that this does not constitute a slide into postmodernity or pragmatism. The latter canvasses the non-availability of ultimate truths, the uselessness of large scale explanatory systems and the view that ideas are interpretable only in terms of their past and present cultural relevance. At every point in time, the dialectical Reason proposed here is capable of grasping the logic implicit in those episodes of thought which make up its own pre-history. What it does not do is to specify *ex ante* the exact path on which it will tread. The dialectic's horizon is a state of perpetually open possibility that human praxes determine in real time.

In this vein, the melange of praxes that constitute history becomes the determinant of meaning. On the level of the private, the dialectic describes the creation of perceptions and the actions that follow such perceptions. Those actions interact on the perceptions that caused them, give shape to the web of socially shared beliefs and are determined by it continually. Within this social framework, freedom is to be attained when social relations are in place which permit the Hegelian dialectic of recognition to function fully. But how can the self recognise the other when they meet at the capitalist market for labour in which one of the two loses her capacity to be a sovereign person? As long as social relations systematically restrict the options of certain groups or strata, the rest will be endowed with extractive power which ensures the impossibility of genuine freedom for the exploited *as well as for the exploiters*. Of course we have all oppressed and we have all been oppressed at some stage of our lives. But the crucial point is the

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<sup>16</sup>Sugden (1990) shows how non-equilibrium choices can be construed as mutations that may prove to be evolutionary stable.

<sup>17</sup>In a recent paper Van-Huyck et al (1990) write: "The power of the equilibrium method derives from its ability to abstract from the complicated dynamic process that induces equilibrium and to abstract from the historical accident that initiated the process". Quite clearly, the ambition of game theorists is to rid themselves of history by distilling all the historically relevant information into their equilibria. My argument is that their equilibria are too analytically impoverished to bear the enormity of the task bestowed upon them by those who seek ahistorical explanations.

presence of systematic patterns of exploitation built into relatively primitive social relations. The structure of such social relations feeds into the constituents of unfreedom rendering constitutional, or axiomatic, liberty symbolic of what is unattainable under the existing socio-economic organisation. If Reason is the product of history as Hegel would claim, then capitalism sets limits within which freedom cannot breathe.

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### Appendix: Rational deliberation in the game of table 1

I have already presented a wordy version of how workers can rationalise a decision to rebel. The following table offers the formal proof that *all* strategies of each side can be supported by a rationalisable train of thought. W and C stand for the workers and the capitalists while b and \_ denote the verbs 'believes' and 'chooses' respectively. Note that the equilibrium outcome occurs when workers and capitalists form thoughts A<sub>2</sub> and B<sub>2</sub> while the outcome (150, -50) follows thoughts A<sub>3</sub> and B<sub>1</sub>.

#### Workers' choices and their supporting thoughts

Strategy 1: W <sub>1</sub> because WbC <sub>3</sub> because WbCbW <sub>3</sub> because WbCbWbC <sub>1</sub> because WbCbWbCbW <sub>1</sub>	Strategy 2: W <sub>2</sub> because WbC <sub>2</sub> because WbCbW <sub>2</sub> because WbCbWbC <sub>2</sub> because WbCbWbCbW <sub>2</sub>	Strategy 3: W <sub>3</sub> because WbC <sub>1</sub> because WbCbW <sub>1</sub> because WbCbWbC <sub>3</sub> because WbCbWbCbW <sub>3</sub>
<b>A<sub>1</sub></b>	<b>A<sub>2</sub></b>	<b>A<sub>3</sub></b>

#### Capitalists' choices and their supporting thoughts

Strategy 1: C <sub>1</sub> because CbW <sub>1</sub> because CbWbC <sub>3</sub> because CbWbCbW <sub>3</sub> because CbWbCbWbC <sub>1</sub>	Strategy 2: C <sub>2</sub> because CbW <sub>2</sub> because CbWbC <sub>2</sub> because CbWbCbW <sub>2</sub> because CbWbCbWbC <sub>2</sub>	Strategy 3: C <sub>3</sub> because CbW <sub>3</sub> because CbWbC <sub>1</sub> because CbWbCbW <sub>1</sub> because CbWbCbWbC <sub>3</sub>
<b>B<sub>1</sub></b>	<b>B<sub>2</sub></b>	<b>B<sub>3</sub></b>

There is a view by some that there are two neoclassical theories on how to reach a solution. One is the equilibrium theory which I discuss here while the other is a Bayesian theory (for a recent text see Skyrms 1990). The former seeks solutions that rational play *should* generate and then *assumes* that rational agents

will assign a zero probability to any action by their opponents which does not comply with the equilibrium outcome. The excuse for this assumption is the assumption of rationality. The Bayesian approach is somewhat different. Initially agents are allowed to assign *any* subjective probability to the various actions of their opponents. Then, as they think about the game (or as the game progresses in repeated games), their prior beliefs are augmented through this process of rational deliberation until an equilibrium strategy is reached. Although these two theories do not always yield the same result, there is an impressive degree of convergence to the same conclusion. This is so because of reliance on the same *a priori* definition of rationality. In the case of the equilibrium theory of games, the solution is arrived at because the theorist assumes that all *ex ante* expectations will be confirmed *ex post*, while in the Bayesian story there is in place a hidden assumption (often referred to as the *Harsanyi doctrine* - see Aumann 1987) that agents are only allowed to do different things if they have different information or objectives. Thus both strands of neoclassicism banish the most important aspect of strategic uncertainty by imposing symmetry. By so doing, they smuggle in an implausible assumption to do the dirty work that their definition of rational deliberation is incapable of.

One wonders whether all Rational Choice theorists are aware of this weakness of equilibrium analysis. I believe that here we have a brilliant example of motivated theoretical sloppiness. In a revealing passage by Robert Aumann (1987), a pillar of game theoretic orthodoxy, we find an acknowledgment that the symmetry axiom (ie. the *Harsanyi doctrine*) is problematic. However, Aumann hastens to add that: "...economists feel that this kind of analysis [ie. an analysis which recognises that rationality does not commend symmetry] is too inconclusive for practical use, and side-steps the major economic issues". I can only infer from this honest statement that the theoretical problem is noted but ignored because it is too inconvenient!

## References

- Aumann, R. (1987). "Correlated equilibrium as an expression of Bayesian rationality", *Econometrica*, 55, 1-18.
- Benhabib, S. (1984). "Obligation, contract and exchange: on the significance of Hegel's abstract right", In Z. Pelczynski, ed., *The State and Civil Society: Studies in Hegel's Political Philosophy*. Cambridge: Cambridge University Press.
- Berlin, I. (1958). "Two concepts of liberty", reprinted in *Four Essays on Liberty*. Oxford: Oxford University Press.
- Bernheim, D. (1984). "Rationalizable strategic behaviour", *Econometrica*, 52, 1007-28.
- Carling, A. (1990). "In defence of Rational Choice: A reply to Ellen Meiskins Wood", *New Left Review*, 184, 97-109.
- Derrida, J. (1973). *Speech and Phenomena and Other Essays on Husserl's Theory of Signs*. Evanston, Illinois: Northwestern University Press.
- Derrida, J. (1978). *Writing and Difference*. London: Routledge and Kegan Paul.
- Elster, J. (1982). "Marxism, functionalism and game theory", *Theory and Society*, 11, 453-82.
- Elster, J., ed. (1986a). *Rational Choice*. Cambridge: Cambridge University Press.
- Elster, J. (1986b). *Making Sense of Marx*. Cambridge: Cambridge University Press.
- Elster, J. (1989). "Social norms and economic theory", *Journal of Economic Perspectives*, 3, 99-117.
- Foucault, M. (1967). *Madness and Civilisation*. London: Tavistock.
- Friedman, M. (1962). *Free to Choose*. Melbourne: Macmillan.
- Hargreaves-Heap, S. (1989). *Rationality in Economics*. Oxford: Basil Blackwell.
- Hargreaves-Heap, S. (1989b). "Towards a Post-Keynesian Welfare Economics", *Journal of Post-Keynesian Economics*, 12.
- Hegel, G.W.F. (1931). *The Phenomenology of Mind*. translated by J. Baillie, London: Macmillan.
- Hegel, G.W.F. (1942). *Philosophy of Right*. transl. T. Knox, Oxford: Clarendon.
- Hegel, G.W.F. (1953). *Reason in History*, transl. R. Hartman, New York: The Library of Liberal Arts
- Hollis, M. (1987). *The Cunning of Reason*. Cambridge: Cambridge University Press
- Hollis, M. (1990). "Moves and Motives in the Games People Play", *Analysis*, 50, 49-62.
- Lyotard, J.F. (1984). *The Postmodern Condition: A Report on Knowledge*. Manchester: Manchester University Press.
- Macpherson, C.B. (1973). *Democratic Theory: Essays in Retrieval*. Toronto.

- Marx, K. (1972). *Capital I-III*. London: Lawrence and Wishart.
- Marx, K. (1974). *Grundrisse*. New York: McGraw-Hill.
- Marx, K. (1964). *Early Writings*. New York: McGraw-Hill.
- Norris, C. (1985). *Contest of Faculties: Philosophy and Theory after Deconstruction*. London: Methuen.
- Nozick, R. (1974). *Anarchy, State and Utopia*. New York: Basic Books.
- Rawls, J. (1972). *A Theory of Justice*. Cam. Mass.: Harvard University Press.
- Ryan, M. (1982). *Marxism and Deconstruction: a critical articulation*. John Hopkins University Press.
- Skyrms, B. (1990). *The Dynamics of Rational Deliberation*, Cam. Mass.: Harvard University Press.
- Sugden, R. (1989). "Spontaneous order", *Journal of Economic Perspectives*, 3, 118-25.
- Sugden, R. (1990). "Convention, Creativity and Conflict", In Y. Varoufakis and D. Young, eds., *Conflict in Economics*. London: Harvester-Wheatsheaf.
- Van Huyck, J., Battalio, R., and R. Beil (1990). "Tacit coordination, strategic uncertainty, and coordination failure", *American Economics Review*, 80, 234-48.
- Varoufakis, Y. (1991). *Rational Conflict*. Oxford: Basil Blackwell.
- Varoufakis, Y. (1991b). "Postmodern challenges to game theory", mimeo.
- von Neumann, J. and O. Morgenstern (1944). *Theory of Games and Economic Behaviour*. Princeton University Press
- Wolff, R.P. (1981). "The derivation of the minimal state", In J. Paul, ed., *Reading Nozick*. Oxford: Basil Blackwell.
- Wood, E.M. (1989). "Rational Choice Marxism: Is the game worth the candle", *New Left Review*, 177, 41-88.