

# *Economists and Glory*

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**Kenneth J. Arrow**

## **I. ALTERNATIVE PERSPECTIVES**

EDMUND BURKE'S DISPARAGING REMARK about the French Revolution is indeed famous: "The age of chivalry is gone." Not quite so well known is the sentence following: "The age of sophists, economists, and calculators is upon us; and the glory of Europe is extinguished forever." This is just one of a series of remarks by distinguished writers and thinkers, considering the emphasis on rational choice as denying or at least omitting the heights and also the depths of humanity. Usually, it appears that some other set of insights to be found in religion or (as in Burke) hierarchical social ordering or perhaps the humanities will be more respectful of the full individual human being.

As I have hinted, the critique of rational choice has deep roots in aristocratic and feudal values and their disdain for rational economic behavior as exemplified by capitalism and markets. Oddly, it would seem, the same viewpoint is used by some left-wing critics of capitalism. Friedrich Engels was in fact an admirer of Thomas Carlyle, the man who gave economics its nickname, "the dismal science." The Communist Manifesto tells us,

The bourgeoisie has put an end to all feudal, patriarchal, idyllic relations.... It has drowned the most heavenly ecstasies... into the icy waters of egotistical calculation.... It has resolved personal worth into exchange value.... [The bourgeoisie] has converted the physician, the lawyer, the priest, the man of science, into paid wage laborers. [It] has torn from the family its sentimental veil and has reduced the family relation to a mere money relation.

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To give an idea of the respect for individuality held by the antagonists of the rational choice approach, let me recall that, on the eve of the American Civil War, Carlyle wrote a vigorous defense of slavery and the South, entitled by him, “The Nigger Question.” The editor of the *Westminster Review*, in which it appeared, changed the title to avoid the offensive epithet, but Carlyle restored it on republication in a volume of his essays. The content was about what one would suppose from such a title. The individuality of the Southern planters and the beauty of their social system were appreciated by Carlyle, but the slaves appeared as an undifferentiated mass of inherent inferiors.

To focus a little more precisely on the opposing viewpoints, let me add one more quotation from a distinguished humanist, John Ruskin (who incidentally had opinions on slavery very close to Carlyle’s and expressed them during the Civil War, when British attitudes could have been of crucial importance). Ruskin rejected as abhorrent the economists’ “commodification” (to use Engels’s term) of labor. “Everything else is bought and sold for Labor, but Labor itself cannot be bought nor sold for anything, being priceless. The idea that it is a commodity to be bought or sold, is the alpha and omega of Politico-Economic fallacy.” Ruskin’s own theory of the labor market provides an interesting contrast. “Similarly, vulgar political economy asserts for a ‘law’ that wages are determined by competition. Now I pay my servants exactly what wages I think necessary to make them comfortable. The sum is not determined at all by competition; but sometimes by my notions of their comfort and deserving, and sometimes by theirs. If I were to become penniless tomorrow, several of them would certainly serve me for nothing.”

Now, whose discourse is more respectful of the individual worker, Ruskin with his self-confidence that he knows the needs of his servants and is entitled to choose their rewards, or the economist who envisions both employers and workers as competing with each other and entering into voluntary contracts?

In these writers, rationality and the market are seen as undermining some richer set of social relations and “higher” aims. Martha Nussbaum (1985) refers to the tragedy inherent in some choices. She takes the example of Agamemnon’s decision to have his daughter, Iphigenia, sacrificed so that the Greek fleet could get the favorable winds it needed to sail to Troy. Under his presuppositions, his decision could easily be regarded as rational; his sailors were dying, the expedition was essential to the honor of the Achaians, and so forth. Yet still his choice was tragic, a choice among evils; and his failure to see that justified his later assassination by his wife, Clytemnestra, and her lover. Rationality has no concept of the tragic; a choice is a choice, and all an agent can do is make the better choice. Indeed, the same topic was approached in a very different way by the legal scholars Guido Calabresi and Philip Bobbitt (1978). They take up several decision questions that may be thought of as tragic, most notably, the choice of patients for renal dialysis when the facilities are in short supply. Failure to give the treatment to those who need it is a sentence of death. Yet, though recognizing the tragedy involved, they seek what can only be described as rational decision procedures.

## II. RATIONALITY AND SOCIETY

### A. Introduction

Critics and even defenders of rational choice models frequently overlook the intrinsically social context in which most of the interesting questions of rationality are embedded. The actions of a Robinson Crusoe provide a simple way of explaining how a rational choice model works and some of its less-than-intuitive implications, but they do not illustrate what either the critics or

the proponents see in the model. The critic, depending on his or her particular bent, will stress the lack of emotional concern, the absence of glory or tragedy, or perhaps selfishness or inefficiency due to lack of coordination or the way in which the model is taken to reinforce a power relation. The proponent will stress the coordinating power of the market, the way long and complex mutually beneficial relations can emerge from local relations. Both of these arguments stress the role of rationality in the context of relations with others.

The current analytic paradigm for social interaction is game theory. I am referring to the formulation of social interaction, not necessarily the particular solution concepts which have emerged. The essential point is that each individual chooses a way of behaving, a strategy, to use the usual technical nomenclature. The actual outcome to each individual is the result of the strategies chosen by all individuals; that is, after all, what we mean by social interaction.

The book which originally brought game theory to the attention of the analytic world, von Neumann and Morgenstern (1944), already introduced the two approaches to the subject, non-cooperative and cooperative. Both have conceptual difficulties but of different kinds.

### ***B. The Non-cooperative Model of Social Interaction***

In the non-cooperative approach, each agent chooses the strategy best for itself given the strategy choices of the others. An “equilibrium” is a choice of strategies by each player which is mutually optimal in this sense. (This approach was actually introduced in economics by A. A. Cournot as long ago as 1838, but its modern use was precipitated by the very brief but fundamental paper of J. F. Nash, Jr. [1950].) Such a pursuit of individual self-interest is clearly not likely to be good from the point of view of society as a whole; that is, usually, there would be some set of actions which, if mutually agreed on, would make every agent better off than he or she would be at the Nash equilibrium. A classic and dramatic example is the well-known “prisoners’ dilemma.” To give a variant of the usual story, suppose there are two players. Each can contribute what he or she wishes to a common pot which is invested. The investment yields a profit but does not do as well as doubling; the profit is then split equally between the two players, regardless of what each put in. It is easy to see that, no matter how much the other player puts in, the best strategy for each player is to put in nothing. But if each puts in nothing, no one makes any profit, while they could easily make a profit by agreeing to put in an equal amount.

This example has been taken as a paradigm for the failure of individually directed behavior to achieve a good world. Garrett Hardin’s much publicized “tragedy of the commons” (1968) has argued (with only partial accuracy) for the applicability of the prisoners’ dilemma to explain environmental damage. Bellah (2000) has taken the non-cooperative approach to exemplify the rational-actor model of human behavior and has therefore concluded that it portrays a world of cut-throat interaction, in which mutual trust is absent.

Scientifically speaking, the program of explaining human social behavior by non-cooperative game theory has run into two classes of difficulties, epistemological and empirical.

1. The program assumes a good deal about the epistemology of individuals. In equilibrium, the rational actor has to know the strategies chosen by the other players. How can he or she have this knowledge? Interesting and important as this issue is, we will not pursue it here.
2. Much of the empirical testing and application of non-cooperative game theory has been by experiment. Numerous experiments have been carried out in which the players engage in various forms of the prisoners’ dilemma game. We do not see the predicted failure of coop-

eration. Instead, most pairs of players, even when they have no communication with each other, grasp the value of cooperation and believe that the other player will see it too.

Güth et al. (1982) gave an even more remarkable contradiction to rational behavior in a simple non-cooperative game. They had their subjects play a game they called the “ultimatum game”; a fixed amount of money was on the table, the first player could designate any amount from it, and the second player could either take what was left, in which case the first player took the amount he or she designated, or veto the transaction, in which case neither player got anything. Rationally speaking, it would appear that the second player should accept any deal proposed by the first, at least any designation which left the second player with a positive amount. Anticipating this reaction, the first player should take almost everything. In fact, in virtually every one of the many times the experiment is run, the first player leaves 25% or more of the money for the second, and the second player usually rejects proposals for less than 20% or so. These and many other experiments and observations on real-world behavior confirm two hypotheses: (1) individuals often (certainly not always) understand the value of cooperation, and depart from “rules of the game” to achieve it; (2) their aims include concern for others. Neither of these generalizations is a refutation of the rational-actor model, but they do modify and clarify it and reduce the apparent contrast between rational behavior and other motivational hypotheses. Cooperating to take advantage of the games should indeed be regarded as a confirmation of rationality, not a contradiction to it. Acting on concerns for others is also not a contradiction to rationality. Rationality, after all, is the efficient pursuit of some aims; there is no contradiction to rationality in assuming that the aims include the welfare of others.

### *C. The Cooperative Model of Social Interaction*

The fact that we observe cooperative tendencies supports the idea that an appropriate model of social behavior is the making of deals which reflect an initial power distribution but which make everyone better off. It is offered by von Neumann and Morgenstern (1944) as their theory of social behavior and is applied by them to both economic and political systems. The cooperative model has indeed an ancient history, going back at least to Thomas Hobbes (1660). In the “state of nature,” i.e., the world as it would be without government, human lives are, “poor, nasty, brutish, and short,” so that all are better off submitting to a government of unrestricted authority. This contractarian tradition has continued to have a strong hold on political philosophy, as in Rawls (1971), but Rawls, like most later contractarian writers, have deduced considerably less authoritarian implications.

Hobbes was referring to a specific type of cooperation, the formation of government which can coordinate individual activities for mutual benefit, but there are many possibilities for cooperation both within national boundaries and among nations. Indeed, perhaps the most tragic failure of cooperation is in the international field, the occurrence of war. War is almost invariably what the game-theorists call a negative-sum game. For any war and following post-war settlement, there would exist an agreement which, if made beforehand so that the war itself is averted, would make all parties better off. Yet wars have always occurred and show no sign of ceasing.

Within groups, the presence of cooperation and its importance to well-being was strongly pointed out by Kropotkin (1909) and shown to be widespread in animal as well as human populations. Cooperation appears then to be of evolutionary significance, as famously, if controversially, emphasized by E. O. Wilson (1975). However, we have no widely accepted concept for

predicting the outcome of a cooperative situation. We do have many proposals, including the original proposals of von Neumann and Morgenstern (1944). The usual approach has been to specify axiomatically a set of conditions which a “satisfactory” cooperative solution should satisfy. In some cases, as that of Arrow (1951), it turns out that no satisfactory solution exists. Others lead to definite solutions, but since equally plausible sets of conditions lead to different solutions, the situation is hardly satisfactory. More detailed statements are out of place here, but there seems to be a fundamental difficulty in defining cooperative rationality, even though examples of that concept abound in everyday life.

There is another difficulty, which exhibits the subtle interplay of rational behavior and concepts which seem to be at variance with it. A cooperative solution means an agreement; think, for example, of a treaty between states. How are such agreements enforced? There has to be an element of trust or, more generally, social norms. It is in everyone’s rational interest that norms be maintained; it may nevertheless, on a given occasion, pay an individual to violate the norm, especially if he or she thinks the violation will not impair the maintenance of the norm by others.

### III. RATIONAL CHOICE AND SOCIAL OUTCOMES, GOOD OR BAD?

If rational social choice is objected on some grounds of violation of deeper values, what are the alternatives? Are they in fact “better” according to some reasonable criteria? As you may suppose, I hold that existing alternatives are capable of creating horrors which insistence on rational behavior will avoid.

#### A. *Unrestricted Altruism*

One possible ideal is that in which self-seeking is replaced by universal concern for others. This might be represented by the Golden Rule: “Do unto others as you would have that they do unto you” (Matthew 7:12). But George Bernard Shaw commented, wittily but profoundly: “Do not do unto others what you would have them do to you. They may have different tastes.” More explicitly, accepting the autonomy of the other means that one cannot determine his or her lot. Alternatively, I may believe I know the welfare of others, perhaps better than they do. In short, the ideal of unrestricted altruism leads easily to a gross interference in the lives of others.

Holders of ideologies are usually motivated by altruism. Both Nazis and Communists were genuine idealists. They exhibited strong solidarity among themselves. They made sacrifices for the cause; as a result they were indifferent to the sufferings of others. As Yeats observed with regard to the Irish struggle for independence (Easter 1916): “Too much sacrifice makes a stone of the heart.” The recent history of Northern Ireland painfully demonstrates this wise saying. The repudiation of rational choice is paid for in suffering.

Perhaps a more fundamental objection to unrestricted altruism is that it denies the importance of the self. It is not a feasible ethic. As the first-century Jewish sage, Hillel, asked: “If I am not for myself, then who is for me? And if I am not for others, then who am I?” Altruism must indeed be part of every social fabric but so must selfishness.

#### B. *Nationalism*

Nationalism may be taken as an example of a strong commitment to some social group beyond the self. It is a limited form of unrestricted altruism, exemplifying many traits usually deemed so-

cially desirable: sacrifice for the social good, with a commitment which may easily extend to giving one's life.

It doesn't take much recollection of history to contemplate the horrors of war induced by nationalism and inconceivable without it. In one of her essays, Simone Weil called attention to exemplification of this theme in the *Iliad*. At the beginning of Book IX, the leader, Agamemnon, urges giving up the fruitless war against Troy: "let us/run away with our ships to the beloved land of our fathers/since no longer now shall we capture Troy of the wide ways." To which Diomedes ("of the great war cry") bitterly replied: "[Zeus] did not give you a heart... can you really believe that the sons of the Achaians are so unwarlike and so weak of their hearts?" The narrative continues: "So he spoke, and all the sons of the Achaians shouted acclaim for the word of Diomedes." It is clear that any consideration of rational choice would rule out the presence of most wars. Indeed, it is something of a mystery as to why there are so many wars. It may be difficult to see what a compromise in World War II would have meant, but certainly

World War I was fought for limited aims, and the gains to all parties in lives and treasure from a compromise would have been great. The phenomena of nationalism and war certainly refute the notion that individuals are always rational decision-makers. Equally clearly, they argue that the commitments to the nation or similar groups do not lead to good social choices.

### C. *Rational Choice and Avoiding Extremes*

Rational choice may not achieve the highest ends but avoids the depths. Samuel Johnson formulated a relevant aphorism: "A man is seldom so innocently employed as in making money." This sentence does suggest a good deal of commentary. First of all, I don't want to imply that making money is necessarily rational. The figure of the irrational miser or the one who sacrifices self-development and family relations for the accumulation of wealth is very familiar in life and literature. (Molière's *L'Avare*, George Eliot's *Silas Marner*, and F. Scott Fitzgerald's *The Great Gatsby* spring immediately to mind.) However, the desire for money does have a rational element; it is limited. A seeker of money will not risk his life for it. The view that seeking money is innocent is not, to be sure, necessarily true. When the power inequality is great enough, the money-seeker may well use deadly force, as European imperialism in the Americas and in Africa well testify. The horrors of the Congo are well portrayed in Joseph Conrad's *The Heart of Darkness*, as well as in many contemporary documents. With all these qualifications, Johnson's generalization has much to commend it. The sense of calculation acts as a check on intemperate action.

### D. *Rational Action and the Cold War*

The Cold War was an important incubator for the use of rational choice methods in international relations and military analysis. The development of operations research during World War II, first by the British and then by the Americans, set a precedent, but that applied only to tactical considerations. A further step was the Strategic Bombing Survey for Germany, a study which sought to analyze retrospectively how useful our strategic bombing had been in winning the war. The survey was chaired by the economist John Kenneth Galbraith and had a brilliant staff of British and American economists. The conclusion, based on detailed analysis of German data, as well as interviews, was that the whole effort, costly in terms of resources and lives, both Allied and German, had done little.

The United States Air Force, faced with the entirely novel power of the atomic bomb, felt the need for analytic rethinking and created the RAND Corporation to be a center of new systematic thought. It dealt with both specific issues and the development of new analytic tools, especially the further development of game theory and its application. Rational choice language can be used as a cloak for all kinds of thinking, and many strange ideas came out of RAND personnel. But there was a need to justify any proposals for action in analytic and empirically justified terms. The rules limited the arguments and invited counter-arguments, and it was in this sense that rational choice prevented the dire possibilities that might have otherwise presented themselves.

To take a broad view, recall that the United States and the Soviet Union were divided by both nationalist and ideological barriers, factors which frequently had brought death and destruction. Yet forty years of political conflict with unprecedented powers for war brought no direct military confrontation (though many indirect wars, as in Korea and Vietnam). This must be one of the best-managed rivalries in history.

Perhaps the first serious analysis of the new situation created by the A-bomb was a remark by the economist Jacob Viner at a conference in Chicago in 1946: “The atomic bomb makes surprise an unimportant element of warfare. Retaliation in equal terms is unavoidable, and in this sense the atomic bomb is a war deterrent, a peace-making force.” (quoted in Kaplan [1983], p. 27). Here is already an understanding of the logic of deterrence, what Robert McNamara later called “mutual assured destruction,” with the inevitable acronym of MAD. Deterrence already implies a degree of rationality, the understanding of the views and capabilities of the other party as well as one’s own powers. The subsequent history of both analysis and policy shows increasingly sophisticated variations on this theme, and many complications arose in the maintenance of the “balance of terror,” especially with changes in technology (the hydrogen bomb, the intercontinental ballistic missile). As is clear in Kaplan (1983) and other studies, each time the dialogue imposed by attempting to maintain the appearance of rational dialogue kept policies from going off on the irrational extremes they might have in another day. A

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