法政大学学術機関リポジトリ
HOSEI UNIVERSITY REPOSITORY

PDF issue: 2025-07-02

Strategy and Community : Critical Notes on the Post-Walrasian Microeconomics

TAKEDA, Shigeo

(出版者 / Publisher)
Institute of Comparative Economic Studies, Hosei University / 法政大学比較経済研究所
(雑誌名 / Journal or Publication Title)
比較経済研究所ワーキングペーパー / 比較経済研究所ワーキングペーパー
(巻 / Volume)
67
(開始ページ / Start Page)
1
(終了ページ / End Page)
92
(発行年 / Year)
1998-07-24

Strategy and Community:
Critical Notes on
the Post-Walrasian Microeconomics

Shigeo Takeda

June 1998

Strategy and Community: Critical Notes on the Post-Walrasian Microeconomics

June 1998

Shigeo Takeda
Hosei University, Dept. of Economics
4342 Aihara, Machida
Tokyo

Abstract: The most fundamental assumption of the contract paradigm and game theory is the primacy of strategic rationality over other modes of social interactions. Under this assumption, human actions are taken as strategies, communication as information transmission, the subjectivity of an individual as incentive, and social institutions as strategic interactions. The social institution of contract cannot be, however, reduced to strategic interactions. Contract presupposes, and is embedded within, community, i.e. a certain context of common understandings and shared values which cannot be manipulated by strategic actions. On the other hand, community should be understood as an analytical concept, not simply as a normative one; community should be viewed as a basic technique of organizing society. Exclusion of the outsiders and suppression of the insiders are both negative aspects of community. In an attempt to explain social interactions in terms of individual strategic rationality, game theory pursues its logical implications. The attempt is, however, doomed to failure, since community is constitutive of the self. One of the symptoms of the failure is the Nash program which aims at reducing every moment of community to strategic rationality. Another is the notion that the thinking processes of human beings, once axiomatized or formulated as an algorithm, may be crucial to an understanding of social interactions. In this sense, game theory is in itself a reductio ad absurdum on a grand scale. Market economy can be captured neither by the Walrasian picture nor by the contract paradigm cum game theory. It is inherently related to money and capital which have their own modi operandi, on the one hand, and is embedded within life world (i.e. the most basic level of community), on the other.

Contents:

I. What Is Radical About Radical Economics?
- Microeconomics: Mark I and Mark II
- Contested Exchange
- A Labour-Managed Firm and a Capitalist Firm
- Digression: Labour Process
- Strategy: A Preliminary Observation

II. Contract Paradigm
- Incomplete Contract, Strategic Rationality and Efficiency
- An Illustration: The 'Hold Up Problem' and Renegotiation
- Contract: Autonomy and Community
- Contract as a Social Technique
- From Contract to Association

III. The Limits of Strategy: Game Theory
- The Potentials of Dialogue: Communicative Rationality
- Subgame Perfection: The Implementation Problem
- Hypothetical Bargaining
- The Epistemic Structure of a Strategic Game
- How are Rules Given, Followed, and Produced?
- Community as Strategy?

IV. Alternative Agenda
- The Media of Actions Reconsidered
- Social Techniques
- Community: An Illustration in Contemporary Japan
- Concluding Remarks

References

Notes

Strategy and Community: Critical Notes on the Post-Walrasian Microeconomics[1]

In their papers [1988, 1993] Bowles and Gintis refer to the interrelated research fields of information, incentive, contract, and bargaining, as the post-Walrasian microeconomic theory, and offer their version of incomplete contract models in terms of contested exchange: Contested exchange occurs when the short side of the market can exploit gaps in contracts for their benefit, by means of monitoring, sanctioning, and supervision; this entails unequal bargaining power, as is seen in employment relationship and lender-borrower relations. Although they are critical about both the alleged neutrality of property allocation (i.e. the Coase Theorem) and the efficiency of market exchange, and thus differentiate their theory from mainstream microeconomics, the basic tenet of their claims is clearly convergence in theory: Mainstream microeconomics and radical economics converge to a new paradigm of contract and bargaining.

On the side of mainstream microeconomics, Ackerlof and Yellen's survey [1986] for instance regards contested exchange as a variant of efficiency wage models, and thereby seems to support the convergence thesis. Hart's property rights approach to firms [1995] may also be viewed as tacitly supporting the thesis, in that property rights are defined as residual control rights over nonhuman assets (i.e. the means of production), and are regarded as a source of bargaining power.

According to Kreps [1990, p.1], microeconomics has recently undergone a mild revolution in methodology. Game theory has allegedly provided a new methodology with basic notions and analytical tools. On the other hand, Williamson's transaction cost theory [1985] which is based on the notion of governance (i.e. tacit and explicit contractual relationships) has been influential not only in the economic theory of firms but in the legal theory of antitrust laws. All this seems to suggest that a new contract paradigm has been established in microeconomics. It is against this backdrop that Bowles and Gintis' claims should be understood.

This essay intends to repudiate their claims, by examining methodological premises on which the post-Walrasian microeconomics rests, and proposes research agenda, alternative both to mainstream microeconomics and to the radical-economics version.

While the new contract paradigm may contribute to clarifying some particular issues such as government's regulation of a natural monopoly and vertical integration of firms, it does not deepen our understanding of contracts as a social institution, nor provides an overall picture of a market economy.

Our main arguments may be summarized as follows:

(1) The most fundamental assumption of the contract paradigm and game theory is the primacy of strategic rationality over other modes of social interactions. Under this assumption, human actions are taken as strategies, communication as information transmission, the subjectivity of an individual as incentive, and social institutions as strategic interactions.

(2) The social institution of contract cannot be, however, reduced to strategic interactions. Contract presupposes, and is embedded within, community, i.e. a certain context of common understandings and shared values which cannot be manipulated by strategic actions.

(3) On the other hand, community should be understood as an analytical concept, not simply as a normative one; community should be viewed as a basic technique of organizing society. Exclusion of the outsiders and suppression of the insiders are both negative aspects of community.

(4) In an attempt to explain social interactions in terms of individual strategic rationality, game theory pursues its logical implications. The attempt is, however, doomed to failure, since community is constitutive of the self. One of the symptoms of the failure is the Nash program which aims at reducing every moment of community to strategic rationality. Another is the notion that the thinking processes of human beings, once axiomatized or formulated as an algorithm, may be crucial to an understanding of social interactions. In this sense, game theory is in itself a reductio ad absurdum on a grand scale.

(5) Market economy can be captured neither by the Walrasian picture nor by the contract paradigm cum game theory. It is inherently related to money and capital which have their own modi operandi, on the one hand, and is embedded within life world (i.e. the most basic level of community), on the other.

(6) Bowles and Gintis have unwittingly adapted the contract paradigm, and, in spite of their concern with community, fallen into the fallacy of strategic rationality.

This essay proceeds as follows. Section I examines Bowles and Gintis' claims in two respects. First, the new contract paradigm is compared with the Walrasian

general equilibrium theory. It is argued that basic problems in the general equilibrium theory still remain unresolved in the contract paradigm. Second, the theory of contested exchange is critically examined, and compared with some studies on labour process. Section II delineates the structure of the contract paradigm in terms of ambivalence between strategic rationality and efficiency. It is then shown that contract is itself a compound social technique, charged with a tension between power and understanding, on the one hand, and between autonomy and community, on the other. Section III discusses game theory. Logical consequences of strategic rationality are investigated in three models in game theory. In so doing, this Section compares strategic interactions with a diametrically opposite mode of social interactions: dialogue based on communicative rationality. Section IV proposes new research agenda.

I. What Is Radical About Radical Economics?

The argument of Bowles and Gintis [1988, 1993] may be summarized:

(1) The Walrasian conception of market exchange is outmoded, mainly because the issues of information and incentive cannot be adequately addressed in that framework. Unlike the Walrasian theory, the post-Walrasian microeconomics takes into account crucial features of market exchange: asymmetric information, incentive problems such as moral hazard and free riding, incomplete contracts, and unequal bargaining power. (2) In particular, contracts in labour and financial markets are inherently incomplete, so that gaps in contracts have to be filled ex post by monitoring and sanctioning. This engenders power relationship within market exchanges (i.e. contested exchange).

In order to evaluate fully Bowles and Gintis' position, it is necessary to investigate the basic assumption and the logical structure of the contract paradigm, which will be done later in this essay. In this Section we shall discuss in what sense and to what extent the post-Walrasian microeconomics has overcome general equilibrium theory. We shall also examine relevance of contested exchange from the viewpoint of labour process theory.

Microeconomics: Mark I and Mark II

Since several mathematical economists proved the existence theorem of a Walrasian general equilibrium in the late fifties, problems inherent in the Walrasian theory (Microeconomics Mark I) have been discussed extensively, . The problems, some of which are epitomized as market failures, are well known. They may be classified into three categories:

(1) convexity of preference and technology, which has the effect of excluding certain types of consumer behaviors, increasing returns and fixed capital; stability of equilibria, which needs strong assumptions and therefore is not generally guaranteed; externality, which is assumed away by the assumption of universal markets;
(2) the problematical definition of equilibria, which leaves open and ambiguous what is happening out of equilibria with respect to agents' reactions and beliefs;
(3) asymmetric information and incentive problems (moral hazard and adverse selection), which lead to market failures and missing markets;

The problems in the first category have not been addressed in Microeconomics Mark II (i.e. the post-Walrasian microeconomics) and remain unresolved. We shall focus on the second and third categories, since it will help to clarify methodological pitfalls common to both.

First, consider the problems of disequilibrium and rationality. In a general equilibrium type model, agents' behavior and perception could be formulated not only at equilibrium but also at disequilibrium, as indeed Negishi [1960] and Hahn [1978] each did in their models of monopolistic competition and conjectural equilibrium. They defined, however, agents' perception (agents' models of the economy) in such a way that only at equilibrium perception coincides with the reality. The question is of course: Is it reasonable to assume that in a Walrasian economy agents perceive their environment as monopolistically competitive or Marshallian, and behave according to the perceived models?.

Exactly the same problem arises in an even more marked way in Microeconomics Mark II. The Nash solution to a noncooperative game in strategic form excludes, a priori, disquilibrium behavior. Given rationality and common knowledge, agents in a Nash-type noncooperative game are supposed to choose only equilibrium strategies (i.e. to make the best response to other agents' strategies). It should be noticed here that

both a general equilibrium model of the Walrasian type and the Nash noncooperative solution have the same mathematical structure: a fixed-point theorem in a topological space. In fact, it can easily be shown that existence of a Walras equilibrium and that of a Nash solution are both logically equivalent to Kakutani's fixed point theorem.

The same can be said in a game in extensive form. If rationality means intellectual competence which enables agents to unravel the complicated web of strategic interactions, then a strategy which is not on the equilibrium path would never be utilized by agents. For the equilibrium path is by definition those sets of strategies which rationality prescribes as the most beneficial to each agent, given other agents' strategies.

Now consider asymmetric information and incentive compatibility. Bowles and Gintis contend that this is the questions which differentiate Mark II from Mark I. It might seem that many authors have substantiated this claim since the seventies. The conceptions of information and incentive themselves, however, can be shown to remain essentially the same in Mark II as in Mark I.

In order to illustrate this point, we shall consider how information and incentive are conceptualized in Hurwicz's models [1960,1973] of resource allocation. They are among the earliest contributions to Mark II (mechanism design and implementation), and yet they are a rather direct extension of the Walrasian tatonnement process. In this sense Hurwicz's models are a halfway house between the two.

Hurwicz's concern lies in finding a coordination mechanism in which agents iteratively exchange information, through a helmsman of the economy, in order to find an optimum allocation of resources. The similarities with the Walrasian tatonnement are evident: The medium of information is not natural language but signals such as prices and quantities; the procedure of information exchange is rigorously prescribed at the outset; agents' plans are coordinated ex ante (i.e. before production and consumption take place). The only difference is a possibility that agents manipulate information they send to the helmsman in Hurwicz's models. This is precisely the point at which incentive compatibility of a mechanism enters into the argument.

Two preliminary observations are in order on Hurwicz' models and Microeconomics Mark II in general. First, while money is undoubtedly one of the most important media of information in a market economy, it is almost entirely excluded from consideration. This is partly because information is conceptualized after the Walrasian price information, and partly because unlike Hurwicz's seminal contributions, modern implementation theory (as well as Microeconomics Mark II in general) is concerned largely with 'small-scale,' 'down-to-earth' problems such as public

goods provision, taxation, auction, monopoly pricing, principal-agent problem, bargaining, and contract.

Second, communication is reduced to information transmission, and theoretical focus is confined to manipulation of information. This implies, on the one hand, that simple constrained maximization (i.e. instrumental rationality) is replaced with strategic considerations which are concerned not only with technological and environmental constraints but with interactions among agents (i.e. strategic rationality). On the other hand, Microeconomics Mark II has completely abstracted from the question to what extent language is constitutive of human interactions and social institutions. This combination of strategic rationality and a complete neglect of language must have grave consequences on the contract paradigm and game theory as a social theory.

These two observations seem to suggest that Bowles and Gintis' claim should be taken very cautiously. We shall elaborate upon these points later in Sections II and III.

Contested Exchange

The theory of contested exchange is intended to provide microeconomic foundations of the Marxian notion of exploitation in production process, without recourse to the labour theory of value. The theory can also explain more generally, it is alleged, the power relation which is inherent in market exchange. To be specific, we shall focus on Bowles' paper [1985], and Bowles and Gintis' joint papers [1988,1993].

In the 1985 paper the old Marxian theme of extraction of labour from labour power is interpreted as eliciting labour intensity from workers by means of surveillance and the threat of job loss. Management's bargaining power derives from the ownership and control of the means of production. Workers compare the disutility of labour with the probability of being caught in resistance and subsequently fired, and decide the optimal intensity of labour, given the level of surveillance. Management, on the other hand, decides the level of surveillance which is costly, and the wage rate which is sufficiently high and effective as the threat of possible loss of wages (i.e. enforcement rent).

As such, the theory of contested exchange is no more than one version of the efficiency wage mode, despite the Marxian terminology and the rhetoric such that the labour extraction function represents "the workers' sense of commitment, injustice,

resentment, deference, patriotism..." (p.23). The theoretical apparatus as well as the logic of the model corresponds exactly to the efficiency wage model:

labour intensity	workers' resistance	surveillance	enforcement rent
effort	shirking	monitoring	efficiency wages

In view of this correspondence, Bowles' emphasis on the difference between the Marxian interpretation of the model and the neoclassical one sounds vacuous. It is also surprising to see that radical economists like Bowles and Gintis succumb to utilitarian calculation (i.e. microeconomic maximization) without any reservation. We shall show that by posing the problems of multifaceted social relationships like employment in terms of contract and bargaining, the theory will have to pay a high price of explaining away the embeddedness of economy within society.

One of the themes of the 1985 paper is a criticism of the Coasian ('neo-Hobbsian') theory, which is based on a simple dichotomy of reciprocal relationship in markets and command relationship in firms. This criticism is, however, precisely the same theme which is put forward in the mainstream economics by what might be called the contract paradigm (i.e. the efficiency wage theory, the principal-agent theory, the transaction cost theory, the property rights approach, etc.). Reflecting the increasingly influential contract paradigm, a subtle shift in emphasis occurred from the 1985 paper to the 1988 paper. While in the 1985 paper the ownership of the means of production is thought to be the most basic structure in a capitalist economy, it has come to be viewed in the 1988 paper as just one yet important instance of the distribution of property rights which determines who will be a claimant of residual control rights, in charge of ex post monitoring and enforcement of contracts. In the 1993 paper the Marxian terminology has been wiped out, and the argument is entirely posed in terms of the principal-agent theory. In particular, they implicitly assume that the management-worker relationship in a labour-managed firm is also contested exchange, which amounts to saying that the Marxian notion of exploitation has no place in theory any more. For workers could not be 'exploited' in the Marxian sense of the word in a labour-managed firm which workers themselves own.

This shift can best be illustrated by their dual application of the theory of contested exchange to labour-managed firms in the 1988 and 1993 papers. The papers are based on the following premises of the contract paradigm:

(1) Property rights are no more than residual rights of control;
(2) Property rights in this sense are distributed in society so as to minimize the cost of monitoring; in other words, the claimants of residual control rights tend to be those agents whose service is most costly to monitor.

Although both are standard assumptions in the contract paradigm (e.g. Alchian and Demsetz [1972], Hart [1995] and Hausmann [1996]), they are highly problematical. Consider for instance the property rights of shareholders of a publicly held company. It is not at all clear in what sense they have residual rights of control of a firm. The relationship between shareholders and management is a complex bundle of legal entitlements and obligations; the rights (and the duties in some cases) of shareholders are not simply the residual control rights; it should be considered legal entitlements sui generis. The second premise seems to rest on some implicit, dubious Darwinian process of adaptation.

They argue on the two premises that a labour-managed firm is more efficient in production than the capitalist counterpart. This is because participation in management, mutual monitoring, and a direct link between work effort and the firm's income (i.e. 'direct residual claimancy') have positive effects on workers' incentive, whereas a capitalist firm tends to use too much monitoring which is costly. The question is then: Why are there so few labour-managed firms which can survive competition in a market economy, despite the theoretically predicted efficiency in production? They find the answer in the fact that capital and financial markets are also characterized as contested exchange. Banks and financial markets prefer to deal with a capitalist firm which is controlled by hierarchical management and so easier to monitor, rather than a labour-managed firm in which the locus of decision making is ambiguous. Also, a labour-managed firm is disadvantageous in the environment of a capitalist economy, in that workers' wealth constraint prevents them from posting collateral, which would be the most effective mechanism to cope with the incentive incompatibility between lenders and borrowers.

This explanation amounts to postulating, in terms of the second premise, that the

principle of monitoring cost minimization in financial markets supersedes or invalidates that in labour markets. A natural question arises: Why is it not the other way round? That is, why did the regime of labour-managed firms fail to emerge in the first place where arrangements in financial markets would have been somehow tuned to monitoring cost minimization in labour markets?

This will entail the whole range of theoretical and historical questions on capital, money and organization. Their argument in the 1993 paper is, however, based on a precarious concept of socially optimal risk-taking. Although a labour-managed firm is more efficient in production and more accountable in terms of democracy than the capitalist counterpart, worker ownership has, so goes the argument, a negative effect on socially optimal risk-taking in investment because of workers' risk aversion. From this viewpoint it would be desirable to mitigate the dilemma between incentive compatibility of organization and risk-taking in investment, by allowing financial institutions to have some influence on a labour-managed firm.

A case might then be made for workers' participation in a capitalist firm. If, as Bowles and Gintis implicitly assume, employment relationship in a labour managed firm is a principal-agent one and essentially the same as that in capitalist firm, and if some institutional devices could protect workers of a capitalist firm from the owner's direct control, then one would have no reason to stick to worker ownership in order to design an efficient and democratic organization.

Aoki' s model [1988] of Japanese firms makes a decisive step in this direction.[2] A Japanese firm is envisaged as a tripartite conciliatory structure: employees who process and produce information in an efficient and decentralized fashion; the main bank of the firm which promotes appropriate risk-taking in investments as the agent of shareholders; and management which mediates employees' and shareholders' interests in a hypothetical bargaining and controls employees' incentive through centralized personnel policies. In effect, Aoki considers a Japanese firm as a hybrid creature of an imaginary labour-managed firm and a capitalist firm which is controlled by shareholders.

This line of arguments is untenable, however. In order to define, for instance, the socially optimal risk-taking, it is necessary to assume a pregiven distribution of preference towards risk; yet, preference itself is obviously the product of institutional arrangements. It is quite conceivable that in the regime of labour-managed firms social consensus would have been reached to restrict excessive investments and protect social stability.

It should be now apparent that the theory of contested exchange is based on the

entire apparatus of Microeconomics Mark II: incentive, information, risk-bearing, contract and bargaining. Organizations are regarded as devices of carrots and sticks or of risk-sharing; communication is reduced to information transmission; investments are thought to reflect preference towards risk; social relationships are viewed as strategic interaction. Our main point is that these ideas could not capture the essential features of economic institutions such as markets and firms.

Consider now the most basic viewpoint underlying the contested exchange theory (and radical economics, for that matter):The hard institutional core of capitalism lies in the threat of job loss, capitalists' surveillance over production process, and workers' resistance. No doubt, there is some truth in this perception. We have a number of historical evidences which show the atrocity of capitalists' control of production process and the antinomy between classes. This perception, if claimed to be an overall or typical picture of employment relationship, would be a caricature, however. While the 'ultimate' control right of production process certainly resides in capitalists' hands, it is mediated and structured through social institutions (such as workplace practices, formal and informal agreements between trade unions and management, labour laws and the legal system, etc.) as well as subjective and intersubjective sides of social relations (i.e. shop floor culture, workers' everyday consciousness, hegemonical ideology and public opinion). Moreover, the inherently social nature of production manifests itself, if in a distorted fashion, in some nonstrategic aspects of employment relationship. Political economy and economics (including its radical version) have failed to clarify the intricate nature of employment relationship in particular and social institutions in general.

If, as the contested exchange theory suggests, employment relationship in a capitalist economy is no more than the antinomy between management's manipulation and oppression, on the one hand, and workers' passive reaction and resistance, on the other, then the institutional arrangements of internal labour markets would be simply deceptive or manipulative devices to elicit workers' loyalty and compliance, which appears very implausible in view of the legitimacy which the arrangements seem to enjoy among the workers.

A brief review of labour process theories will illustrate the extent to which radical economics as well as the mainstream economics has failed in explaining employment relationship.

Digression: Labour Process

Labour process has been one of the most elusive topics in political economy and economics. This is because several factors of different origins are involved and intertwined with each other in labour process: capital in the form of money which seeks profits for the sake of profits; the hierarchical organization of a firm in which authority and power prevail; technology and workers' skill which embody explicit and latent knowledge; shop floor culture in which social relationships among workers develop; workers' everyday consciousness; the hegemonical ideology of competition and efficiency, etc.

In the neoclassical tradition labour process has long been excluded from theoretical discourse. The contract paradigm in microeconomics has recently focused on the organization of firms, though the arguments have been posed almost exclusively in terms of information, incentive, and strategic rationality. (See Section II below.)

On the other hand, radical economics has paid much attention to labour process. Several themes have been discussed: degradation of workers' skill (Braverman [1974]), the origin and nature of hierarchical structure (Marglin [1974], K. Stone [1975]), labour market segmentation (Edwards et. al.[1975], Edwards [1979]), and the contested exchange theory. The main tenet seems to be the story of capitalists' manipulation and workers' resistance. This story fits well, ironically, with the 'neo-Hobbsian' view on the organization of firms, with the only difference being that radical economists see hierarchy as historically specific to capitalism while the 'neo-Hobbsians' think it necessary for all types of production organization.

A most serious problem with the radical economics is its failure to incorporate into theory the legitimating function of a social relationship and the subjective (or, rather intersubjective) side of the labour process. The question to be asked is: Why does a hierarchical organization of firms seem to be partly legitimized and partly resisted? Employment relationship could not be simply deceptive, oppressive and manipulative if it should work more or less effectively in a market economy; nor could it be conceived as entirely voluntary and contractual. It seems to defy any simple story.

It would do injustice to radical economists if no mention were made on the fact that some of them are well aware of the problem. In *Democracy and Capitalism* [1986] for instance Bowles and Gintis talk about the endogeneity of workers' preference: "Social nature of production, workers' attitudes, capacities, and beliefs are transformed in the production process." This argument as well as many other insights is, however, not reflected in their 'Marxian microeconomics', which is, as we have shown above, no more

than one version of Microeconomics Mark II.

Our point may be illustrated by some historical and sociological studies on employment relationship. We shall consider three of such studies very briefly.

(a) *Internal Labour Markets:* Jacoby's well-documented study [1985] makes clear how institutional arrangements of internal labour markets emerged in the United States. Jacoby argues that internal labour markets are not simply capitalists' manipulative device but a joint product of capitalists' endeavor to control production processes, workers' aspiration for a better life career, and social reform movements of the middle class. Jacoby criticizes Braverman's degradation thesis and K. Stone's hierarchy thesis, emphasizing the legitimizing function of internal labour markets in comparison to the drive system which had prevailed until the beginning of the 20th century.

(b) *The Game of Making Out:* Participant-observation studies of labour process are of considerable importance for an understanding of the intricate and ambivalent nature of labour process. Burawoy's well known study [1979] is very suggestive in this respect. It is not unusual that a skilled worker has a degree of discretion in labour intensity and allocation of working time, even though he is subject to prescribed rules, assigned roles, and regulated quotas. Within a narrow range of freedom he can increasingly control his own activity. This gives a sense of playing games, in which he enjoys 'making out', i.e. managing to attain the goal with his creativity. Workers are gradually involved in the game of 'making out', and it becomes the main topic in workers' conversation; it becomes the culture of shop floor. By playing this game, however, workers comply with management's authority. They do so neither voluntarily nor even consciously. This is, so goes the argument, how workers' consent is produced in labour process.

(c) *Japanese Transplant in the U.S.:* While Burawoy's study is based on his own experiences in the middle of the seventies, Graham's study [1994,1994b] concerns a transplant of a Japanese automobile firm in the United States in the late eighties. Graham's participant-observation is therefore necessarily focused on characteristics of 'lean production' or the Japanese model of production: the concept of team (i.e. a small group of workers who are, as a whole, responsible for an assigned task and are expected to help and monitor each other); the philosophy of 'kaizen' (i.e. small yet continuous improvements of production process by workers themselves); a QC circle which is a team for 'kaizen' activities; 'just-in-time' production method which reduces

inventory to the minimum; a number of rituals which are purported to nurture collectivism and egalitarianism, etc.

One of Graham's main findings is the crucial role the concepts of team and 'kaizen' play in labour process. Team membership transforms easily into peer group pressure, internalization of the assigned goal, and self-discipline. 'Kaizen' activities are an ingenious device which enforces workers to appropriate, on behalf of management, their own initiative and creativity for the sake of profits. Whereas Burawoy's workers enjoy their own game of 'making out', Graham's workers are enforced to play the game of 'kaizen'.

Another finding of Graham is a precarious balance of workers' compliance and resistance. One the one hand, workers can find satisfaction in team membership and 'kaizen' activities. They are well aware, on the other hand, that the spontaneity of an informal group cannot be attained in a team imposed by management and that initiatives in 'kaizen' will narrow their discretion. Graham reports varying forms of workers' protest and resistance.

Graham's findings are largely congruent with those which have been reported in a number of researches on Japanese car factories (e.g. Nomura [1993]) The Japanese production method interferes in the very basis of shop floor culture and mobilizes resources of workers' life-world, such as solidarity, tacit personal knowledge, natural inclination to improvement, etc. This structure of antinomy and ambivalence cannot be captured by the economics of carrots and sticks, nor by Edwards' concept of internalization of 'bureaucratic control' [1979].

Strategy: A Preliminary Observation

As we have seen, the theory of contested exchange is in its logical core no more than an incomplete contract model in mainstream microeconomics; so the theory brings with it a number of methodological problems inherent in microeconomics. On the other hand, they discuss in *Democracy and Capitalism* [1986] the whole range of problems: markets, power, domination, rights, democracy, action, community, language, etc. They seem to be aware of the complexity and intricacy of the problems, though a consistent picture of society and economy does not emerge from their arguments. This is not due to the usual discrepancy between a theoretical model and its economic interpretation, which is unavoidable in any theory. Rather, it may be traced back to their misconception of games.

In *Democracy and Capitalism* they evoke an intriguing metaphor of contests or games to capture the relation between human actions and social institutions; they conceive society as a number of overlapping games (e.g. family, state, and economy) in which both the rules and the players are continuously transformed. At any point of time, actions take place within the confines of social institutions which are 'given' to actors, but actors can change the social institutions, and in doing so they change themselves.

This imagery stands, however, in sharp contrast with another notion of a game, that is, the notion of a strategic game which "treat[s] social relations as rules governing the strategic behavior of relatively autonomous social individuals and groups" (*Democracy and Capitalism* p.118). By strategic behavior they mean, for instance, free riding and collective actions. This notion corresponds precisely to that of the contract paradigm and game theory.

It is straightforward to see, however, that a strategic game and the metaphor of games with changeable rules and players are contradictory with each other: If the players know ex ante that the rules of a game are changeable, their strategies will be necessarily concerned with a game of choosing rules of games, and a game of choosing games of choosing games, ad. inf. In order to avoid the infinite regress which would need unbounded rationality and unlimited computational capacity, it is necessary to assume that the rules of a game can be prescribed in one way or another by the third party or by the players themselves. The point is a fairly obvious and general one. A strategic game necessarily presupposes its rules which by definition cannot be changed. The problem is of course how the rules are 'given' to the players and why the rules can be viewed as fixed during the game.[3]

This suggests that the metaphor of a game, illuminating as it is, must be taken very cautiously. A game in the metaphorical sense of the word may or may not be a strategic one. We should rather expect that a strategic game emerges only in exceptional circumstances.

This point may be illustrated in terms of contested exchange. As they point out (*Democracy and Capitalism,* p.133), it is precisely 'the noncontractual aspect of the relation between boss and worker' which differentiates labour market exchange from the Walrasian notion of market exchange. This does not imply, however, that the noncontractual aspect may be viewed as strategic actions. Recall how Burawoy's and Graham's workers play their games.

This misconception of games is coupled with another misconception: Choice is erroneously equated with utility maximization under constraints. 'Contested terrain'

lies not so much in the strategic relations between management and workers as in consciousness and bodies of workers, customs and practices on shop floor, the ideological, legal and political arenas of public arguments, and forms of life in a market economy. What is lacking in their arguments is a question of what forces will reduce actions into strategies, and choice into utility maximization.

II. Contract Paradigm

In Microeconomics Mark II the notion of contract refers very generally to social relationships among the few (often between two parties) whose interests partly conflict and partly coincide. Since the number of the parties concerned is small, they tend to be aware of their mutual relations. Unlike anonymous markets, this circumstances enable them to take into full consideration the consequences of a particular action upon the entire interactions and relationships. This is the paradigmatic case of strategic interaction. It can allegedly cover a wide range of social relations from an outright contract with legal formalities to an implicit, informal agreement. In concert with the 'law and economics' movement, this paradigm has recently had a considerable influence not only in economic theory but in jurisprudence.

On the other hand, current contracts scholarship in jurisprudence seems to undergo a deep discordance on basic points; some authors are critical about classical and liberal contract theories as well as 'law and economics.' [4] Although the notion of contract in jurisprudence has its own origin, meaning, coverage, and ramifications, and is different from the much broader counterpart in economics, those critical arguments can offer a number of insights into the contract paradigm in economics.

The main aim of this Section is to delineate the basic structure of the paradigm and to show the fallacy of strategic rationality, partly relying on the critical arguments in jurisprudence. Specifically, we argue that the incompleteness of contract cannot be entirely captured by the notions of strategic interactions and unequal bargaining power, and that gaps in strategic actions are filled with a different social mechanism of community.

Incomplete Contract, Strategic Rationality and Efficiency

The contract paradigm focuses on incompleteness of contract. Depending on how incompleteness is defined, the paradigm produces varying models of incomplete contract. Four types of models may exemplify this point.

(a) The efficiency wage model and the contested exchange model assume that employment contract cannot specify workers' effort which is only partially observable and controllable. The basic logic of the models is that management chooses an optimal combination of carrots (efficiency wages) and sticks (monitoring) to motivate workers.
(b) The principal-agent model concerns the problem how the principal designs an optimal contract formula which strikes a balance between risk-sharing and incentive schemes, given that the agent's effort is not observable.
(c) The transaction cost model places a particular emphasis on inherent incompleteness of contract, i.e. the fact that a complete contract cannot be written which is to be contingent on every conceivable state of the world, because of bounded rationality, prohibitively high cost of comprehensive negotiations and essential uncertainty of the ever changing world. This model therefore centers on the problem how the parties devise a governance structure to cope with the potential inefficiency which incompleteness of contract entails.
(d) Finally, the property rights approach analyzes an optimal ownership structure of assets, on the premise that property rights of assets are no more than the residual control rights (i.e. the control rights of assets which remain unspecified by an incomplete contract).

All these models contend that incomplete contracts lead to unequal allocation of bargaining power among the parties. These models in the contract paradigm have the basic structure in common; not surprisingly, the same set of problems appear over and over again in the literature. The basic structure of the paradigm and the underlying 'psychology' can best be explained in terms of two axioms (which are in fact fundamental not only to the contract paradigm but to Microeconomics Mark II in general):

Strategic Rationality: A player is strategically rational in the sense that he will and can calculate all possible repercussions of an action taken by himself and other

players upon the course of the game and its final outcome.

Efficiency: The outcome of players' interactions is efficient in some appropriate sense.

Both axioms are stated in a deliberately ambiguous fashion, since our aim here is to show how ideology translates into seemingly objective 'mathematical' models and how the paradigm is reproduced through these models. The ambivalence between the two axioms is the very mechanism that generates, within this paradigm, theoretical problems to be posed and then solved or transformed into another problem. One can start from rational agents in a given situation, to see whether efficiency will be attained as a result of agents' interactions. Conversely, one can postulate the efficiency axiom at the outset and then examine what mechanism of agents' interactions sustains the postulated efficiency. If strategic rationality is replaced by instrumental rationality, this is precisely the same methodology as the fundamental theorems of welfare economics. The theorems are an expression, rather than a resolution, of the ambivalence, for they in effect produced a new set of problems. Microeconomics Mark II has provided the fundamental methodology of microeconomics with a new apparatus of incentive, information and contract, and thereby preserved the methodology while leaving basic problems of rationality and equilibrium unresolved.

The most basic (and most problematical) postulate of the contract paradigm is a direct application of the rationality axiom.

Postulate 1: A contract, together with its residuals (i.e. the relationship which is not specified but implied by the contract), constitutes a strategic game.

This Postulate implies that the parties can observe the relationship in its entirety and manipulate it strategically. Just as the Walrasian economics starts from a model with comprehensive, competitive markets and then extends the model to contingent markets, monopolistic competition, public goods, externalities, etc., the contract paradigm takes an explicitly written, complete contract (complete in the sense that every contingency is incorporated in the contract) as a paragon, and then extends it to incomplete contracts, i.e. contracts with gaps and missing clauses. It is not self-evident, however, that the parties recognize the residuals clearly and relate them to the contract in such a way that the whole relation constitutes a strategic game. The

residuals are often a dim area which is governed by many layers of explicit and implicit contexts (such as customs, legal rules, and ideologies) rather than outright strategic thinking. There are of course cases in which the players' thinking is strategic through and through. These cases are not typical or usual, as many authors contend. (See Macneil's argument below.) Incomplete contract models seem to be a typical case of projecting unduly a theoretical picture into the reality.

Strategic rationality, fundamental as it is, has many ramifications throughout the contract paradigm and game theory. The following postulate is one of them.

Postulate 2: The entire contractual relationship (including the residuals) can be regulated ex ante, i.e. when the contract is made.

This Postulate enables us to reduce a long-run, dynamic relation to a static one, and simplifies the theory considerably, but of course at a high price. Although this is a natural outgrowth of the standard assumption in general equilibrium theory (e.g. Debreu's contingent markets), it is logically required by strategic rationality. For, if a contractual relation is to be posed in terms of strategic rationality, its entire structure must be visible and manipulatable when the contract is made. Thus, Postulate 2 may be viewed as a corollary of Postulate 1.

This suggests an important fact: If the parties in fact believe that they can control the whole contractual relation ex ante, such a contract might be beneficial to both of the parties. It will allow them to project all the relevant future considerations on the screen of the present calculation; it will allow them to commit themselves to long-run investments. Macneil [1978] calls such projection of the future to the present 'presentiation'.

The problem with Postulate 2 and presentiation is evident, however. If something totally unexpected happens during the contractual period, this will render the contract ineffective or disadvantageous to one (or both) of the parties. It is reasonable to suppose that the parties will anticipate this possibility and take measures to meet with it in advance. The parties do not necessarily go to court, since it usually is an expensive method for conflict resolution. The problem may then be posed in this way: What is the most rational method to meet with an unexpected event which, by definition, cannot be anticipated and strategically dealt with? This is one of the channels through which community enters into our discussion. We will consider this problem later in this and next Sections.

As for the efficiency axiom, we shall consider two postulates. The first one is the

Coase Theorem.

Postulate 3: Given an allocation of ownership, complete contracting results in an efficient outcome.

We shall discuss this postulate very briefly. It is certainly not a theorem despite its appellation, since assumptions, conclusions and processes of reasoning are not articulated. The qualifications which are usually imposed on the Coase Theorem in the literature are the impossibility of comprehensive property rights and the existence of transaction costs. The relevance and the logical status of the Theorem are both dubious because of these qualifications. Also, the Coase Theorem tacitly presupposes Postulate 2 (presentiation), which implies that the Theorem will not hold in a dynamic setting. Despite all this the Theorem offers a basic viewpoint in the contract paradigm.

The following postulate was discussed in the previous Section.

Postulate 4: Ownership is allocated in such a way that the outcome from contracting processes is efficient.

This postulate, no less dubious than the Coase Theorem, is its converse. It should be noticed that the pair of Postulates 3 and 4 precisely parallels the fundamental theorems of welfare economics. See the schema below.

	basic data		mechanism		efficiency
Fundamental Theorem 1	initial endowments of goods	→	competitive markets	→	efficient resource allocation
Fundamental Theorem 2	planned distribution of goods	←	competitive markets	←	desired efficient allocation
Coase Theorem (Postulate 3)	initial ownership structure	→	complete contracting	→	efficient resource allocation
Postulate 4	emerging ownership structure	←	[unspecified]	←	postulated efficient allocation

An Illustration: The 'Hold-Up Problem' and Renegotiation

The ambivalence between strategic rationality and efficiency can be seen very clearly in Hart's discussions of the 'hold up' problem. (Hart [1995] and Hart and Moore [1988, 1990]). The 'hold up' problem occurs when a party does not invest in relation-specific assets for fear of a possibility that once the assets are 'sunken' in the relation and cannot be recovered, she loses bargaining power and is exploited by the other party. Thus, underinvestment (i.e. investment which is less than the efficient level) results. Hart's problem is whether this is inevitable, and what mechanism, if any, guarantees the efficient investment.

Hart's argument may be stated in terms of a series of propositions, which indicates not only logical linkage but psychological association. It will illustrate how the argument is explicitly and implicitly controlled by the four Postulates. The whole discourse of the contract paradigm is in fact 'spanned' by the basic Postulates; it is a closed space of ideology.

1. It follows from the Coase Theorem (Postulate 3) that if the outcome of contracting is not efficient, then it must be due to incompleteness of contract. Therefore, in order to analyze the real-life market transactions where inefficiency prevails, it is necessary to investigate incomplete contracts.
2. Contract is incomplete either when complete contract is too costly to make, or when contract is inherently incomplete.
3. If, in the spirit of Postulate 1, the transaction costs of contracting are incorporated into strategic calculation, then the costs should also enter into the definition of efficiency. Once an efficient allocation is defined in this way, the Coase Theorem will obtain again. In this case there is no point in comparing the reality with the Nirvana where every contract is free and complete.
4. Thus, the case of inherently incomplete contract will remain to be examined. This occurs if Postulate 2 does not hold, i.e., if presentiation is not possible. A dynamic aspect of contract may be captured most simply by recontracting (renegotiation).
5. Recontracting is economically relevant in a case where, due to investments in relation-specific assets, bargaining power changes during the contractual period. The resulting hold-up problem is generally insoluble, since the Coase Theorem implies that efficiency is not guaranteed if contract is incomplete. Thus, recontracting generally leads to inefficiency (i.e. underinvestment).

6. A way out of the inefficiency result might be an implementation mechanism which enforces the parties to commit themselves to the efficient investment. Enforcement contradicts the most basic Postulate 1, however. That is, no voluntarily contracted mechanism will implement the efficient solution.
7. Thus, there remains a task to classify second best solutions and to assign them, following Postulate 4, to optimal ownership structures.

We shall comment on how this chain of logical and psychological associations is controlled by the Postulates. The first two steps provide a setting for incomplete contract. Note that no mention is made on the highly problematical assumption of comprehensive property rights, despite its decisive role in the Coase Theorem. A few simple questions would be sufficient to show the dubiousness of the assumption: How could shareholders' rights be conceived as a sort of mutually exclusive and infinitesimally divisible property rights over assets, incomes and management policy? To what extent do employees have property rights over their own efforts, skill, job, mentality and body? It seems fairly obvious that complex nets of legal entitlements and exposures cannot be adequately grasped by a catchall concept of property rights, even if the rights are interpreted as residual.

The argument in Step 3 is in effect Williamson's theory [1985] of transaction costs. The term of transaction costs is ambiguous: it has two meanings. If transaction costs are in fact measurable in terms of subjective value or money, the argument may hold. It is usually the case, however, that transaction costs are not measurable. How could, for instance, the costs as well as the benefits of negotiation be knowable before negotiation really starts? How could the costs of bounded rationality be measured by the players themselves whose rationality is bounded by definition? In this case the notion of transaction costs has only a figurative meaning.

Step 4 represents a conflict between a dynamic nature of contractual relationship and a static framework (more precisely, presentiation) which strategic rationality requires. First, recall that Postulate 2 is implied by Postulate 1. It follows from this that if presentiation is not possible, then a dynamic contractual relationship cannot be considered a strategic game. It should rather be conceived as on-going relationship in which no time point has the privilege of being called the present. The postulate of a strategic contract (i.e. Postulate 1) is, however, most fundamental in the contract paradigm and cannot be dispensed with. The notion of recontracting is thus necessarily ambivalent: It has to deal with a case where presentiation is not possible; yet, it is assumed at the same time that the parties have rational expectations about

recontracting, which amounts to saying that presentiation is somehow possible. (See Hart [1995] p.35.) Due to this essentially static framework, the argument of the hold-up with recontracting is reduced to no more than the one-shot version of the prisoners' dilemma.

Steps 5 and 6 then symbolize the ambivalence between strategic rationality and efficiency. It is evident from the logic of the prisoners' dilemma that if the whole game with recontracting is reduced to the prisoners' dilemma, the inefficiency result is unavoidable. In this case strategic rationality blocks efficiency. If, on the other hand, efficiency is to be attained, some outside agent (the courts, social norm, ethics, etc.) must be able to enforce the contract, and/or some mechanism which induces the parties to attain an efficient outcome must be imposed on them. This viewpoint of the implementation problem, however, implies that strategic rationality (Postulate 1) ceases to work in a game of choosing implementation mechanisms, while the parties are supposed to be fully rational within the mechanism imposed upon them. (See the discussion about metagames in Section III.)

Step 7 may be illustrated by contract theorists' favorite example: the vertical integration of GM and Fisher Body in the 1920s (Klein et. al. [1978], Williamson [985], Hart [1995]). The story is well known, and represents a paradigmatic case for transaction cost economics and the property rights approach. GM and Fisher Body entered into a ten-year contract, which stipulated a price formula and a conflict resolution method. During the contract period, however, GM urged to revise the contract because of an unexpected change in demand for GM's cars. Fisher Body resisted, so GM acquired Fisher Body's stocks. Hart explains this merger as follows. Socially more efficient production will occur if complementary assets are owned by one owner rather than two independent owners. This is because the hold up problem, which is considerable under complementarity, will be resolved by a change in ownership structure. Note that in this example, capital market is playing the role of the invisible hand which automatically attains efficiency.

This interpretation raises a number of further questions, however. First, efficiency is not really social; for efficiency is measured only in terms of joint profits (net of the costs of relation-specific investments). As Hart himself admits, the cost of merger and the cost of a large organization must be taken into account. Even if this profit maximization (net of these additional costs) is beneficial to the shareholders of both GM and Fisher Body, it is not at all clear whether the merger is beneficial to the public. Why did the invisible hand not go all the way to attain the true social efficiency? If by efficiency is meant the maximization of joint profits which are appropriated by GM

after all, Hart's interpretation amounts to saying that because of its superior financial power, GM could get rid of the management of Fisher Body which had been in the way of GM's profit pursuit.

Contract: Autonomy and Community

Contract (not only a written contract but contractual relationships in general) is a social technique whereby autonomous agents create and terminate a social relationship at their will; it has a liberating function in that a new social relationship can be produced on the basis of self-interest and reciprocity.[5] Contract presupposes, however, pre-contractual shared understandings and background social institutions. In order to make a contract, the parties must be able to assume that the other parties are trustworthy or that the courts will enforce the contract in case of conflict. Thus, the social institution of contract has two aspects of autonomy and community.

These two aspects of contract have been extensively discussed in jurisprudence. How the classical contract doctrine (the will theory) of the 19th century has gradually declined and finally demised to the modern doctrine is a well-known story. The authors (Gilmore [1973], Atiyah [1978, 1979], and Horwitz [1977, 1992]) have argued in effect that contractual obligations are ultimately regulated not by the parties' promises, agreements, intentions and wills, but by norms and values of community, so that the law of contract may be assimilated to the law of tort. This viewpoint stands in sharp contrast with the liberal interpretation of contract which espouses autonomy (Fried [1981]), on the one hand, and the contract paradigm in microeconomics and the 'law and economics' school, which reduce contract to strategic interaction, on the other.[6] The schism is carried over from the contract doctrines to the labour law, the company law, and the competition law.

A question here may be stated as follows: If contract is viewed as consisting of different fundamental 'elements' (such as autonomy, community, strategic thinking, power, etc.), in exactly what proportions do they constitute contract? Put it in the language of incomplete contract models: Exactly what constitutes contractual residuals which are implied but not specified by incomplete contract? If it may be said that the residuals are controlled by community rather than strategic thinking, does this community represent, for instance, a normative notion of fairness which the courts can find and articulate in the adjudication? A reexamination of the well-known theses of relational contracts (Macneil [1978, 1980, 1981, 1983, 1984-85], Macaulay

[1961, 1977, 1985]) and of the critical legal studies (Kennedy [1976, 1979, 1982], Unger[1983]) will help to clarify this question.

(a) *Relational Contract:* Macneil's notion of relational contract is well known. Macneil conceives contract as a spectrum of varying types of contractual relations, which range from discrete contracts to relational contracts. (Macneil [1981, pp. 1025-1026] provides 14 hypothetical cases of contracting, starting from the most simple spot market transaction and culminating in the most relational contract.) Discrete contracts are a paradigmatic case of the classical contract doctrine, and characterized by two traits: discreteness and presentiation. Discreteness means that contract can be made independently of the surrounding social relations; presentiation means that future contractual relations are entirely controlled by the present agreements. On the other hand, a relational contract is a long-run, on-going contractual relation in which the parties agree to cooperate in general terms and deal with potential conflicts flexibly, but do not necessarily agree on deliberately formulated mutual rights and obligations. In this sense a relational contract is 'a miniature constitution' rather than a written contract. Macneil sees two sides in the relational contract: the bright side of solidarity and reciprocity, and the dark side of domination resulting from unequal bargaining power. Macneil's main concern seems to lie in articulating, in terms of legal discourse, the principles of solidarity and reciprocity which are already existent in real-life relational contracts, thereby systematizing the relational contract law.[7] This is why Macneil's conception of community ('the community vision' in Macneil [1984-5]) captures only the bright side of the relational contract: "In sum, community is something quite different from society as a whole; duty, reciprocity and belonging are what community is all about." (Macneil [1984-5, p.937]). This is also why Macneil's notion of power is no more than unequal bargaining power which could be rectified by the judicial intervention. Macaulay [1985] is more explicit in discerning the dark side and more pessimistic about the legal institution.[8] Macneil and Macaulay both contend that relational contracts largely prevail in a modern industrialized economy while a written contract with legal formalities is marginal.

A remark on Williamson's transaction cost economics is in order at this point. Williamson assimilates Macneil's insight into relational contracts with the transaction cost economics (Williamson [1985, Ch. 3]), and yet discards the 'community vision' and equates the dark side of contract (i.e. power) with strategic interaction. Consequently, a relational contract is viewed only as an autonomous governance mechanism which is

mutually beneficial and rationally regulated; it is little wonder that such a conception of governance is not susceptible of value judgment other than efficiency. Despite an emphasis on 'opportunism' which is intended to capture egoistic behaviors, Williamson's theory does not offer a picture which goes beyond the neutral and harmonious resolution of conflicts through contract and bargaining.

(b) *Individualism and Altruism:* Kennedy's essay [1976], one of the earliest and the most influential contributions to the critical legal studies, contains several threads of argument. One of the main themes is the inextricability of the contradictory visions of individualism and altruism in the contract law and in the legal consciousness in general. Individualism is the principle of self-reliance and provides a justification for private laws of property, tort, and contract. Altruism, on the other hand, is the principle of sharing and sacrificing, and offers an alternative justification.

In the essay [1976, p.1768] Kennedy presents 'the ideal type' of individualistic interaction of two persons. If simplified, it may be restated as follows:

> **Individualism:** A and B have each the private sphere of discretion, within which each is privileged to ignore the other so long as she does not infringe on the other's sphere of discretion. Both negotiate to establish some rules to govern their future relations, which will benefit each according to her own view of desirable outcomes. After the agreement is reached, each is once again permitted to ignore the other so long as she follows the rules.

Individualism is thus the principle of reciprocity: Each party is indifferent toward, but do respect, the private sphere of the other. Promise is supposed to be binding, because each internalizes reciprocity as a norm.

It will prove useful to state the other types of social interaction in the same way. Altruism represents solidarity while authoritarianism necessarily involves power and ideology. Egotism is posed here in strategic interactions.

> **Altruism:** A and B have the common sphere of life, in which they are concerned with each other. Each communicates with the other to share the values they cherish. Each is ready to sacrifice herself to help the other. Benefits of communication and sharing accrue to both of them.

Authoritarianism: Both are concerned with their common sphere of life. A, say, has her own view of the values which are beneficial to both. A imposes her view on B, that is, A instructs B to view the world in the same way as A. A has to assure that B will follow A's instructions.

Egotism in Strategic Interactions: Each is concerned only with herself but well aware that the other's action will have an effect on her welfare. She is also aware that the other will react upon her action so that his own action will have a repercussion on herself. Each negotiates to agree on future relations, taking this strategic interaction into full account. Each (say, A) has to assure herself that the other (B) will follow the agreements for his (B's) own benefit.

Note that, in the case of egotism, reciprocity is not an inherent value to follow but simply awareness of strategic interaction. Specifically, promise must be self-enforcing. Each party is supposed to exploit every opportunity to enhance her welfare, so long as this does not harm herself. In this sense, the relation itself becomes a 'thing' which is manipulatable. From this strategic rationality follows the whole theoretical apparatus of the contract paradigm and game theory.

Kennedy's point is that the two potential utopian visions of individualism and altruism coexist among us and within us; they are ambivalent in the legal consciousness. At the same time, Kennedy's arguments seem to suggest that individualism and altruism have to function as regulative principles for the very reason that they easily translate into egotism and authoritarianism. We may visualize Kennedy's intricate arguments (Kennedy [1976] and Kennedy/Michelman [1980]) at the risk of a gross simplification as follows.[9] (Note that the schemata are mine.)

In sum, Kennedy's arguments indicate that the contradictory and inextricable pair of autonomy and community constitutes the contexts of contract at the levels of the legal doctrines, the legal consciousness (of lawyers and laymen), and the practical senses of the contracting parties.

	positive	negative
autonomy	individualism	egotism
community	altruism	authoritarianism

	goal	mode of action
individualism	self-reliance, reciprocity	exchange
altruism	solidarity	sharing and sacrificing
egotism	self-interest	exploitation of others
authoritarianism	group-interest	domination

(c) *Community As Organizing Principles:* Unger's conception of community [1975, 1976] is subtle. Community represents a political ideal which is and ought to be pursued in a society; at the same time, it is thought of as one of the organizing principles which are already existent in society. In a liberal society, community is confined to the private sphere of family and friendship. In a postliberal society which is characterized by welfare state and corporatist economic system, aspirations for democratic community are engendered by the experiences of unjustified power and arbitrary consensus in organizations. In a traditionalistic society like Japan, 'hierarchical community' is embodied in the legal order, the dominant consciousness and informal custom; it is both a political ideal and the regulative principle of organizations. Unger [1983] offers a meticulous explication of how contract, community, and power are entangled in legal institutions and in the legal consciousness.

Contract as a Social Technique

We are now in a position to sketch our conception of contract. All the arguments we have cursorily surveyed indicate that community constitutes part of the contexts in which contracting parties are situated, taking the form of the legal doctrines, the legal consciousness, and the organizing principle of a society. In some incomplete contracts, the residuals of contracts are not so much susceptible of individualistic rational calculation and strategic manipulation as constrained by these contexts. Even the most 'discrete' contract is regulated ultimately by the community vision embodied in the law of contract. The extent to which contracting parties are free to arrange their governance structure on the basis of strategic thinking depends on the contexts.

We may conceive contract as a channel through which the fundamental social interactions of different modes take place and are intertwined with one another.

Specifically, we may imagine that contract is 'spanned' by the four modes of social interactions in the above schemata. Depending on the extent to which contract is biased toward one of the modes, the other three recede into the background and become less visible. See the diagram below. In the diagram the vertical line stands for the distinction between understanding and power, while the horizontal one for that between autonomy and community. The understanding/power distinction corresponds to the coordination mechanism of action; the autonomy/community distinction to the goal of coordination. We shall illustrate our conception of contract in terms of three examples.

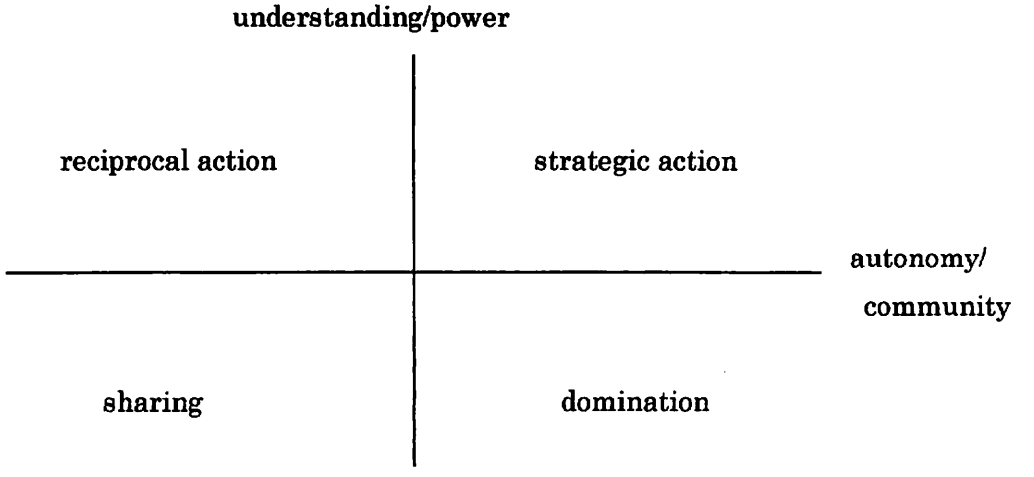

Figure 1

(a) *GM and Fisher Body:* First, consider the story of GM and Fisher Body again. The ten-year contract, incomplete as it turned out, specified a price formula on the premise that each party was trustworthy to the other; it could be seen as a reciprocal relationship (the north-west phase of the diagram). The contractual relation took a decisive turn when Fisher Body refused a renegotiation. It is not clear whether this refusal was a rational decision. This decision is, however, taken as an opportunistic behavior in the literature. Given Fisher Body's opportunism, the authors (Klein et. al. [1978], Williamson [1985], Hart [1995]) regard a merger as a more plausible solution than an alternative solution like a newly negotiated long-term contract. The

opportunism is in turn explained by the fact that other trading partners were available to Fisher Body and that there was no compelling reason for Fisher Body to stick to the trading relation with GM. If this argument is correct, it implies that the relationship shifted from a reciprocal action to a strategic one (the north-east phase of the diagram).

Thus, we can interpret that a potentially opportunistic (i.e. egoistic) inclination had existed in the original long-term contract from the outset. The principle of sharing which is embodied in the contract law and the legal consciousness remained latent throughout this process. It is also in the latent context of the legal rules which regulate domination (i.e. the competition law and the contract law) that the merger agreement was reached.

One theoretical possibility the contract paradigm ignores is a relational contract (i.e. a shift to the south-west phase) which might have followed the renegotiation. Whether this could have been a workable solution for both of the parties is not clear, since a detailed historical case study is not available. We cannot exclude a priori, however, that Fisher Body's refusal was a mistaken decision. Which of the three choices (i.e. a newly negotiated written contract, strategic behavior which led to a fairly different game of merger and acquisition, and a relational contract) is most likely in the long run depends on a number of factors: financial powers of both parties, availability of other trading partners, management's policies and perception, general business culture, costs and benefits of merger.

(b) *Franchising:* Franchising is a wide-spread form of business relationships in the retail sector. (My understanding of the topic owes much to Hadfield's insightful article [1990].) It is an intermediate form between employment and independent contracting; ownership usually resides in the franchisee while control resides almost exclusively in the franchisor. It is a long-term, relational contract; the franchisee's obligations are often precisely defined in the contract, whereas the franchisor's obligations to advise and consult are left unspecified. This asymmetry in the franchising contract tends to generate conflicts and litigation. "[T]he franchise relationship is a set of mutual obligations embedded in an intimate interdependence between unequals... [T]he intimacy and inequality inherent in the relationship make it vulnerable to conflict and abuse." (Hadfield [1990, p. 965]) Intimacy implies that it is necessary for both parties to maintain the relationship; the principle of community has to be respected. Inequality, however, implies that the franchisor has the power to exploit the partner, which the franchisee resists. In terms of our diagram, therefore,

franchising is a peculiar type of contract which is characterized by both domination and strategic action. It is for this very reason that to resolve the conflict judicially, the courts have to evoke the latent values of autonomy and community (i.e. reciprocity and solidarity).

(c) *Keiretsu:* 'Keiretsu' is a peculiar Japanese way of subcontracting, and is now widely known outside Japan and has been extensively discussed in the literature of business administration.[10] Unlike GM and Fisher Body, Toyota and its numerous parts supplying firms keep long-term, close relationships on the basis of private governance, while maintaining their independence. The whole group of firms constitutes a hierarchical structure, with Toyota at the top and with many-layered subcontracting. Keiretsu does not fit quite well with the dichotomy of independent contracting and merger, nor with Macneil's original notion of relational contract in which both parties are more or less equal in bargaining power and are supposed to create mutually beneficial relationship. For, it is a deliberate allocation of rights and obligations and a cooperative system of leadership and compliance at the same time; this defies the simplistic notion of residual control rights; Toyota has an overwhelming leadership in terms of production planning, quality control, job training, and research and development, while subcontractors are legally and economically independent. It is also different from franchising in that subcontractors are competing with each other and free to have trading relationships outside the keiretsu group.

In view of many faces of keiretsu, some authors[11] characterize keiretsu as an intermediate form of organization (i.e. firms) and market, or of corporate governance and industrial organization. This may be correct, but misses the point. For organization and market, like contract, should be each viewed as a 'field' in which more basic social forces interact with one another. In our conceptual framework, keiretsu is a compound social technique which is heavily inclined to community. Autonomy is suppressed by both the ideology of community (i.e. sharing and sacrificing) and the reality of economic interdependence; the long-term, stable in-group relationships without any significant alternative trading partner naturally lead to the perception of community, which in turn reinforces economic interdependence. The ideology of community and the reality of economic interdependence reinforce each other. In particular, subcontractors' strategic action (opportunism) does not pay, at least so far. Also, keiretsu cannot be viewed as an outright exploitative mechanism manipulated by Toyota. What is at stake in keiretsu is not so much the coordination of the parties' interests as the definition of their interests.

Community has proved a much more effective social technique than strategic action, effective in the sense that potential conflict can be suppressed. The economic domination of Toyota and the ideology of sharing and sacrificing (in factories, in the keiretsu group, and in the pathological company town of Toyoda City) are only the opposite, dark side of this effective community principle.[12]

Finally, the example of keiretsu insinuates a very general point. The keiretsu group's efforts are primarily focused on the economic benefits which can be attained only by the group as a whole. The most basic of such benefits is the survival of the group in the face of competition with other groups. The organizing principle of grouping and competition is pervasive in Japanese society. This viewpoint, however, will lead to the recognition of one aspect of community, which is very different from the one represented by positive values such as solidarity, sharing, and sacrificing. Community may be viewed as a basic social technique which is generated from the need for the members' survival; in order to survive, a group will have to put its collective subsistence before each member's interests. This naturally entails the suppression of insiders and the exclusion of outsiders. Community could not, however, be reduced to a strategy for a group's survival. If so, the positive values of community would be only a deceptive appearance of domination. Neither of community's two moments, i.e. solidarity and power, can be abstracted from.

From Contract to Association

Franchising is primarily a contractual relationship between autonomous agents, though the courts have to evoke ex post the principles of community to correct unequal bargaining power. On the other hand, keiretsu cannot be seen as contract, even as a most relational one. This is because the group's members are concerned with the group itself, in distinction from, and in addition to, their individual interests. This observation suggests that the notion of association will be useful in depicting relationships which are in the same space as contract (spanned by the four basic modes of interaction), but strongly tilted to community.

Association may be defined as a voluntary relationship in which the parties are concerned with the relationship as a whole for some reason. Citizens establish a political association to arrange opinions and effectuate collective demands[13]; an economic association represents the interests which can be attained only through joint efforts as a group; yet another example is a cultural association which is to realize

cultural values through the association, or within the association. The crucial difference between association and contract lies in the fact that association has one more dimension than contract, which may be called a concern with the totality of the relationships. In a discrete and individualistic contract intersubjectivity may be latent in the context, taking the form of the values of community which the legal doctrines evoke in the judicial process but with which the parties are not necessarily concerned. In an association, on the other hand, the parties are conscious of the level of intersubjectivity which links them all in one way or another. This nature of association makes it susceptible to community as a social technique.

In light of this difference we can understand why the contract paradigm has to stretch the concept of contract, often beyond recognition, to capture economic associations. Strategic interaction is the only theoretical arsenal which is available to the paradigm while the terrain to be conquered extends far beyond the reach of strategic interaction. In particular, the paradigm has no other choice than to ascribe the complex phenomenon of power in an organization (bureaucratic control in a hierarchical system, collusion and antagonism between sub-groups, peer group pressure, ideological hegemony, etc.) to the equilibrium of strategic interactions; consequently, power is reduced to bargaining power.

We shall illustrate this point in terms of two issues in the 'nexus of contract' controversy.

(a) *The Opting-Out Controversy:* The first is concerned with the 'opting out' controversy in the U.S. company law. Alchian/Demsetz [1972] and Jensen/Meckling [1976] are among the earliest proponents of the 'nexus of contract' view of the firm. These authors define the principal agent relation not in legal terms but on the basis of strategic interaction, and conceive the relationship between management and shareholders as the principal agent relation thus defined. In the eyes of legal scholars, however, this is highly problematical. For neither the voluntary delegation of power from the principal to the agent nor the ultimate control of the agent's discretion by the principal is existent in the management-shareholder relation. Furthermore, the principal agent relation as specified in the law entails fiduciary obligations such as the duty of loyalty (which implies the pursuit of the principal's best interests). This is however totally absent in the management's duties. In the corporate law management is supposed to pursue their own interests while fulfilling the duty of good faith. (See for instance Frug [1984], Brudney [1985], DeMott [1988], Coffee [1989], Eisenberg [1989], Bratton [1989a, b].)

Thus, Easterbrook and Fischel [1991] are cautious in saying that "[p]erhaps the corporate contract, like the social contract, is no more than a rhetorical device" ([1991, p.15]). If the nexus of contracts is no more than a metaphor, what is the point of this metaphor? Easterbrook and Fischel offer basically two explanations: one is the notion of hypothetical bargaining, the other an obscure Darwinian process in a market economy where every relevant relationships are priced and tested, and where the strategically most rational contract is supposed to survive eventually. The former represents the normative aspect of the 'nexus of contract' theory, the latter the positive aspect.[14] The hypothetical bargaining is, however, not capable of deriving from the parties' strategic interaction the mandatory rules[15] which are conspicuous in the corporate law, as many authors forcefully argue in the opting out controversy. The Darwinian process, on the other hand, remains only the theoretical desideratum; it has never been proved theoretically or empirically. Thus, for Easterbrook and Fischel the notion of contract is no more than strategic interactions in a market economy. It has no specific content, and therefore is a theoretically manipulatable concept. This also explains why the hypothetical bargaining is indeterminate.[16]

(b) *Implicit Labour Contract as Promise:* The second issue is concerned with K. Stone's new interpretation of the 'nexus of contract' theory (Stone [1988, 1992, 1993]). Stone regards the institutions of internal labour markets as implicit contract between management and employees, and contends that management's promise of job security and deferred compensation (i.e. wages increasing with ages) is to be enforced by the courts. In effect, Stone aims at recovering the individualistic value inherent in contract at the level of the judicial interventions; management's opportunism ought be countered with the courts' enforcement of the principle of reciprocity. In this sense, Stone's viewpoint could be an inherent critique of liberalism, and might be able to offer an advantageous strategic position vis-à-vis the increasingly influential contract ideology. Furthermore, Stone envisages labour participation as bargaining between management and labour in the board room ("collective bargaining transposed to the boardroom" or "the expanded bargaining model of collective bargaining"). The bargaining is assumed to reflect the relative strength of labour in a firm and to guarantee labour's democratic participation in the firm's decision making.

Translated into our framework, Stone's argument amounts to saying that employment relationship in a firm can be captured only in terms of individualism and strategic interaction. Although this 'novel twist' of the nexus of contract theory might be useful for the labour lawyer, it entirely abstracts from the aspects of association.[17]

How to recover the value of community in an economic association, and how to cope with the problems of power in an organization must be high on the agenda of a critical theory. These problems are not addressed in Stone's argument. From Stone's normative theory of the expanded bargaining model, it is only one step to Aoki's allegedly descriptive model [1988] of a Japanese firm, which assumes that the management's implicit promises are always kept and that a bargaining game among the stakeholders of the firm guarantees democratic participation and provides a fair distribution of profits.

III. The Limits of Strategy: Game Theory

We have seen that the contract paradigm reduces a complex social interaction (like contract and association) to strategic interaction. Game theory concerns strategic rationality, and allegedly offers the theoretical foundation and apparatus for the contract paradigm. The purpose of this Section is to show that strategic rationality as envisaged by game theory is embedded within social contexts, and needs to be sustained by community. In doing so, we shall focus on two points which seem to be fundamental to game theory and yet remain suppressed in the literature: (1) The Nash equilibrium and its 'subgame perfection', which are both among the most basic solution concepts in noncooperative game theory, derive in reality from the logic of communicative interaction. Game theory is exploiting the potentials of communicative rationality in a distorted and sometimes inverted form. (2) The epistemological premises of game theory do not fit with the basic facts of human knowledge and social interaction. Strategic rationality, if pursued for its own sake, necessarily leads to a fallacious view of social interaction. This is because whereas strategic actions presuppose some form of community, game theory does not recognize this crucial fact.

To vindicate the first point, we shall start from J. Habermas' theory of communicative action, and formalize the structure of dialogue, which may be viewed as the most basic social technique embodying communicative rationality. This will enable us to compare strategic action with communicative action at a formal level. To elucidate the second point, (i) we shall examine the arguments of epistemological foundations (or epistemic conditions, as is referred to in game theory) and machine game, (ii) consider how the rules of a game are followed and produced by agents, and

(iii) reexamine Rapoport's well known argument on the prisoners' dilemma.

Throughout this Section we shall substantiate an intuition that there is something deeply disturbing in game theory. To borrow Dawkins' well known metaphor[18], strategic rationality is a 'meme'. But, this meme is parasitic and tends to intrude, once unleashed from the bonds of habitus, into every aspect of social thinking, not only into academic arguments but also into the practical senses of everyday actions. To the extent to which game theory captures and cultivates this 'meme' successfully, it has to do with the social reality and must therefore be taken seriously. In this sense game theory is not just an esoteric discourse but reflects our own thinking, albeit in an inverted fashion.[19]

Before presenting our view of game theory, we shall review very briefly what the leading game theorists say about game theory. A glance at the literature will suffice to notice a disarray in perceptions and approaches. Aumann's article [1995] may be viewed as the culmination of an approach which pursues ruthlessly the logical consequences of strategic rationality; all the beliefs, conjectures and perceptions of the players (including the players' conjectures about the other players' conjectures, etc.) are supposed to be captured by the notion of the states of the world; it is shown under this 'interactive belief system' that the common knowledge of conjectures leads to a Nash equilibrium.[20] Binmore [1990] is skeptical of this bewildering picture of convoluted conjectures, and emphasizes the need for analyzing the reasoning process of a rational agent. Binmore believes that bounded rationality could be represented by a Turing machine (a universal algorithm), and proposes a machine game as research agenda. Rubinstein [1991] dismisses 'the naïve interpretation of game theory as a physical description of the world', and instead regards it as 'a model for the [participants'] perception of real life social phenomena'. According to Rubinstein, for instance, mixed strategy should not be thought of as a player's conscious randomization of pure strategies, but as the belief held by all other players concerning the player's action. While Rubinstein, too, feels the need for analyzing the reasoning process of players, he is critical of machine games.[21] Kreps [1990], on the other hand, sees the task of game theory in understanding and prediction of economic phenomena, and emphasizes that game theory is a tool box for economics.[22] In examining how players behave in a situation which is off the equilibrium path, however, Kreps is led to consider a problem how the players' beliefs are generated.

Note that the game theorists are increasingly inward-looking; they are being compelled to reexamine the very foundation of game theory.[23] In my view, this is precisely because strategic rationality cannot stand on its own foot. It is certainly to

be expected that self-conscious mental activities based on an arbitrary distinction of the self from the world will meet insurmountable difficulties in the face of the social reality which is intersubjectively constructed.

The Potentials of Dialogue: Communicative Rationality

Several themes run through J. Habermas' magnum opus *The Theory of Communicative Actions* [1982]. One of the themes is communicative rationality embodied in speech acts. Since Habermas repeatedly elaborates on this theme (for instance [1988, Ch.4; 1992, Ch.1]) and the secondary literature[24] abounds, we shall dispense with epitomizing the theme and directly present our model of dialogue. The model is constructed in such a way that Habermas' notion of communicative rationality can be compared with a multi-stage game in extensive form.

Consider an idealized and highly stylized form of dialogue in which two speakers alternately give utterance. This dialogue game is idealized in that

(1) no other force than the persuasiveness of argument is operative during the dialogue;
(2) each speaker's competence is equal so that neither is capable of taking the lead throughout the dialogue, or of conceiving the outline or conclusion of the dialogue before it really starts;
(3) each speaker is entitled, at every stage of the dialogue, to criticize the other's utterance with respect to truthfulness, legitimacy, and sincerity; she is also entitled to raise any question or open a new sub-dialogue at every turn of the process;
(4) each speaker takes into account all the utterances ever given in the process.

Condition (1) implies that the basic agreement as to the purpose of the joint effort has already reached at the starting point of the dialogue. Both of the parties are ready to cooperate without any reservation, as far as the ultimate goal of the dialogue is concerned. Condition (2) says that unlike the Socratic dialectic, our dialogue is symmetrical; it implies, together with Condition (3), that the dialogue is an essentially unpredictable evolutionary process. Condition (3) says, on the one hand, that every utterance must be tolerated in so far as it is intended to contribute to the evolution of the dialogue; on the other, it says that every utterance is subject to scrutiny of both of the parties. Condition (4) implies that every utterance may be thought of as a synthesis of all the utterances so far given.

In a dialogue so conceived, utterance may then be viewed as consisting of a claim and its justification. The justification has to be articulated in such a way that the other can criticize it. The other's criticism, which itself consists of a claim and its justification, has to be scrutinized in turn, unless it is agreed. This implies that both parties are jointly constructing a 'space' in which justifications of both parties can be compared and evaluated according to the common criterion. In other words, the persuasiveness of argument must be intersubjective.

Consider then when and how this dialogue comes to an end successfully. It follows from Conditions (1) and (3) that it can end only when both agree on the conclusion, i.e., only when each no longer intends to criticize the other's justifications or to raise a new point. In this sense both must be fully persuaded of the conclusion at the end of the dialogue. Mutual understanding (Verständigung) has to be reached in order for the dialogue to end successfully.

Theoretically, it is always possible to question the premises or the context on which the utterance of the partner is based; for the context of a dialogue (or of any other human activity) could never be entirely enumerated, that is, the 'deeper' context is always already existent no matter how deeply we lay bare the layers of the life-world. In terms of metagames which we will discuss later, each speaker has the right to open a metagame at every turn of the game. This will of course load an unbearable burden on the dialogue, especially when the dialogue aims at coordination of actions. This problem is resolved in two ways: First, the medium of communication other than natural language (like money and signals for some specified purpose) may lessen the burden, since such a medium narrows the range of possible utterances to a considerable extent and makes it impossible for the parties to criticize the other's utterance. This will enable the parties to exchange information smoothly. That is, such a facilitates information transmission at the price of criticizability (Kritisiebarkeit). Second, every dialogue has to leave some background contexts unquestioned. For instance, each party has to assume at the outset that the other uses the same language or some language translatable to his own. In this sense, the dialogue and mutual understanding are premised on, and relative to, the pregiven contexts.

The structure of the dialogue may be written as a tree of alternating utterances. In Figure 2, u(t) = (c(t), j(t)) represents the utterance at the t-th stage, c(t) the claim, j(t) the justification, and a(t) the agreement.

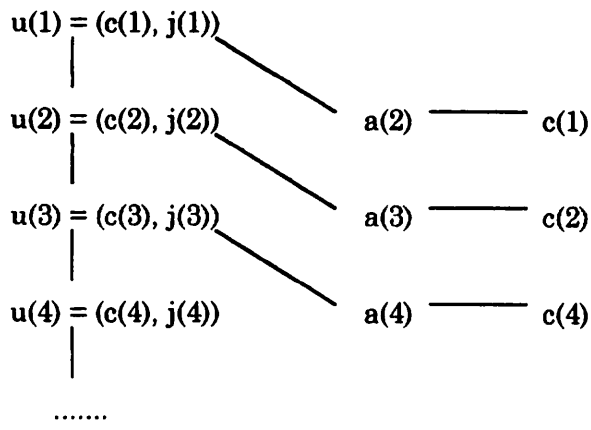

Figure 2

Since any pair of 'adjacent' justifications are comparable, and the justification j(t) must be better in some sense than j(t-1) because of Condition (4), we may suppose that in an ideally proceeding dialogue,

$$j(1) < j(2) < j(3) < j(4) \text{ etc.}$$

Note that this binary relation $<$ is not necessarily transitive, defined in the public space of good arguments, and common to both of the parties. It should now be clear that the dialogue ends at the t-th stage only if

$$\sim (j(t\text{-}1) < j(t))$$

holds. In this case, the party who is to give utterance at the t-th stage agrees on the claim c(t-1), which then comes out as a conclusion of the dialogue.

To recapitulate: the potentials of dialogue lie in the fact that the common space of good arguments can emerge from a series of mutual criticism of utterance. Mutual criticism can lead to a successful conclusion, i.e. an understanding. This is, in my view, the core of Habermas' thesis of communicative rationality. The experience of creating voluntarily and cooperatively something new in a dialogue cannot be reduced to, and explained by, strategic interaction.

The logic of communicative rationality has far-reaching implications for social theory. Understanding reached through mutual criticism provides a basic social technique for coordination of actions. For instance, as we have seen in Section II,

contract as a social technique presupposes the principle of reciprocity, which is nothing but understanding between two autonomous agents.

Subgame Perfection: The Implementation Problem

Consider the simplest noncooperative two-person game in normal form. The Nash equilibrium is a pair (s_1^*, s_2^*) of the best responses to each other's strategies: (s_1^*, s_2^*) is greater (with respect to the first player's preference) than (s_1, s_2^*) for any possible strategy s_1, and similarly for the second player. This suggests implicitly an underlying response process such that

$$(s_1(t), s_2(t)) \quad \rightarrow \quad (s_1(t+1), s_2(t+1)) \qquad \text{for all t greater than 0,}$$

and $(s_1(t+1), s_2(t))$ is maximized (w. r. t. 1's preference) given $s_2(t)$, and similarly for 2. The fixed point of the process is of course the Nash equilibrium. The response process may be rewritten as a process of alternating offers:

$$s_1(t) \quad \rightarrow \quad s_2(t+1)) \quad \rightarrow \quad s_1(t+2) \quad \rightarrow \quad s_2(t+3)) \quad \text{etc.}$$

These multi-stage games enable us to see more closely the interactions of the players' conjectures and strategies. Subgame perfect equilibrium is a pair of strategies which give the best responses in every subgame of the original game in extensive form. This equilibrium concept is considered as one of the most fundamental achievements in the recent development of game theory, and widely applied in the literature. To be specific, we shall consider two models which exploits this solution concept: Moore's implementation mechanism and Rubinstein's noncooperative bargaining theory.

First, consider Moore's example [1992] of the implementation problem. The example is based on a famous story in the Old Testament: Each of two women claims that a child belongs to her, and Solomon has to decide which is the true mother. Moore constructs an implementation mechanism which solves Solomon's problem. See Figure 2, which is the same as Moore's mechanism [1992, Figure 5.3].

Each woman is assumed to know that the true mother's bidding price is higher than the other's; she is also assumed to know the entire mechanism. It is straightforward to see that this mechanism solves Solomon's problem. Suppose 1 is the true mother. Suppose also that at the first stage, 1 claims the child. If 2 disagrees at the second

stage, 1 will overbid any price v that 2 bids and obtain the child so that 2 will pay the fine for nothing. This reasoning is obvious for both, so 2 will agree at the second stage. Suppose to the contrary that 2 is the true mother. If, at the first stage, 1 claims the child, 2 will surely disagree. So, the only chance of 1's winning the game is to proceed to the third stage and to counter 2's bid, which is impossible since 1's bidding price is lower than 2's. Reasoning in this way, 1 will disclaim the child at the outset.

Moore gives essentially three explanations as to why this mechanism solves Solomon's problem. First, the mechanism is defined in terms of a multi-stage game, rather than a single shot game. Second, the threat which is available to each in subgames is not credible so that the other can safely ignore it as a mere bluff. (This is the usual explanation of subgame perfection in the literature.) Third, money plays the decisive role in the mechanism. Without money (transferable utility) it would be impossible for Solomon to impose a fine and to have the two women bid the child.

These explanations are, however, not self-evident. It is not at all clear why three stages, and not two or four, are sufficient to ensure the implementation. It is also not clear why fines and bidding are necessary. These questions can be clarified when we realize that Moore's mechanism is a special case of our dialogue model.

First, note that Moore's mechanism consists exclusively of the basic components of the form: one's claim—the other's counterclaim or agreement. This is the same basic mode of utterance—criticism or agreement in our dialogue model. It is in fact straightforward to rewrite Moore's mechanism as a dialogue game. A typical utterance has the form: u = (c, j) = (this is my child, because ...). See Figure 4. This means that as far as the formal structure is concerned, Moore's mechanism may be regarded as a dialogue game. The crucial difference of Moore's mechanism from our model is, however, that every measure is taken in the former to ensure the parties the entire perspective of the game while in the latter the process of dialogue is conceived basically as unpredictable and evolutionary. In Moore's mechanism, each party can look through all possible exchanges of claims and counterclaims and thus anticipate the conclusion before the dialogue game starts. (Macneil calls it 'presentiation' to project future events onto the screen of the present. See Section II.) In a word, Moore's mechanism is a dialogue model with presentiation. (In fact, every model in game theory is necessarily of this form, because of the fundamental postulate of strategic rationality.)

Second, this characterization enables us to answer the questions Moore have left open. The first stage is only for presentiation and has no substance as a claim, since no justification is given (i.e. j(1) = Ø). In fact, the two women could start from u(2) at

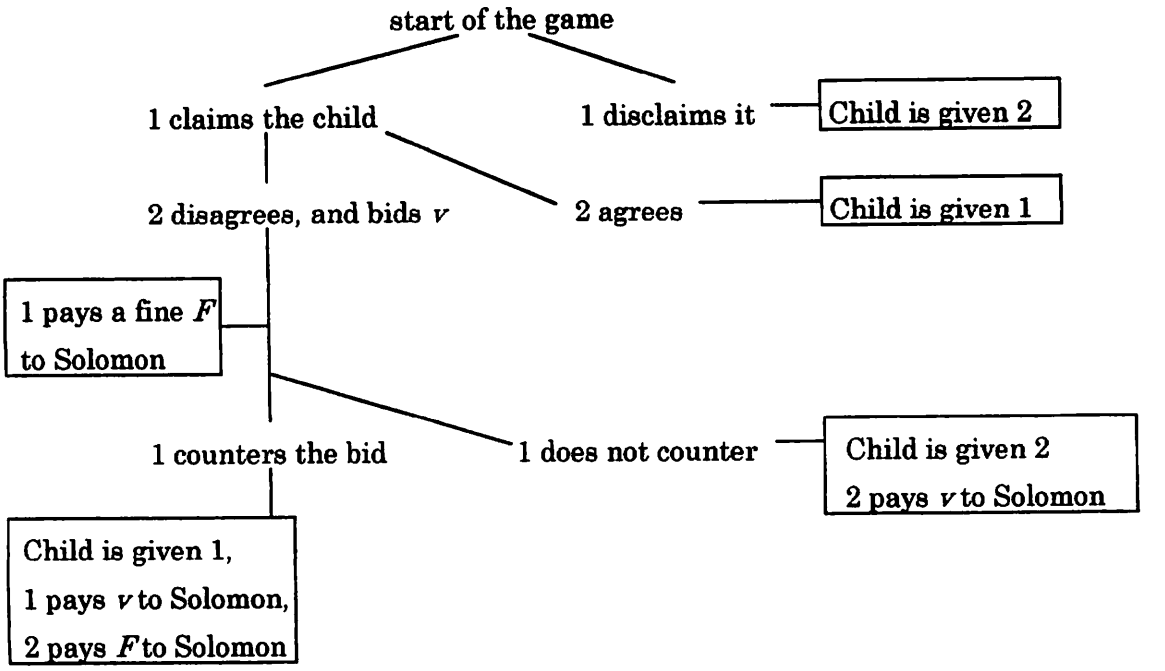

Figure 3

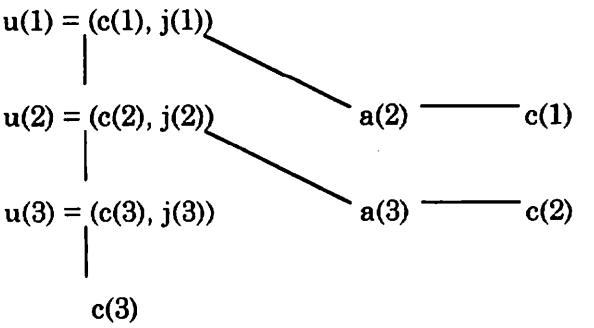

Figure 4

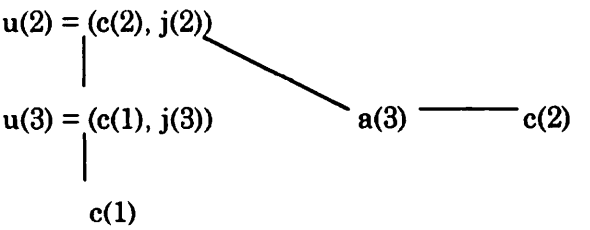

Figure 5

the second stage, in which case they would have to go through the process but reach the same conclusion (i.e. the true mother would get the child) except for the money they would have to pay. The second and third stages constitute the core of the mechanism. See Figure 5, in which c(3) = c(1) is substituted. It is evident from Figure 5 that the substance of the mechanism is the single basic component itself, which is of the form: claim—counterclaim or agreement. This explains why at least three stages are necessary in this case. (As for sufficiency, see below.) This also makes clear the meaning of stages: Stages are simply each party's opportunities for utterance, which are prerequisite to dialogue.

Third, our viewpoint clarifies why money is alleged to be crucial in Moore's mechanism. Note that in Figure 5, all that necessary for Solomon is to ensure that the true mother's justification is better than the other's, i.e. that $j(2) < j(3)$ if 1 is the true mother, and $\sim(j(2) < j(3))$ if 2 is the true mother. In our model of dialogue this would be guaranteed in a number of ways, since each woman would be given real chances of justifications of her claim, which would then be scrutinized in the public space of good arguments. (Imagine for instance a scar in the child's body which only the true mother can tell.) In the implementation problem, however, the real exchange of justifications is excluded by the postulate of presentiation. A surrogate for the public space of good arguments is therefore required which satisfies the following conditions: (1) in terms of the surrogate, both women must be able to represent their claims, compare between them, and decide which claim is better, according to the common criterion; (2) Solomon must also be able to decide, according to the same criterion, which claim is better; (3) each woman knows that the true mother's justification is better, that each knows that this is so, that each knows that each knows that this is so, etc. Evidently, Moore's daring trick of having both women bid the child satisfies conditions (1) and (2) under condition (3).

Three points should be mentioned here. First, condition (3) (i.e. the assumption of common knowledge) is automatically satisfied in the case of good arguments. The use of (natural) language necessarily entails common knowledge of what is talked about. This explains why common knowledge has to be 'given' to the players in a strategic game, and why common knowledge itself remains a riddle in game theory which excludes a priori intersubjectivity embodied in language. Also, condition (3) ensures that the substantial core of the implementation mechanism does not need any more than one round of exchange of a claim and a counterclaim. The entire mechanism needs therefore exactly three stages, including the first stage which is required for presentiation. Second, money is not the sole alternative to good arguments; the

determinedness to sacrifice oneself for the child, for instance, could also satisfy conditions (1) and (2). Third, as is easily verified, the fines only serve presentiation.

Hypothetical Bargaining

Rubinstein's theory of noncooperative bargaining game [1982] is considered a remarkable contribution to the notoriously indeterminable problem of bilateral monopoly, in that it gives a definite solution to the problem of the 'splitting a pie' type. In fact, the theory predicts a unique solution if time preference is represented by fixed discounting factors. To obtain the uniqueness result, the theory exploits ingeniously the notion of subgame perfect equilibrium and the assumption of impatience (time preference). It is also viewed as implementing 'the Nash program,' since Rubinstein's noncooperative solution approximates Nash's cooperative solution [1950a].[25] Furthermore, the alternating offer setting as well as the uniqueness result has been applied to market transactions, employment contract, and the theory of firm.[26] Undoubtedly, Rubinstein's theory is one of the most important contributions to game theory in the eighties.

From our point of view, however, the theory appears to incorporate all the problematical features of game theory: common knowledge, total presentiation, and the absence of language use. Our main argument in this Section is that these features stem from the basic epistemic structure of game theory which the postulate of strategic rationality necessitates.

Consider the standard case of Rubinstein's theory in which two players alternate claims (represented by a partition of a pie) and responses (rejection or acceptance) and in which the players' time preference are constant (write them as δ_1 and δ_2). The player who starts the game by claiming a partition (say, player 1) is assumed to be fixed. The structure of the game is depicted in Figure 6, in which f denotes player 1's strategy, g player 2's, and S the interval [0,1].

In this model, Rubinstein imposed the condition of subgame perfection on equilibrium, and proved its existence and uniqueness. We shall make four remarks on this model.

(a) *Claims Without Justification:* In terms of our dialogue schema, the game may be written as Figure 7. The most salient feature of Figure 7 is that no justification is given in this 'dialogue' (which is in reality no dialogue at all, as we will soon see). The subgame starting from the third stage has exactly the same structure of the original

game, since claims c(1) and c(3) are not associated with any justifications that would

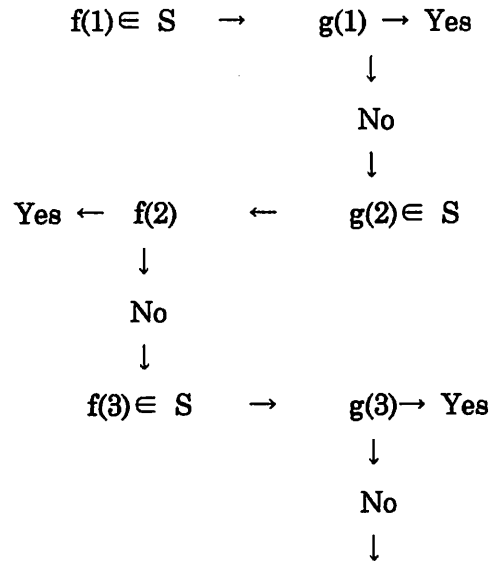

Figure 6

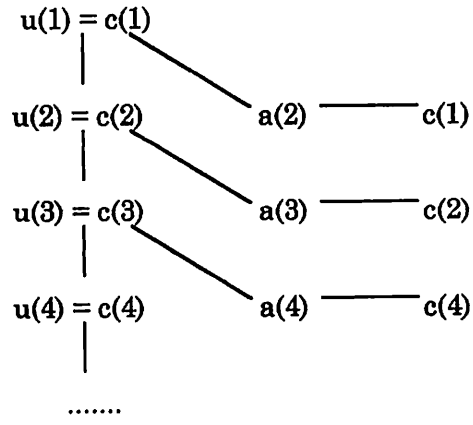

Figure 7

otherwise differentiate u(3) from u(1), and every subgame as well as the original one is of the infinite length. (Recall that in our idealized dialogue, there hold in general $j(1) < j(2) < j(3) \ldots$ for some binary operation $<$.) Evidently, the same holds for every subgame. In this sense, exactly the same structure recurs in every subgame. In terms of our schema, this implies that the 'dialogue' does not evolve at all; that is, a claim and the corresponding counterclaim would repeat themselves infinitely, if the players had no time preference. This structure enables us to focus on the first three stages of the game.

In fact, the core of Rubinstein's proof (of the existence and uniqueness of an equilibrium) and the proof of Shaked/Sutton [1984] both exploit this structure. Their argument amounts to investigating the relations among c(1), c(2), and c(3) such that $c(1) = c(3)$ and

$$c(1) >_1 c(2),\ c(2) \sim_1 c(3),$$
$$c(1) \sim_2 c(2),\ c(2) >_2 c(3),$$

where the binary operations represent the players' preferences. Intuitively, the above condition says that player 1's proposal c(1) is stable in the sense that player 2's objection c(2) is effectively met with player 1's counter objection c(3), which coincides with the original proposal c(1). Mathematically, this is a fixed point defined by

$$c(1) \sim_2 c(2) \sim_1 c(1), \text{ i.e.,}$$
$$(1 - x) = \delta_2 (1 - y),\quad y = \delta_1 x,$$

where x and y denote the portions player 1 is to receive in claims c(1) and c(2), respectively. It is easily seen that a subgame perfect equilibrium is supported by strategies f and g such that

$f(t) = x^*$ (for all odd t),
$f(t) =$ Yes if y is equal to, or greater than, y^*,
No if y is less than y^* (for all even t),

$g(t) = y^*$ (for all even t),
$g(t) =$ Yes if x is equal to, or less than, x^*,
No if x is greater that x^* (for all odd t),

where x^* and y^* denote the fixed point defined above. It is also shown that this argument is not confined to stationary strategies like x^* and y^*. Shaked and Sutton [1984] suggest that x^* may be interpreted both as the supremum and the infimum that player 1 would obtain in a subgame which she starts. This implies that the strategy is essentially unique. Note that the existence and the uniqueness of a subgame perfect equilibrium are derived from the fact that no justification is given in this game. This feature, however, presupposes an unrealistically demanding assumption concerning the epistemic structure of the game.

(b) *Epistemic Structure:* The second remark concerns this epistemic structure. The problem here is: How can the players coordinate their actions without communication? In other words, how can each player be sure that the other will do precisely what he anticipates? The justification usually given in the literature is the assumption of common knowledge of rationality: Each player knows that the other thinks and acts rationally; each knows that the other knows this fact; each knows that the other knows that each knows this fact, etc. Under this assumption, each can reproduce in his mind exactly what the other thinks, and is absolutely certain that the other reproduces what he thinks; he is certain both that he understands the other and that he is understood by the other. This is why, as Rubinstein [1987] says, the bargaining ends immediately in this game: player 1 claims x^* at the first stage, and player 2 accepts it. Even this first stage seems to be superfluous under the assumption of common knowledge of rationality. Bargaining is hypothetical out and out. Each player looks into the other's mind as well as his own, and reach the same conclusion simultaneously with no communication whatsoever. In other words, the players' actions are coordinated not by the invisible hand of God (i.e. the Walrasian markets), but by the sight of God which penetrates all the states of the world (including others' minds and beliefs) and all the logical implications of a highly complicated event.

In order to investigate this extraordinary assumption more fully, we shall consider what the first player would say if required to justify his equilibrium strategy. What would a pantomimist say, if he is pressed to do so?

The information which is somehow 'given' to player 1 at the outset is the common knowledge of the rules of game, which would include the preferences of both players, the procedure of the game, and the instructions as to how to discern credible threats from incredible ones, etc. On this basis, he would presumably reason in the same way as a game theorist. The a priori information concerning the game and the reasoning process would constitute justification j(1). Similarly, we could enforce the player who

is at the starting point of a subgame to articulate the reasoning processes which justify the equilibrium strategies: j(2), j(3),...

A crucial feature of this series of justifications is that j(1) necessarily includes j(2), and that j(2) includes j(3), etc., so that

$$j(1) \supset j(2) \supset j(3) \supset \ldots$$

This is because the players have to, and are able to, examine all the subgames to find a subgame perfect equilibrium. Compare this series with that of a genuine dialogue:

$$j(1) < j(2) < j(3) < \ldots$$

It should now be clear why presentiation is complete (i.e. why the bargaining ends immediately), and why communication is not necessary in this game. In a word, the conclusion has already been reached before the game starts. This kind of interaction (if it may be called interaction at all) is diametrically opposite to dialogue, in which mutual understanding in the public space of good arguments emerges gradually from painstaking communication between the parties. Rubinstein's game is thus dialogue upside down; while it exploits the form of dialogue, that is, alternating utterances and mutual criticism, it inverts the logic of dialogue.

(c) *Participation and Observation:* The third remark concerns the relationship between players and game theorists. In our thought experiment, the players justify the equilibrium strategies in the same way as a game theorist. In general, players of a game with complete information are assumed to take a game theorist's viewpoint. A player of a game is a participant and an observer at the same time. See Figure 8. This assumption is in turn premised on three conditions: (i) An impartial, objective observation is somehow possible, (ii) a player can take this standpoint of an observer, and (iii) a player's actions (moves) are entirely derived from the objective knowledge thus obtained and her logical reasoning (calculations) as to how the objectified world is structured. Each of these conditions is highly problematical. Condition (i) implies that a theoretician can objectify every aspect of social interactions. This lead to the notion of 'the states of the world'. A game with incomplete information is an attempt to relax condition (ii), though such a theory has been so far confined to the partition model based on the states of the world approach. The most fundamental is condition (iii), which is nothing but the postulate of strategic actions. These conditions will be

discussed in the sequel.

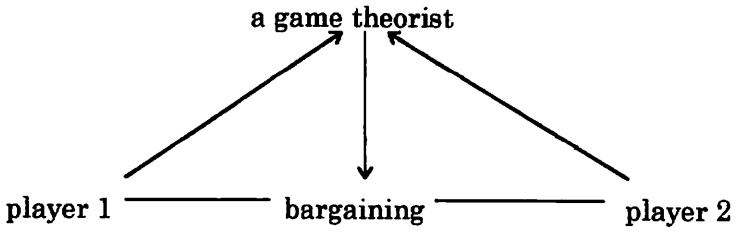

Figure 8

As we have seen, Rubinstein's seemingly remarkable theory is in reality dependent on an extraordinary assumption concerning participation and observation. True, every economic model embodies a theoretician's viewpoint, and game theory is not to blame for projecting a theory onto the inhabitants of a model. But, what reality is game theory trying to model? Game theory is only investigating implications of the postulate of strategic rationality, which is found proximately in the minds of game theorists themselves.[27]

This is symptomatic of the ambivalence into which game theory has been fallen. On the one hand, game theory cannot relinquish the basic postulate of strategic rationality as a matter of principle; in any event, real-life situations seem too complicated and intractable to model in some other methodology. On the other, some game theorists are increasingly uncertain whether game theory is on the right track as social science; they are well aware that a single-minded pursuit of strategic rationality will push game theory further away from the reality.

(d) *Hypothetical Bargaining as a Legal Technique:* The problematical self-referential relationship between players and game theorists becomes even more problematical, when the relationship is carried over to that between the parties in real-life conflicts and the allegedly impartial third party like the courts and the legislators. Although the legal technique of hypothetical bargaining, as we have seen in the previous Section, appears to be no more than a transposition of the epistemic structure of game theory into legal discourses, the underlying relationship between a participant and an

observer must be reversed in the case of the legal technique. The courts and the legislator have to find the rational core of the parties' intentions and behaviors, thereby reconstructing a bargaining which would have occurred if the transaction costs of bargaining had been nil. See Figure 9. It will be unavoidable that the value judgment of the third party enters into the reconstruction. In other words, the objective standpoint of the third party is in reality unattainable. The courts and the legislator are necessarily participants in some larger game. Furthermore, if this third party happens to be the courts which are under the influence of the law and economics movement, the epistemic structure of game theory will be turned into the ideological device of hypothetical bargaining which enforces the efficiency standard on conflict resolutions.

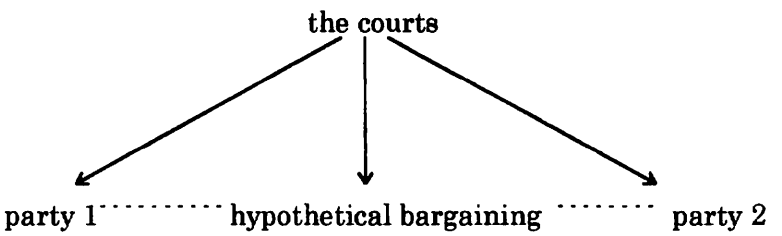

Figure 9

The Epistemic Structure of a Strategic Game

Rubinstein's model is not an exception in its problematical epistemic structure of the game. It is therefore worth elaborating on this point.

(a) *Interactive Beliefs:* Aumann's 'interactive belief system' which we have mentioned in the introductory part of this Section seems to be a focal point of the arguments in game theory. In Harsanyi-Aumann's approach (e.g. Aumann/Brandenburger [1995]), a type of a player is an all-inclusive characterization of her actions (strategies), her payoff function, and her conjectures (i.e. probability distribution) on the types of the other players. The notion of type, therefore, captures the infinite regress of conjectures about conjectures about conjectures etc. in a compact way.[28] The states of

the world are then identified as the set of types. The underlying conception of knowledge is the usual Bayesian one in which knowledge is represented by informational partition over the set of the states of the world. In this setting, Aumann shows in the case of two players that if each (say, A) knows the other's (say, B) payoff function, B's rationality, and B's conjectures about A's actions, then the pair of conjectures is a Nash equilibrium.[29] Although common knowledge is not explicit in the stated theorem, the interactive belief system itself must be common knowledge. (This points to a very general fact: The context within which a formal system of description of the world is embedded cannot be described by the system.)

Some authors (Binmore/Brandenburger [1990] and Bacharach [1994] among others) investigate the logical structure of a Nash equilibrium in terms of modal logic. It is shown among other things that Aumann's model of information partition is equivalent to the modal (epistemic) logic called S5, which is axiomatized by four axiom schemata and two inference rules. One of the inference rules is the usual modus ponens which includes no modal (epistemic) operator. The other inference rule stipulates that

if A holds in the deductive system (as an axiom or a theorem), so does KA, (R)

where A denotes a sentence in the deductive system S5 and K denotes the knowledge operator. (KA is the set of states in which a player knows A. We omit the suffix indicating the player.) Four schemata are

$K(A \rightarrow B) \rightarrow (KA \rightarrow KB)$	(K)
$KA \rightarrow A$	(axiom of knowledge)
$KA \rightarrow K(KA)$	(axiom of transparency)
$\sim KA \rightarrow K(\sim KA)$	(axiom of wisdom).

(R) says that the player is capable of inferring all the theorems (even if they are highly complicated ones) from the axioms. Similarly, (K) stipulates logical capability. Bacharach [1994] thus interprets (R) and (K) as requiring the players' logical omniscience. The axiom of knowledge stipulates the factivity of knowledge, thereby distinguishing knowledge from belief and conjecture. The remaining two axioms say that the player is capable of positive and negative introspection; they are logical expressions of the idea that knowledge is conscious mental activities. The axiom of wisdom, though crucial to the existence of informational partitions, has been called in question in the literature.

It is straightforward to see how restrictive a view of knowledge this epistemic logic (and the Kripkean semantic, for that matter) represents. Knowledge cannot be equated with mental activities, still less with self-conscious mental activities as implied by positive and negative introspection; it cannot be described as a state of the world, either.

A worker's tacit knowledge embodied in her skill, for instance, will defy not only epistemization but objectification; it cannot be articulated as procedure or algorithm. To take another example, we use natural language every day, and yet we do not know what axioms are underlying it. Should we say that we do not 'know' language? In general, kineasthetic dexterity (including the ability to use language) will not be captured by modal logic.

Furthermore, in order to conceptualize knowledge as a state of the world, it is necessary to hypothesize an impartial observer's point of view, from which every brain activity of every player is visible. Such a hypothetical observer's point of view, however, is of no relevance to the way in which knowledge is involved in society; for even a most objective scientist is necessarily a participant in our game of human activities, and her perspective is accordingly constituted through her intentions, restricted by her standpoint and biased by her interests.

(b) *Logical Myopia:* There seem to be three alternative approaches to Aumann's. First, Bacharach's approach [1994] consists in replacing the inference rules and the axioms with less demanding ones, thus weakening the deductive system and the corresponding Kripkean semantic. Specifically, Bacharach has two directions to pursue. First, he envisages a logically myopic player by restricting his deductive capacity (i.e. by relaxing the inference rule (R)). Logical myopia, for instance, implies that players are not necessarily capable of backward induction of a considerably high degree, which has often been seen as not entirely plausible. Second, Bacharach questions what he calls 'cloisteredness', that is, the assumption that players know only the theorems which can be derived from basic axioms. Depending on the literature of artificial intelligence, Bacharach attempts to expand players' knowledge beyond the logical consequences of the axioms.

Although it remains to be seen whether logicizing game theory will lead to a more realistic theory, the basic problem which we have mentioned concerning Aumann's formalism is not addressed in Bacharach's approach. That is, knowledge may not be necessarily objectified and described as a state of the world.

(c) *Machine Games:* Another approach, notably Binmore [1990], proposes a machine game as research agenda. Binmore (Binmore [1990, 1992, 1994], Binmore/Brandenburger [1990]) is skeptical of Aumann's formalism and of the underlying world view of the early Wittgenstein type. He seems to realize that a 'state of the world' cannot exhaust all the relevant aspects of a situation; he points out, for instance, that common knowledge of the context of the game may not be described.[30] But, paradoxically, what he proposes is to represent players' thinking process by a Turing machine, which has to be fed with an algorithm stipulating how to calculate in every state of the world. One version of Binmore's arguments (Binmore [1990, Part I], Anderlini [1990], Canning [1992]) may be summarized as follows:

1. Traditional game theory cannot tell what will happen in out-of-equilibrium situations, though the concept of a subgame perfect equilibrium crucially depends on such situations.
2. This is because the rationality of players precludes by definition out-of-equilibrium behaviors; a rational player is supposed to behave rationally (i.e. choose to be in an equilibrium path) all the time. In other words, counterfactuals are not adequately dealt with in traditional game theory.
3. It is therefore necessary to model players' thinking process which determines their behaviors in an out-of-equilibrium situation as well as at equilibrium, in order to make explicit what strategic rationality will imply.
4. Procedural rationality can best be represented by a Turing machine, since, by virtue of Church's thesis, it is the most general conception of algorithm (i.e. procedural rationality) in mathematics.
5. Common knowledge of the structure of a game and the players' thinking process may be ensured by a pre-play communication of input data of the payoff functions and the Gödel numbers of the machines (i.e. the coded expressions of the algorithms).
6. Suppose two Turing machines play a game. Although each knows (i.e. each is fed with) the Gödel number of the opponent which is a complete description of its algorithm (thinking process), no machine is perfect in the sense that it always halts and gives the best response to the opponent's strategy. This can be interpreted as bounded rationality.

A number of questions arise immediately. Should rationality be grasped only as procedural rationality? Who has written the algorithms of the machines, and where

do the rules of the game come from? (This skepticism is partly shared by some game theorists. See Bacharach [1994, p.24].) Are the crucial steps 3 and 4 above convincing enough to refute the well-known and well-grounded argument against artificial intelligence?[31] If the machine (or the meta-player) aims at payoff maximization, why is it (or she) ready to inform the opponent of its Gödel number? (Binmore [1990, Part II, p.197] himself admits that the assumption of an exchange of the Gödel numbers might not be plausible. See below.) If an exchange of the Gödel numbers is to model common knowledge of the game, is it possible at all to describe common knowledge by finitely many rules or axioms which are free of contexts and situations? (This is the same problem of objectification of knowledge that we have repeatedly mentioned.)

One problem with this version of machine games is that meta-players would face a formidable task of choosing an optimal machine which is generally not computable. Because of this difficulty, another version of machine games (e.g. Binmore [1990, Part II]) envisages an evolutionary game played on populations of machines. In this latter version, therefore, the ultimate players of the game are not assumed to be idealized rational human beings, but computer algorithms themselves which are to represent the varying forms of 'memes' of strategic rationality. Binmore is, however, silent on the crucial interpretive problem: In what sense does this ghastly picture of contesting and self-correcting algorithms correspond to the reality of history and society of the mankind?

(d) *Objectification of Knowledge:* Although the machine game approach recognizes the limit of a formal deductive system (i.e. Gödel's incompleteness theorem) in the form of computability, and only to this extent, it is free from logical omniscience, this approach suffers from precisely the same problem as Aumann's formalism and the modal logic approach: Knowledge is not necessarily susceptible of objectification (enumeration, formalization, systematization, axiomatization, etc.); latent knowledge of varying forms (kineasthetic, cultural, social, etc.) is always already existent in any situation. This is also the same problem that game theorists face when they try to formalize common knowledge of a game. One cannot enumerate all the rules of a game; a state of the world cannot describe all the contexts of a situation, no matter how all-inclusive the state of the world may be defined; there will always remain undescribed and indescribable contexts within which the game is embedded.[32]

This failure of grasping the fundamental nature of knowledge has many ramifications. Among them is the implicit assumption in game theory (and in

microeconomics in general) that rationality 'resides' only in the closed inner space of the individual self. This assumption is necessitated, in turn, by the fundamental postulate of strategic rationality. Once we start from strategic rationality, everything other than the selfish ego will have to be objectified so that they may be utilized as means to the end of satisfying the ego. In particular, the basic media such as body, language, and money will be seen only as objects which the self can operate for its purpose, although the self itself is constituted through the media. Similarly, the basic modes of social interactions such as cooperation, communication and commitment will be seen as something that can be exploited and manipulated. The Nash program which pursues the noncooperative foundations of cooperative games amounts to reducing every moment of community (cooperation, communication, and commitment) into a strategy which a player can manipulate.[33] Selten's notion of subgame perfection [1975] is in the same vein. My thesis is that because community is constitutive of the self, these projects of game theory will necessarily lead to a dead end. One of the symptoms of sterility of game theory is the phenomenon of infinite regress which one encounters at every corner of game theory: common knowledge, bounded rationality, and metagames.[34] Game theory itself may be viewed as a reductio ad absurdum on a grand scale, with the wrong premise being the primacy of strategic rationality.

(e) *Evolutionary Games:* Yet another approach is an evolutionary game. A brief comment will suffice, since the state of the art in this sub-field of game theory does not seem to have offered any model or concept that could be taken seriously in social science. The basic concepts and models are a direct adaptation from biology, and the authors even do not care what social phenomena correspond to such notions as genes, fitness, mutation and evolutionary stable strategy.[35] Selten [1991], for instance, considers four evolutionary forces which are assumed to operate simultaneously but at different speeds in the evolutionary process: gene substitution by mutation, adaptation of genotype frequencies without mutation, cultural transmission from generation to generation, and learning. Underlying this parallelism is the very crude idea of evolution which could be adapted to explain anything that seems to change chronologically, be it a biological, historical, social, or psychological phenomenon.

How Are Rules Given, Followed, and Produced?

Strategic rationality presupposes some form of community (e.g. a common language, a basic cooperation in identifying players and defining a situation, the common knowledge of the rules of a game, etc.), and not the other way round. Only within the contexts determined by community, it is meaningful to talk about strategic rationality. In game theory, therefore, the rules of a game must be simply 'given' to the players on an a priori ground. The problem how the rules are 'given', i.e. why and how the players follow the rules, and how the rules are fixed in the first place, cannot be addressed in game theory; consequently, the rigid dichotomy of rules and actions (strategies) has to be maintained in game theory, though the dichotomy is often arbitrary and untenable.

(a) *Wittgenstein's Language Game:* First, consider the fundamental question of how players follows the rules of a game: If, as in game theory, social interactions are assumed to rest on a player's strategic rationality, and so ultimately on the thinking process which takes place in a closed inner space of her ego, then what could guarantee that players' individual interpretations of the rules converge to the same set of rules? On what grounds would a player (and an observer) be sure that she has a correct interpretation of the rules? This is the problem Wittgenstein [1953, 1984] considers in depth. Although Wittgenstein's thoughts on this problem is well known and widely accepted (presumably except among game theorists [36]), it is worth epitomizing the point in our context. Suppose that the thinking processes of players can be completely described ex ante as a set of axioms and inference rules, or an algorithm (though this is a dubious assumption), and that the axioms and the algorithm as well as the rules of a game are read loudly in a pre-play communication gathering, according to Prof. M. Nakayama's suggestion (see Note 32 above), so that common knowledge of the game prevails among the players. But, how can they be sure that the language used in the gathering has the same interpretation for everyone? Defining the words will not avail; for it is necessary to use undefined words in any definition, in order to avoid an infinite regress of definitions. Thus, we are led to the problems of Wittgenstein's language games. In language games, actions are taken not according to players' individual interpretations of the game, but on the basis of practice, custom, institutions, uses of the rules, and the form of life [37], which we represent by the notion of community.

(b) *Metagames:* We shall then show that the problem of how the rules are produced cannot be addressed in game theory. The only possible explanation would be a metagame in which the rules are produced as a result of strategic interactions (i.e. as an equilibrium of a metagame).

It will be useful to compare game theory with our model of dialogue in this regard. Recall that any utterance is assumed to be tolerated in our model of dialogue, as long as it is intended to promote mutual understanding. In particular, the dialoguers are allowed to raise a question on the rules they are following in the dialogue; in this sense, a metagame is embedded within a dialogue. On the other hand, in a case where actions are differentiated from utterances (i.e. where actions are taken according to traditions, conventions and the laws, and not on the basis of mutual understanding), the rules of a game may be questioned, criticized, and discussed in the public space of arguments (i.e. in political and judicial deliberations). Although the public space of arguments can occasionally turn into a battleground of mutually incompatible political values and economic interests, or an organ of the hegemonic ideology, the space may be viewed to retain its public nature which is ultimately based on communicative rationality unless it is entirely suffocated by political power.

In the case of strategic games, however, there is no a priori reason why players ought to follow the rules of a game; given the preference of the player, it may be advantageous for them to enter into a metagame. The players might then find advantageous to change the rules of the metagames. This would lead to an infinite regress of metagames.

To envisage a metagame, consider Rubinstein's bargaining solution again. Since all the logical consequences of the rules of the game are assumed to be transparent to both of the players, they are well aware of the first mover's advantage. But, is this compatible with strategic rationality of the second mover? Why does she not demand that she be the first mover? This consideration would lead to a metagame in which the first mover must be somehow determined.

To take another example, suppose an unprecedented problem has turned up in a parliament, or in a university council, which needs to be decided urgently. No rule is known that would prescribe decision making procedure for such an incident. Some people stand for simple majority, others for two-thirds majority. Suppose further that a serious disagreement exists between those who stand for simple majority and those for two-thirds majority, that which procedure to choose is crucial to the original decision, and that all this is common knowledge. It should then be obvious that precisely the same conflict will emerge in the controversy concerning the decision

making procedure. The structure of conflict in the original game is projected onto the metagame. Obviously, nothing prevents the resulting infinite regress of metagames from emerging, in so far as the players behave strategically.

Community as Strategy?

It should now be clear that community is required to fix the context in which a strategic game is played. If community is constitutive of a strategic game in this sense, it would be then natural to suppose that some form of community (cooperation, communication, and commitment) may be utilized as a strategy. In fact, Rapoport's well known argument [1976, pp.62-70] concerning the prisoners' dilemma is based on such a conception of strategy.[38]

(a) *Contingent Strategies:* Rapoport's argument may be stated in terms of three games. The first model is the prisoners' dilemma. See Table 10. Since strategy D dominates strategy C, the row player will choose D. Similarly for the column player, so that the equilibrium is (D,d). This solution is unsatisfactory for both (and for Rapoport), however.

	d	c
D	(2,2)	(4,1)
C	(1,4)	(3,3)

Table 10

The second model therefore modifies the rules of the original game to allow for contingent strategies of the column player such that

m1: →d;
m2: D→d, C→c;
m3: D→c, C→d;
m4: →c,

where m1:→d represents a contingent strategy which says "choose d, irrespective of the row player's strategy," m2: D→d, C→c says "choose d, if the row player chooses D; choose c, if she choose C", and similarly for m3 and m4. The resulting payoff matrix is shown in Table 11. The column player's dominant strategy is m1, so that the row player will choose D comparing the two entries in the first column. The equilibrium is (D,m1). The equilibrium payoff is therefore the same as the original game.

	m1	m2	m3	m4
D	(2,2)	(2,2)	(4,1)	(4,1)
C	(1,4)	(3,3)	(1,4)	(3,3)

Table 11

The third model changes the rules again, to allow for 16 strategies of the row player which are themselves contingent on the contingent strategies m1, m2, m3 and m4. Typical doubly contingent strategies are of the form:

M1: →D;
M2: m1→D; m2→D; m3→D; m4→C;
M3: m1→D; m2→D; m3→C; m4→D;
M4: m1→D; m2→C; m3→D; m4→D;
...
M16: →C.

The payoff matrix is shown in Table 12. Evidently, M4 dominates all the other doubly contingent strategies, so that the column player will choose m2. Consequently, the equilibrium payoff is (3,3), on which both players agree.

In order to understand how the cooperative solution (3,3) has been attained in the third model, let us look more closely at what is happening, for instance, at equilibrium (M4,m2). (M4,m2) implies m2→C, which in turn says that if the column player employs a tit-for-tat strategy, then the row player will be cooperative. Note that this entails commitment on both sides. The column player commits herself to the tit-for-

tat strategy, and is not allowed to be opportunistic; the row player also commits herself to the contingent strategy m2→C. The underlying assumption is that both commitments are communicated to each other and deemed to be trustworthy by the opponent. It is this strategy of communication and commitment that enables the players to reach the cooperative solution (3,3).

	m1	m2	m3	m4
M1: DDDD	(2,2)	(2,2)	(4,1)	(4,1)
M2: DDDC	(2,2)	(2,2)	(4,1)	(3,3)
M3: DDCD	(2,2)	(2,2)	(1,4)	(4,1)
M4: DCDD	(2,2)	(3,3)	(4,1)	(4,1)
M5: CDDD	(1,4)	(2,2)	(4,1)	(4,1)
M6: CCDD	(2,2)	(2,2)	(1,4)	(3,3)
M7: CDCD	(2,2)	(3,3)	(4,1)	(3,3)
M8: CDDC	(1,4)	(2,2)	(4,1)	(3,3)
M9: DCCD	(2,2)	(3,3)	(1,4)	(4,1)
M10: CDCD	(1,4)	(2,2)	(1,4)	(4,1)
M11: CCDD	(1,4)	(3,3)	(4,1)	(4,1)
M12: CCCD	(1,4)	(3,3)	(1,4)	(4,1)
M13: CCDC	(1,4)	(3,3)	(4,1)	(3,3)
M14: CDCC	(1,4)	(2,2)	(1,4)	(3,3)
M15: DCCC	(2,2)	(3,3)	(1,4)	(3,3)
M16: CCCC	(1,4)	(3,3)	(1,4)	(3,3)

Table 12

(b) *Rapoport's Argument Reexamined:* A natural question arises: If commitment and communication are allowed in a game, why have the players not utilized these techniques in the original game? If both players commit themselves to the cooperative strategies (i.e. C and c), communicate the intention of employing the strategies, and persuade the opponent of the trustworthiness of the commitment, then they will attain the payoffs (3,3) in the original game.

This question, naïve as it may seem, will turn out to be crucial to an understanding of community as a strategy. Some comments on this question are therefore in order. First, ambivalence between strategy and community is perceptible in Rapoport's argument. On the one hand, the players are assumed to choose dominant strategies in all the three models. This implies that the criterion of dominance, which may be viewed as the most undemanding form of strategic rationality, is taken as the basic logic of social interactions. In Rapoport's argument, strategic rationality is maintained to this extent. On the other hand, as we have shown, community is considered as a strategy in the second and third models. Strategic rationality and community as a strategy may not always be compatible, however.

Second, if strategic rationality is consistently pursued as the most fundamental postulate of social interactions, as in the Nash program, then commitment will have to be sustained by the committed player's self interest and cannot be simply deemed to be trustworthy. In other words, community as a strategy should be reduced into, and founded on, strategic rationality. This is the standard reaction of the mainstream game theorists upon Rapoport's argument.[39] We have shown, however, that the postulate of the primacy of strategic rationality has engendered a number of insurmountable difficulties in game theory. As game theorists themselves appear to admit, the Nash program may not be completed successfully.

Third, it may be maintained at the most general level that the postulate of strategic rationality is clearly and undeniably contradicted by the fact that community is constitutive of the self. The self is formed in the social and historical contexts, and mediated through intersubjectivity such as body, language, and money. This does not imply, however, that strategic rationality plays no role in social interactions. On the contrary, it seems to be the controlling behavioral principle in economic and political actions. The question to be asked is therefore: In what circumstances does strategic rationality emerge, prevail, and control social interactions? In other words, we will have to invert the Nash program, and ask how strategic rationality is embedded within, and founded on, community.

Fourth, strategic rationality and community are thus intertwined with each other, and it may not be easy to disentangle strategic rationality from community. Rapoport's ambivalence between strategy and community is understandable in this sense. One would have to determine, however, in what contexts players are supposed to act strategically, and what kind of community will enable players to act strategically, instead of fixing the rules of a game on an a priori ground as in Rapoport's third model.

Fifth, consider then a form of community which would be compatible with the rules

of the game in the second and third models above. Put differently, how could the players (and Rapoport) justify the contingent and doubly contingent strategies (which are based on communication and commitment) while maintaining strategic rationality? One possible justification would be to suppose that the (real or imaginary) political public watching the game prefers cooperation to conflict, and principles to ad hoc behaviors while the players do not entirely trust each other. In other words, the political public may be thought of as a third player, exercising a latent yet deciding influence upon the other two players. In such a situation, the third model might be able to offer a plausible picture of cooperation and conflict.

Finally, it is often the case in real-life conflicts that players are searching for rules of a game rather than simply following the predetermined rules. Players are often engaging simultaneously in a game and a meta-game which is to determine the rules of the game. In other words, players are searching for a form of community which is to determine the context and the rules of the game. Thus, the meta-game is not a strategic game, but is 'played' in the public space of arguments.

IV. Alternative Agenda

The lessons we have so far learned in the critical examinations of microeconomics may be summarized under two headings: actions and social institutions. Specifically, we have seen that social institutions like markets and contracts should be seen as interrelated actions, and not as something that exists outside actors. Among the fundamental fallacies in game theory is the assumption that the rules of a game are determinable prior to, and in distinction to, actions which sustain the institutions. Social institutions and actions cannot be described as the rules of a game and strategies, since social institutions are in reality reproduced, and may be transformed, by actions.

Two qualifications must be added to this general statement. First, social institutions tend to be reified. The problem is then how social institutions are reified, that is, how the rules of a game are 'given' to the players. The usual argument on reification is based on false consciousness. Burawoy's argument suggests another explanation. (See *Digression: Labour Process* in Section I.)

Second, social institutions are not only reified but utilized. An example is the relation between money and markets, on the one hand, and the form of capital, on the

other. Money and markets are among the most ancient social institutions, and exchange may be viewed as one of the most basic modes of human actions. As many authors (notably, Marx and Braudel) have discussed, the form of capital emerges from this mode of actions, pervades a market economy, and utilizes money and markets for its own purpose.

Another example is community, one of our main concerns in this essay. Community is also among the most basic social institutions. It emerges from the deepest layer of life world and reflects the way in which life world is constituted: reproduction, solidarity and power; yet, it can be utilized as social technique, for instance, in employment relationship, as many studies on the Japanese management have pointed out.

In this Section, we shall sketch our own view of how actions and institutions are related to each other, and thereby offer a new research program.

Media of Actions Reconsidered

(a) *The Habermasian Dichotomy:* As we have repeatedly maintained, strategic actions cannot be taken as the most basic mode of economic actions. Strategic rationality presupposes, and is embedded within, community. On the other hand, it is highly problematical to start from communicative actions and to juxtapose life-world and systems (of money and power) à la Habermas. It is one thing to claim a paradigmatic shift from strategic actions to communicative actions, quite another to reduce social interactions to a dichotomy of life world and systems.[40] In Habermas' argument, the notion of life world is coupled with communicative actions, and is conceived as complementary to them . This would, however, almost uproot the theoretical potentials which are to be found in the notion. Furthermore, behind this dichotomy is another problematical dichotomy of social interactions and human interactions with nature. In fact, the Habermasian dual dichotomy has proved to be an obstacle to an analysis of the intricate natures of social institutions like markets and firms; these social institutions could not be classified neither as life world nor as systems, and economic actions should be seen as social interactions which are at the same time 'metabolic' interactions with nature.

Also, the 'resources' of life world could not be equated with solidarity, as Habermas often insinuates; community has a dual aspect of solidarity and exclusion/suppression. Solidarity itself may be based on other modes of actions than understanding.

Money and power could not be viewed simply as the functional coordination mechanisms, either. Money represents and forwards the intrinsic tendency of life world toward distancing, objectification, and formalization. Micro-power seems to be pervasive in social interactions. In this sense they seem to have emerged from, and are grounded on, life world, though social sciences have so far failed to offer a plausible picture as to how they are related to life world.

(b) *Primordial Actions:* Our first task is therefore to search for a theoretical perspective which enables us to disentangle the complex web of social interactions while relating them to life world. In so doing, we shall note the fact that primordial actions are associated with the respective media. For example, verbal communication is associated with language, manual work with tools, mimesis (or theatrical performances) with bodily expressions, and both labour (in the sense of Hannah Arendt) and sexual activities (including childbearing and child-caring) with body. These media seem to determine to a certain extent the ways in which actions are taken.[41] This viewpoint will be able to shed light on rationality, too.

Instrumental rationality, which still remains the paragon of rationality, is nothing but the logic governing the relation of manual work with the 'outside' world; in order to work, one must have a clear intention of what to do, and how to do, with tools and materials. The resulting subjectification of the intention, the objectification of the outside world, and the articulation of work process lead to instrumental rationality. In a word, instrumental rationality stems from the desire of controlling both the self and the outside world. Strategic actions extend this mode of actions to social relations.

What is crucial to an understanding of social actions is the fact that a mode of actions may be extended beyond the original valid area of actions to another area. Strategic actions are a case in point. In order to be strategic, one must be able to objectify, and manipulate, social relations. This presupposes that social and historical conditions have already been existent which make objectification and manipulation possible. In the case of Marxian commoditification of labour power, the tight bonds of traditional communities must have been loosened for workers to be 'free' in the dual sense of the word. In the case of Habermasian colonization of life world by the systems of money and power, the systems must have been developed into a stage at which they are working according to their own modi operandi, independent of life world.

On the other hand, what Habermas calls communicative rationality is a

prerequisite for mutual understanding in verbal communication. The pragmatic use of language presupposes fundamental cooperation in defining a common situation, exchanging utterances, and pursuing mutual understanding. Cooperation must be advanced as freely available social capital, as it were, in communicative actions.

One implication of communicative rationality for social sciences is the fact that mutual understanding serves coordination of social interactions. In everyday conversations, we coordinate our actions relying on the trustworthiness of others' utterance. Dialogue, deliberation, argumentation, and debate are more or less formalized social techniques based on communicative actions. Although the public space of arguments is one of social institutions which the bourgeoisie invented in the specific historical contexts, it reflects the way through which communicative rationality worked itself in the history.[42]

The viewpoint of medium might also be able to clarify the riddle of money. On the one hand, it is not straightforward to justify the existence of money solely in terms of strategic rationality, in spite of many stories offered in political economy and economics. On the other, while the Parsons-Habermasian view could not be denied altogether that money is a functionally specialized mode of natural language, it does not capture the essential nature of money: Symbolization, trust and convention are underlying money and credit; these moments of money cannot be reduced into strategic and communicative rationality. (G. Simmel [1900, 1907, 1989] is one of the most influential thinkers who stress this aspect of money and credit. W. Bagehot's classical explication of the modern banking system [1873, 1978] also centers on the peculiar modus operandi of trust.) It is my contention that symbolization, trust and convention are social techniques originating from an entirely different type of primordial actions (i.e. mimesis). Although the detailed argument of mimesis is beyond the scope of this essay, the history of financial crises seems to provide many convincing pieces of evidence which vindicate this point.[43]

Finally, labour (in the sense of Hannah Arendt [1958, 1981]), childbearing and child-caring serve the purpose of reproduction of human beings, and are subject to the function of body and the cycle of life. Self-protection, self-preservation, procreation, and proliferation are the associated modes of actions, and provide the deep-seated imagery of life and society. Basal communities like families and tribes are among the ancient social institutions associated with this mode of actions.

We do not pretend to have established that this is the exhaustive list of archetypes of actions, nor that the four proposed actions are really primordial in the sense that any type of actions can be reduced into the four archetypes. Rather, this picture of

actions should be thought of as a working hypothesis which facilitates an analysis of economic institutions like markets and firms. See Table 13.

action	medium	mode
manipulation	tools	control
communication	language	understanding
mimesis	bodily expressions	symbolization
labour	body	reproduction

Table 13

Social Techniques

As already suggested in the introductory part of this Section, social institutions are legitimated and reified, and thereby utilized for some other institutions.[44] A capitalist firm, for instance, comprises varying forms of social institutions: the form of capital, markets, hierarchy, community, and legal institutions. These constitutive social institutions are in turn constituted by archetypical modes of actions, as is exemplified in the case of contract (i.e. market transaction) in Section II. To take another example, the highly complicated system of legal institutions is employed to regulate a market economy in an advanced capitalist economy, though legal institutions themselves are of different origins from a market economy. [45] This aspect of social institutions can be captured by the concept of a social technique. A social technique may be defined as a reflexive use of modes of actions and offers an intermediate term between actions and social institutions.

More precisely, we envisage a series of convoluted layers of reification and utilization of modes of actions, starting from the primordial types of actions and ending in a historically specific social institutions like a capitalist firm. A social technique is that aspect of a mode of actions which is constitutive of the ensuing layers of actions while a social institution refers to what is constituted by social techniques. By this imagery we mean neither a teleological process nor a historically unique path of

evolution. All we need at this stage is that a social institution may be viewed both as comprising varying social techniques and as constitutive of another social institution.

To clarify the notion of social techniques, we shall compare it with the question of coordination of actions with which microeconomics has been preoccupied. Microeconomics Mark I and II employ complete markets and incomplete contracts, respectively, as a paragon of coordination mechanisms. As we have shown in Section II, however, contracts in a real existing market economy are compound social techniques, comprising not only strategic thinking but the other modes of actions.

Furthermore, social interactions in markets and contracts cannot be viewed simply as coordination. The notion of coordination presupposes a teleological view of social interactions: One can talk about coordination mechanism only when it may be assumed that agents are ready to cooperate to reach a solution which is beneficial to all of them. It should be obvious, however, that social interactions may be involuntary and coercive, or have unintended results and side-effects. If the effects of an agent's action upon the range of possible reactions available to other agents may be very generally called 'power', social interactions always entail power relations. And power relations can be asymmetric as well as symmetric, and structural as well as dispersive. In other words, social interactions tend to engender asymmetries at every level of power relations, as Foucault eloquently demonstrates. In the case of market transactions, a symmetric power relation, if any, may be very precarious unless measures to counteract asymmetries in power are consciously and continuously taken, since the effects of an action in a highly complex system of market transactions are hard to predict and cannot be easily matched by other agents' counteractions. This point is clearly recognized by legal realists like Robert Hale [1943] who finds coercion in the midst of an allegedly free market economy.[46] In other words, market transactions necessarily entail unequal bargaining power for the very reason that a market economy is based upon a certain configuration of property rights which is nothing but an asymmetric distribution of bargaining power.

Examples of social techniques are shown in Table 14. The viewpoint of social techniques helps to make precise the two categorizing dichotomies we have employed in Section II: understanding/power and community/autonomy.

(a) *Understanding and Power:* Since power is defined in our picture to be the effects of an action upon the degree of freedom open to others' actions, understanding attained through communicative actions has surely this aspect of power. In fact, Hannah Arendt [1958,1981, Sections 33 and 34; 1969-70] distinguishes power from violence,

authority, and force, characterizing it as political power associated with communicatively produced conviction. In this sense, the only difference between understanding and power in Section II is the fact that mutual criticism is inherent in understanding. In order to convince themselves of an argument and thereby to produce communicative power, agents must be able to raise any question and criticize any statement. This difference is crucial to the nature of social institutions, since critical arguments alone can prevent social institutions from being unconsciously or manipulatively utilized.

Next, our notion of power also implies that power phenomena are observed whenever social techniques are employed; power is multifaceted and omnipresent. It follows from this that the single-minded focus on strategic interactions in the contract paradigm and game theory is most detrimental to a true understanding of social institutions. For instance, even if employees of a Japanese firm as a whole had equal bargaining power vis-à-vis management or shareholders, as Aoki [1988] assumes (which is a very dubious assumption), this would not characterize the nature of a Japanese firm at all. In fact, Japanese employees are under the influence of every conceivable power other than outright violence: self-discipline enforced by regular evaluations of their achievements by their bosses, organizational hierarchy, unilateral reliance on management's implicit promise of life-time employment which has until very recently prevailed, the hegemony of market ideology which is increasingly apparent in the mass media, an urge to keep up with a shared illusory image of middle class, loyalty to their organization which is assumed to guarantee their life-time careers, traditional authoritarian mentality, and peer group pressure on the job floor which is designed and organized by management in the form of team production, QC circles and 'kaizen' activities. The investigation of how these social techniques and power relations constitute the Japanese corporate economy must be given high priority in the future research agenda.

(b) *Autonomy and Community:* Community is no less elusive a concept than power. We have so far used this concept in two senses: community in the sense of the deepest contexts in which actions are taken, and community as a social technique. The former embraces implicit as well as explicit knowledge acquired through historical processes and transmitted from generation to generation, and so constitutes the self. Community in this sense may be used interchangeably with life world, though there is one more dimension in life world than in community: a participant's point of view. A detailed argument of life world is beyond the scope of this essay.

action	social technique for coordination	power relation	
		symmetric	asymmetric
manipulation	violence	the Hobbesian notion of natural state	domination
	bargaining	strategic notion of contract	unequal bargaining power
	discipline	---	micro-power
	command-obedience	---	hierarchy
communication	promising	communicative notion of contract	unilateral expectation and reliance
	argumentation	communicative power	intellectual dominance
mimesis	model-and-copy	---	mimetic political power
	gift	gift exchange	symbolic domination
	trust	convention	authority
labour	community	solidarity	exclusion/suppression

Table 14

On the other hand, we have assumed that community as a social technique is associated primarily with solidarity and exclusion/suppression. Community in this sense should be understood, however, as embracing what Bourdieu [1980] calls symbolic capital or symbolic violence, that is, gratitude, loyalty, obligations and authority which continuous care-taking, gift and entertainment can sustain. The imperative of a group's survival in a difficult environment, which seems to be underlying community as a social technique, can be met not only with solidarity and exclusion/suppression but with symbolic domination.

There is yet another sense in which the term of community is used: an ideal community embodying communicative rationality. In this community, agents are free to initiate any argument, raise any question, and criticize any utterance; the unimpaired intersubjectivity thus ensured leads to a true consensus and a shared conviction.[47]

This is what Hannah Arendt calls (communicative) power. Coupled with this community is therefore the notion of autonomy as an agent's capability of of taking the initiative in discussion and of thinking critically. This combination of an ideal community and critical subjectivity underlies Arendt's 'actions', Habermas' public sphere and solidarity, and Apel's ideal community for communication [1976]. This might be a possible relationship between an individual and her community that will ensure both the autonomy of individuals and the sharing of a way of life; this type of relationship might be able to offer a utopian model for the relationship of an individual with community. It might also be true that this utopian moment of communication is embedded within the everyday use of language (i.e. the pragmatic aspect of language), as Habermas repeatedly maintains.

The idealized, normative concept of community, however, fails to capture the positive aspects of community (i.e. symbolic capital, authority, solidarity and exclusion/suppression) which are apparently operative in social institutions like markets and firms, and this reduced notion of community leads to a fatal error of identifying market mechanism and organizations, respectively, with functional systems of money and administrative power.

Also, autonomy as critical subjectivity does not do justice to the multiplicity of power relations to which an individual is exposed. It seems that autonomy could be defined only negatively in terms of struggles to resist asymmetric power.

Finally, it should be noted that the liberal notion of autonomy, whether the Lockean conception of labour and private property, the utilitarian calculation of pleasure and pain, or the Rawlsian original position, is reduced into the relationship of a

manipulative agent with the outside world (including social relations).[48]

(c) *Markets as Convention:* Our conception of social techniques may also shed light on one of the most fundamental questions in political economy and economics: How does market mechanism work? It is now widely recognized, even by the mainstream theoreticians, that general equilibrium theory had failed to offer a plausible picture of market mechanism. The contract paradigm cum game theory has not yet reached the stage of theoretical development at which market mechanism can be explained in its totality . We have maintained in the previous Sections that Microeconomics Mark II dooms to failure because of the postulates of strategic rationality and efficiency.

Besides the Marshallian and Walrasian views (i.e. markets as price mechanism), another strand seems to run through the history of political economy and economics: the view that market participants coordinate their actions not through rational calculations and transmissions of price information but through trust and convention. Not surprisingly, this view has been propounded mainly in monetary theory. One of the most systematic explications of this view is W. Bagehot's classical work on central banking [1873, 1978]. Bagehot's argument focuses on how the fractional reserve banking gives rise to both the efficiency and the instability of the credit system. In so doing, Bagehot attempts to ground the modus operandi of the credit system on the public's confidence, trust and opinions. In our language, this amounts to saying that the credit system is dependent on the coordination mechanism of trust. Keynes' argument of stock markets in Ch. 12 of *General Theory* is in the same vein. Keynes' emphasis on convention in stock markets and his well-known metaphor of newspaper competitions point to the fact that stock markets are not susceptible of objective predictions and rational calculations.

This view has far-reaching implications not only for monetary theory but for an understanding of market mechanism in general. In this view, a market participant is not sure at exactly what juncture she finds herself in the long and highly complicated causal chains, nor what repercussions her actions will have upon herself and other participants through chain reactions. In other words, the structure of market mechanism appears opaque to the participants, the overall results of market interactions unintended, and the modus operandi of markets automatic and uncontrollable. This implies that each participant cannot easily have a model or a theory as to how markets work, and therefore that she cannot base her behaviors upon objective predictions and rational calculations. In the face of such essential uncertainties, a participant will have no other choice than simply assuming that

markets will work in roughly the same way as they have been working unless some fundamental change occurs. A weak form of inductive knowledge (ein abgeschwächtes induktives Wissen) of this sort is nothing but trust, according to Simmel [1989, p.216].[49]

Trust gives rise to convention, which is a peculiar coordination mechanism of social interactions. Convention holds, when every participant in a market does not change her behavior unless she has a strong reason to do so. Participants' passivity due to ignorance justifies each other, as it were. On the one hand, convention supports an effective decentralized coordination mechanism, such as routine inventory adjustments. On the other, the instability of financial and stock markets is due to a very precarious state of knowledge on which convention rests, as the history of financial panics shows.

Community: An Illustration in Contemporary Japan

With a tentative picture of primordial actions and social techniques thus conceived, our next task is to relate them to social institutions. Instead of speculating in general terms as to how social institutions may be decomposed into primordial actions, we shall provide an illustration of social institutions in contemporary Japan, and show how markets are intertwined with community.

Market mechanism in contemporary Japan is supplemented and pervaded by a cartel-like practice called 'dango'. Literally, dango means deliberation, consultation or collusion; yet it indicates the specific practice of deciding the bidding prices and the highest bidder for a contract, surreptitiously among the bidders and prior to the official bidding. Dango is a prevalent practice in the Japanese business world, especially in local construction industry. Dango usually takes place in a secret industry association (i.e. a dango organization) on a regional basis. It is illegal but has been tolerated socially and by judicial as well as administrative authorities; still worse, it is not unusual that the concerned administrative authorities (often local governments controlling public works) facilitate and even promote the dango practice.

This practice is deeply rooted in people's indigenous sense of justice and solidarity, and cannot be dismissed simply as an illegal cartel. As such, it represents a chasm between formal legal institutions and informal legal consciousness in Japan.

(a) *Stylized Facts:* We shall characterize the dango organization in local construction

industry in the form of stylized facts:

(1) The dango organization is a standing secret industry association on a regional basis. It comprises general contractors and small local subcontractors.
(2) The organization is expected to distribute 'justly' public work contracts with local authorities to the participating firms, in order to ensure long-term coexistence of the firms.
(3) It usually has an established distribution rule and an acknowledged arbitrator. The arbitration of conflicts is based on the arbitrator's authority and persuasion.
(4) The arbitration is not always successful, and the organization is vulnerable to the defection of participants. From this engenders the incentive to entrust some outside political power (often the local governor) with conflict resolution.

(b) *Pros and Cons:* Obviously, the dango organization is a cartel. For general contractors, a cartel is more manageable than vertical integration, since a joint project with sub-contractors must be organized for each contract of public works. But, if by a cartel is meant a way of coordinating capitals' interests and resolving their conflicts, it is only a half-truth. It will not be able to explain the extent to which the dango practice prevails in the Japanese business world, either. The other side of the coin is the community of people who live on local construction industry as well as the sense of community (i.e. the sense of justice and solidarity) held by the general public.

A case for the dango practice has often been made by public figures (including a well-known economist). One of the justifications is that dango is a tolerable practice, or at worst a necessary evil, to protect and promote small vulnerable firms in local construction industry and thereby to sustain employment in the region. It should be noted that this justification is made in terms of self-preservation of a community, and not in terms of capital's profits. While the demagogic tone of such arguments is undeniable, the arguments evoke people's indigenous sense of community and receive tacit support from the general public. The argument fails, however, to mention the negative aspects of community (i.e. exclusion and suppression) and to recognize that the vested interests of existing firms in the region cannot be directly equated with alleged positive values associated with community (such as solidarity).

On the other hand, the opposite case for a more strict application of the competition law to the dango practice has recently been heard, since some sensational corruption scandals associated with dango were exposed in the early nineties. The case is based on a simple conception of a market economy: Markets are the most efficient coordination mechanism if competition is enforced and ensured by the law. Although

a strict application of the competition law must be considered as one of possible policy alternatives, this argument does not explain why the dango practice has been so prevalent in the Japanese business world. It does not address the questions of how markets are embedded within people's sense of community, and of how community should be redefined in a market economy, either. Recall that markets and contracts are not neutral coordination mechanisms of economic interests which can be defined prior to, and independent of, social actions. Markets and contracts are not predetermined rules but actions, and actions must be sustained by community. In a word, the case for the enforcement of competition fails to recognize that community is involved in the question of dango.

(c) *Association and Community:* The examination of the pros and cons of dango shows that the dango organization must be viewed as a social institution comprising two social techniques: association and community. See Table 15. One the one hand, an association of capitals organizes dango to coordinate their interests, and coordination takes the form of a compromise resulting from the reciprocal manipulation of social relations (i.e. bargaining and negotiation). However, an outright justification of a cartel would not be tolerated by the general public, so the positive values of community like self-protection and solidarity are invoked for the justification. To this extent, community has a demagogic and self-deceptive function.

On the other hand, it is widely assumed that no other realistic economic organization is available to a community of people in local construction industry than capitalist firms associated through a dango organization. From this point of view, capitalist institutions like firms and cartels are only a historically contingent form of production organization which a community of people is enforced to take at the present stage of economic development. It will be then natural that the social technique of community is employed for coordination of capitals' interests. In fact, a typical dango organization exhibits every characteristic of community as a social technique: the give-and-take principle which applies to the distribution of contracts to participating firms; loyalty to the organization which is perceived as obligation; authority which an arbitrator can sustain only by sticking to the norms of the organization; the indigenous sense of justice and solidarity which stems from the imperative of self-preservation of a community; group pressure on defecting firms; a clear demarcation of insiders and outsiders and hostility towards the latter.

Finally, we shall make a comment on the fourth stylized fact: the precariousness of dango organizations and the susceptibility to political power. This fact cannot be

explained away by a general point that a cartel is in itself unstable because its members always have an incentive to defect. Rather, the fact has to do with community as a social technique.

social technique	justification	coordination/power	
		process	solution
association of capitals	coordination of economic interests	negotiation and compromise	explicitly written arbitration rules
community of people	self-protection of community	symbolic domination solidarity suppression/exclusion	sense of community and tacit norms

Table 15

In the dango practice, community has remained simply the sense of community which is semiconsciously shared by the participants and tacitly tolerated by the general public. The sense of community has never been articulated, still less examined critically; it has remained what Bourdieu calls a practical sense. What is really happening in secret dango meetings has long been shielded from the public's eyes. If no effort is required to justify a community in front of the general public, the self-protection of a community will easily degenerate into maneuvers to protect vested interests at the cost of tax payers, and the sense of community will turn into demagogic rhetoric. Furthermore, when even the members of a dango organization can no longer believe the rhetoric of community, there will remain only outright conflicts of capitals' interests, and all the available techniques of community, whether legal or illegal, will be mobilized to secure capitals' vested interests. Thus, a dango organization will turn into an association of capitals regulated neither by market competition nor by community norms. This explains why a dango organization tends to be involved in corrupt politicians.

Since a series of corruption scandals associated with dango were exposed in the early nineties, the dango practice has been losing the public's toleration very rapidly.

Surely, the increasing internationalization of the Japanese economic system has changed the way in which the public perceives corporate vices. This is not the whole story, however. Once the public has perceived that the rhetoric of community is only a veil of capitals' vested interests, it is only natural that it would no longer accept the dango practices. A community can no longer justify itself simply because it has been existent.

(d) *Symbolic Domination:* This seems to point to the fundamental transformation of the social and political domination in the post-war Japan. Community as a social technique is losing its legitimating function not only in dango but in the Japanese corporate system in general.

The social and political domination in the post-war corporate system in Japan has depended on bureaucratic discretion both in the administration of the central government and in the management of large corporations.[50] The elite national bureaucrats have had a wide range of discretion in policy making and implementation, independently of the judicial and legislative powers. Top business management, on the other hand, has been able to pursue managerial capitalism, independently of the interests of shareholders. As Upham [1987, pp.201-205] convincingly argues, the close, informal, collaborative relationship between the national bureaucrats and top managers is built on the 'community of interest' and 'the sense of common destiny', and the relation is characterized by 'diffuse and undefined mutual obligations'. In our language, therefore, the political power of the elite bureaucracy is characterized by community as a social technique, that is, symbolic domination based on the sense of community. The informality and the unaccountability of bureaucratic political power follow from this mode of domination.[51]

Precisely the same holds for the social power of top business management. In order to control a corporation and its keiretsu group, top managers have had to evoke and meet the indigenous sense of community which is widely held: the fear of dropping out, an urge to keep up with fellows and rivals (i.e. the deep-seated image of struggle for collective subsistence), compulsive cooperation within a group and fierce competition with rival groups, the egalitarian sense of justice and fairness with respect to opportunities and sanctions, etc. To the extent to which top managers succeed in employing the social technique of community, they can legitimize and exert power over employees and subcontractors.

To recapitulate: The sense of community sustains and justifies almost unfettered discretion of bureaucracy both in the national bureaucracy and in top business

management; the indigenous sense of community underlies the peculiar mode of political and social domination in the post-war Japan. Since the social technique of community does not depend on any articulated legitimation or justification, the resulting symbolic domination is informal and unaccountable.

(e) *The Elite's Failure:* This mode of domination is undergoing a fundamental change, after the elite both in bureaucracy and in management have failed in dealing with the 'bubble economy' in the late eighties and the early nineties. A series of spectacular failures of the elite clearly showed that they were no longer capable of controlling the Japanese corporate system with the social technique of community. It is symbolic that that the Ministry of Finance and the banking industry—the most powerful of the national bureaucracy and the strategic core of the corporate economy in Japan—were both deeply involved in the fiasco of the bubble economy.

It will be of no avail to attempt to replace the social technique of community with markets, as the increasingly influential proponents of 'the market principle' hold. For markets are not so much a social technique as a field on which varying social forces interact one another. We have seen in Section II that contract is in reality a compound social technique. In terms of the theoretical picture of this Section, all kinds of asymmetric power relations can in principle prevail in markets.

What is necessary is rather to find a new sense of community in praxis and in theory on the basis of thorough critique of symbolic domination, and thereby to redefine the relationship between community and markets.

Concluding Remarks

By way of conclusion, we shall sketch our agenda as a list of questions to be posed in future research.

(1) *Strategic Actions:* Under what conditions do strategic actions emerge, prevail, and relate to other types of actions? (Obviously, this is our assimilation of Habermas' thesis of colonization of life world by systems. This may also be called the inverted Nash program.)

(2) *Money, Markets, and Capital:* What primordial types of actions are hidden behind money? How can market mechanism be grasped as interrelated actions? Why does it appear as automatism? In exactly what sense is it 'embedded' within

society? If market mechanism is a social technique, how could 'we' utilize the technique? Can the form of capital be viewed as a social technique in the same way as money and markets? Is it controllable as a social technique?

(3) *Legal Institutions:* What is the peculiarity of legal institutions as compared with political, economic and social institutions? How are they grounded on life world? What functions do they play?

(4) *Capitalist Firm:* What social techniques are underlying a capitalist firm? How can employment relationships be captured in our framework? Specifically, how is the social technique of community utilized in employment relationship?

(5) *The Public Sphere:* How is the arena of public arguments related to life world, on the one hand, and legal, political, and economic institutions, on the other?

REFERENCES

Aghion, P., Dewatripont, M., and Rey, P. : "Renegotiation Design with Unverifiable Information," *Econometrica*, 62 (1994), 257-82.

Akerlof, G. A., and Yellen, J. L.: "Introduction," Akerlof, G. A., and Yellen, J. L. (eds.) *Efficiency Wage Models of the Labor Market,* Cambridge Univ. Press, 1986, 1-21.

Alchian, A., and Demsetz, H.: "Production, Information Costs, and Economic Organization," *American Economic Review* 62 (1972), 777-95.

Anderlini, L.: "Some Notes on Church's Thesis And The Theory of Games," *Theory and Decision,* 29 (1990), 19-52.

Aoki, M.: *Information, Incentives, and Bargaining in the Japanese Economy.* Cambridge: Cambridge University Press, 1988.

Apel, K.-O.: *Transformation der Philosophie, Band 2, Das Apriori der Kommunikationsgemeinschaft,* 1976.

Arendt, H.: *The Human Condition.* Chicago: University of Chicago Press, 1958. (*Vita activa oder Vom tätigen Leben.* München: R. Piper, 1981.)

Arendt, H.: *On Violence.* San Diego: Harcourt Brace Javanovich, 1969, 1970.

Atiyah, P. S. : "Contracts, Promises, and the Law of Obligations," *The Law Quarter Review* 94 (1978), 193-223.

Atiyah, P. S. : *The Rise and Fall of Freedom of Contract,* Oxford: Clarendon Press (1979).

Aumann, R.: "Game Theory," Eatwell, J. et. al. (eds.): *The New Palgrave, Game Theory.* London: MacMillan, 1987, 1-53.

Aumann, R. and Brandenburger, A.: "Epistemic Conditions for Nash Equilibrium," *Econometrica,* 63 (1995), 1161-1180.

Bagehot, W.: *Lombard Street,* St John-Stevas, N. (ed.): *The Collected Works of Walter Bagehot,* Vol. 9, London: The Economist, 1978. (The first edition, 1873.)

Bebchuk, L. A.: "Foreword: The Debate on Contractual Freedom in Corporate Law," *Columbia Law Review,* 89 (1989), 1395-1415.

Berger, J.: "Die Versprachlichung des Sakralen und die Entsprachlichung der Ökonomie," Honneth, A. und Joas, H. (Hrsg.): *Kommunikatives Handeln: Beiträge zu Jürgen Habermas' Theorie des kommunikativen Handelns.* Frankfurt a. M.: Suhrkamp, 1986.

Binmore, K.: "Modelling Rational Players: Part I and Part II," Binmore, K: *Essays on the Foundations of Game Theory,* Oxford, Basil Blackwell, 1990.

Binmore, K.: "Foundations of Game Theory," Laffon, J.-J. (ed.): *Advances in Economic Theory. Sixth World Congress. Vol. 1.* Cambridge: Cambridge University Press, 1992, pp. 1-31.

Binmore, K.: *Game Theory and the Social Contract. Vol. 1: Playing Fair.* Cambridge, Mass.: The MIT Press, 1994.

Binmore, K. and Brandenburger, A.: "Common Knowledge and Game Theory," Binmore, K.: *Essays on the Foundations of Game Theory,* Oxford: Basil Blackwell, 1990.

Binmore, K., Rubinstein, A., and Wolinsky, A.: "The Nash Bargaining Solution in Economic Modelling," *Rand Journal of Economics,* 17 (1986), 176-188.

Bourdieu, P.: *Le Sens Pratique.* Paris: Les Éditions de Minuit, 1980.

Bowles, S.: "The Production Process in a Competitive Economy: Walrasian, Neo-Hobbesian, and Marxian Models," *American Economic Review* 75 (1985), 16-36.

Bowles, S., and Gintis, H.: *Democracy and Capitalism: Property, Community, and the Contradictions of Modern Social Thought,* New York: Basic Books, 1986.

Bowles, S., and Gintis, H.: "Contested Exchange: Political Economy and Modern Economic Theory," *American Economic Review, Papers and Proceedings,* 78(1988), 145-150.

Bowles, S., and Gintis, H.: "Post-Walrasian Political Economy," Bowles, S., Gintis, H., and Gustafsson, B.(eds.): *Markets and Democracy: Participation, Accountability and Efficiency.* Cambridge Univ. Press, 1993, 1-10.

Bowles, S., and Gintis, H.: "The Democratic Firms: An Agency-Theoretic Evaluation,"

Bowles, S., Gintis, H., and Gustafsson, B. (eds.): *Markets and Democracy: Participation, Accountability and Efficiency.* Cambridge Univ. Press, 1993, 13-39.

Brandenburger, A. and Dekel, E.: "Hierarchies of Beliefs and Common Knowledge," *Journal of Economic Theory,* 59 (1993), 189-198.

Bratton, W. W. Jr.: "'The Nexus of Contracts' Corporation: A Critical Appraisal," *Cornell Law Review,* 74 (1989a), 407-465.

Bratton, W. W. Jr.: "The New Economic Theory of the Firm: Critical Perspective from History," *Stanford Law Review,* 41 (1989b), 1471-1527.

Bratton, W. W. Jr.: "Public Values , Private Business, and US Corporate Fiduciary Law," McCahery, J., Picciotto, S., and Scott, C. (eds.): *Corporate Control and Accountability.* Oxford: Clarendon Press, 1993,23-39.

Braverman, H.: *Labor and Monopoly Capital,* New York: Monthly Review Press, 1974.

Brudney, V.: "Corporate Governance, Agency Costs, and the Rhetoric of Contract," *Columbia Law Review,* 85 (1985), 1403-1444.

Burawoy, M.: *Manufacturing Consent: Changes in the Labor Process under Monopoly Capitalism,* Chicago: University of Chicago Press, 1979.

Canning, D. : "Rationality, Computability, And Nash Equilibrium," *Econometrica,* 60 (1992), 877-888.

Coase, R. H.: "The Nature of the Firm," *Economica,* 4 (1937), 386-405.

Coase, R. H.: "The Problem of Social Cost," *Journal of Law and Economics,* 3 (1960), 1-44.

Coffee, J. C. Jr.: "The Mandatory/Enabling Balance in Corporate Law: An Essay on the Judicial Role," *Columbia Law Review,* 89 (1989), 1618-1691.

Coffee, J. C. Jr.: "Liquidity Versus Control: The Institutional Investor as Corporate Monitor," *Columbia Law Review,* 91 (1991), 1277-1368.

Collins, H.: "Independent Contractors and the Challenge of Vertical Disintegration to Employment Protection Rights," *Oxford Journal of Legal Studies,* 10 (1990), 353-380.

Collins, H.: *The Law of Contract,* Second Edition. London: Butterworths, 1993a.

Collins, H.: "Organizational Regulation and the Limits of Contract," McCahery, J., Picciotto, S., and Scott, C. (eds.): *Corporate Control and Accountability.* Oxford: Clarendon Press, 1993b, 91-100.

Craswell, R. and Schwartz, A. (eds.): *Foundations of Contract Law,* Oxford: Oxford University Press, 1994.

Dawkins, R.: *The Selfish Gene.* Oxford: Oxford University Press, 1976.

Dawson, J. P.: "Economic Duress—An Essay in Perspective," *Michigan Law Review* 45

(1947)), 253-290.

DeMott, D.: "Beyond Metaphor: An Analysis of Fiduciary Obligation," *Duke Law Journal*, 1988, 879-924.

Douglas, M.: *How Institutions Think.* Syracuse University Press, 1986.

Dreyfus, H. L.: *What Computers Can't Do: The Limit of Artificial Intelligence.* Revised Edition. Harper and Row, 1979.

Easterbrook, F. H. and Fischel, D. R.: "The Corporate Contract," *Colombia Law Review,* 89 (1989), 1416-1448.

Easterbrook, F. H. and Fischel, D. R.: *The Economic Structure of Corporate Law.* Cambridge: Harvard University Press, 1991.

Edwards, R. C.: *Contested Terrain: The Transformation of the Workplace in the Twentieth Century,* Basic Books, 1979.

Edwards, R. C., Reich, M., and Gordon, D. (eds.): *Labor Market Segmentation,* Lexington, Mass.: D. C. Heath, 1975.

Eisenberg, M. A.: "The Structure of Corporate Law," *Columbia Law Review,* 89 (1989), 1461-1525.

Feinman, J. : "Contract After the Fall (Book Review of Hugh Collins: *The Law of Contract*), *Stanford Law Review,* 39 (1987), 1537-1554

Frankenberg, G.: *Die Verfassung der Republik. Autorität und Solidarität in der Zivilgesellschaft.* Frankfurt am Main: Suhrkamp, 1997.

Frazer, N.: "What's Critical About Critical Theory?" Benhabib, S. and Cornell, D. (eds.): *Feminism as Critique.* Oxford: Polity Press, 1987.

Fried, Ch. : *Contract as Promise,* Cambridge: Harvard Univ. Press (1981).

Frug, G. E.: "The Ideology of Bureaucracy in American Law," *Harvard Law Review,* 97 (1984), 1276-1388.

Fudenberg, D.: "Explaining Cooperation and Commitment in Repeated Games," Laffont, J.-J. (ed): *Advances in Economic Theory: Sixth World Congress. Vol. I.* Cambridge: Cambridge University Press, 1992, 89-131.

Geertz, C.: *Negara. The Theatre State in Nineteenth-Century Bali.* Princeton: Princeton University Press, 1980.

Geertz, C.: *Local Knowledge: Further Essays in Interpretive Anthropology.* New York: Basic Books, 1983.

Gerlach, M.: *Alliance Capitalism. The Social Organization of Japanese Business.* Berkeley: University of California Press, 1992.

Gilmore, G. : *The Death of Contract.* Columbus: Ohio State University Press (1974).

Gilson,R. J. and Roe, M. J.: "Understanding the Japanese Keiretsu: Overlaps Between

Corporate Governance and Industrial Organization," *Yale Law Journal*, 102 (1993), 871-906.

Goldberg, V. P.: "Toward an Expanded Economic Theory of Contract," *Journal of Economic Issues* 10 (1976), 45-61.

Gordley, J.: *The Philosophical Origin of Modern Contract Doctrine.* Oxford: Clarendon Press (1992).

Gordon, R. W.: "Macaulay, Macneil, and the Discovery of Solidarity and Power in Contract Law," *Wisconsin Law Review* (1985), 565-579.

Graham, L.: *On the Line at Subaru-Isuzu: The Japanese Model and American Worker,* ILO Press, 1994.

Graham, L.: "How Does the Japanese Model Transfer to the United States," Elger, T. and Smith, Ch. (eds.): *Global Japanization? The Transnational Transformation of the Labour Process,* London: Routledge, 1994.

Grossman, S., and Hart, O.: "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration," *Journal of Political Economy,* 94 (1986), 691-719.

Habermas, J.: "Hannah Arendt," in *Philosophisch-politische Profile,* erw. Ausgabe, Frankfurt: Suhrkamp, 1981.

Habermas, J.: *Theorie des kommunikativen Handelns. Band 1: Handlungsrationalität und gesellschaftliche Rationalisierung. Band 2: Zur Kritik der funktionalistischen Vernunft.* Frankfurt a.M.: Suhrkamp, 1982. (*The Theory of Communicative Action. Vol. 1: Reason and the Rationalization of Society.* Trans. T. McCarthy, Boston: Bacon Press, 1984. *Vol. 2: Lifeworld and System: A Critique of Functionalist Reason.* Trans. T. McCarthy, Boston: Bacon Press.)

Habermas, J.: *Nachmetaphysisches Denken: Philosophishce Aufsätze.* Frankfurt a. M.: Suhrkamp, 1988. (*Postmetaphysical Thinking.* Trans. W. M. Hohengarten. Cambridge, Mass.: MIT Press, 1992.)

Habermas, J.: *Faktizität und Geltung: Beiträge zur Diskussionstheorie des Rechts und des demokratischen Rechtsstaats.* Frankfurt a. M.: Suhrkamp, 1992. (*Between Facts and Norms: Contributions to a Democratic Theory of Law and Democracy.* Trans. W. Rehg, Cambridge: Polity Press, 1996.)

Hadfield, G. K.: "Problematic Relations: Franchising and the Law of Incomplete Contracts," *Stanford Law Review,* 42 (1990), 927-992.

Hahn, F. H.: "On Non-Walrasian Equilibria," *Review of Economic Studies,* 45 (1978), 1-17.

Hale, R. L.: "Coercion and Distribution in a Supposedly Non-Coercive State," *Political Science Quarterly* 38 (1923), 470-494.

Hale, R. L.: "Bargaining, Duress, and Economic Liberty," *Columbia Law Review* 43 (1943), 603-628.

Hart, O.: *Firms, Contracts, and Financial Structure,* Oxford: Clarendon Press, 1995.

Hart, O. and Holmström, B.: "The Theory of Contracts," Bewley, T. (ed.) : *Advances in Economic Theory: Fifth World Congress,* Cambridge: Cambridge University Press, 1987.

Hart, O., and Moore, J.: "Incomplete Contract and Renegotiation," *Econometrica,* 56 (1988), 755-86.

Hart, O., and Moore, J.: "Property Rights and the Nature of the Firm," *Journal of Political Economy,* 98 (1990), 1119-58.

Hausmann, H.: *The Ownership of Enterprise,* Cambridge: Mass.: Harvard University Press, 1996.

Horwitz, M.: *The Transformation of American Law, 1780-1860.* Cambridge: Harvard Univ. Press (1977).

Horwitz, M.: *The Transformation of American Law, 1870-1960: The Crisis of Legal Orthodoxy.* Oxford: Oxford Univ. Press (1992).

Hurwicz, L.: "Optimality and Informational Efficiency in Resource Allocation Processes," Arrow, K. J., Karlin, S., Suppes, P. (eds.): *Mathematical Methods in the Social Sciences,* Stanford: Stanford University Press, 1960.

Hurwicz, L.: "The Design of Mechanisms for Resource Allocation," *American Economic Review,* 63 (1973), 1-30.

Imai, K. and Itami, H.: "Interpenetration of Organization and Market: Japan's Firm and Market in Comparison with the US," *International Journal of Industrial Organization,* 1984, 285-310.

Jensen, M. C. and Meckling, W. H.: "The Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics*, 3 (1976), 305-360.

Kamata, S. : *Japan in the Passing Lane.* New York: Pantheon Books, 1982.

Kennedy, D.: "Form and Substance in Private Law Adjudication," *Harvard Law Review*, 89 (1976), 685-1778.

Kennedy, D.: "The Structure of Blackstone's Commentaries," *Buffalo Law Review*, 28 (1979), 209-382.

Kennedy, D.: "Distributive and Paternalist Motives in Contract and Tort Law, With Special Reference to Compulsory Terms and Unequal Bargaining Power," *Mayland Law Review*, 41 (1982), 563-658.

Kennedy, D. and F. Michelman: "Are Property and Contract Efficient?" *Hofstra Law*

Review, 8 (1980), 711-770.

Kessler, F. : "Contracts of Adhesion—Some Thoughts About Freedom of Contract," *Columbia Law Review* 43 (1943), 629-642.

Kester, W. C.: "American and Japanese Corporate Governance: Convergence to Best Practice?" Berger, S. and Dore, R. (eds.): *National Diversity and Global Capitalism,* Ithaca and London: Cornell University Press, 1996, 107-137.

Kindleberger, Ch. P.: *Manias, Panics, and Crashes: A History of Financial Crises.* New York: Basic Books, 1978.

Klein B., Crawford, R. G. and Alchian, A. A.: "Vertical Integration, Appropriable Rents, and the Competitive Contracting Process," *Journal of Law and Economics,* 21 (1978), 297-326.

Kostal, R. W.: *Law and English Railway Capitalism 1825-1875,* Oxford: Clarendon Press, 1994.

Kreps, D. M.: *Game Theory and Economic Modelling,* Oxford: Clarendon Press, 1990.

Lewis, D.: *Conventions: A Philosophical Study.* Cambridge, Mass: Harvard University Press, 1969.

Lipman, B. L.: "How to Decide, How to Decide, How to ...: Modeling Limited Rationality," *Econometrica* 59 (1991), 1105-1126.

MaCarthy, T.: *The Critical Theory of Jürgen Habermas.* Oxford: Basil Blackwell, 1978.

Macaulay, S.: "Non-contractual Relations in Business: A Preliminary Study," *American Sociological Review* 28(1963), 55-67.

Macaulay, S.: "Elegant Models, Empirical Pictures, and the Complexities of Contract," *Law and Society Review* 11 (1977, Winter), 507-528.

Macaulay, S.: "An Empirical View of Contract," *Wisconsin Law Review* (1985), 465-482.

MacKay, D. M.: *Behind The Eye: The Gifford Lectures Delivered in The University of Glasgow.* The University of Glasgow, 1991.

Macneil, I.: "Contracts: Adjustment of Long-term Economic Relations Under Classical, Neoclassical, and Relational Contract Law," *Northwestern University Law Review* 72 (1978), 854-905.

Macneil, I.: *The New Social Contract.* New Haven and London: Yale Univ. Press, 1980;

Macneil, I.: "Economic Analysis of Contractual Relations: Its Shortfalls and the Need for a 'Rich Classificatory Apparatus'," *Northwestern University Law Review* 75 (1981), 1018-1063.

Macneil, I.: "Values in Contract: Internal and External," *Northwestern University Law Review* 78 (1983), 340-418.

Macneil, I.: "Bureaucracy, Liberalism, and Community—American Style," *North-*

western University Law Review 79 (1985), 900-948.

Mailath, G. J.: "Introduction: Symposium on Evolutionary Game Theory, " *Journal of Economic Theory* 57 (1992), 259-277.

Marglin, S.: "What Do Bosses Do? The Origin and Function of Hierarchy in Capitalist Production," *Review of Radical Political Economics,* (1974, Summer).

Moore, J.: "Implementation, Contracts, and Renegotiation in Environments with Complete Information," Laffont, J.-J. (ed.): *Advances in Economic Theory: Sixth World Congress. Vol. 1.* Cambridge, Cambridge University Press, 1992, 182-282.

Nash, J. F.: "The Bargaining Problem," *Econometrica,* 21 (1950), 155-162.

Nash, J. F.: "Equilibrium Points in n-Person Games," *Proceedings of National Academy of Sciences,* 36 (1950), 48-49.

Negishi, T.: "Monopolistic Competition and General Equilibrium," *Review of Economics Studies,* 28 (1960), 196-201.

Nomura, M.: *Toyotism: The Maturity and Transformation of Japanese Production System,* Kyoto, Minerva-Shobo, 1993, in Japanese.

Osborne, M. J. and Rubinstein, A.: *A Course in Game Theory,* Cambridge, Mass.: The MIT Press, 1994.

Pearce, D. G.: "Repeated Games: Cooperation and Rationality," Laffont, J.-J. (ed): *Advances in Economic Theory: Sixth World Congress. Vol. I.* Cambridge: Cambridge University Press, 1992, 132-174.

Rapoport, A., Guyer, M. J., and Gordon, D. G.: *The 2×2 Game.* Ann Arbor: University of Michigan Press, 1976.

Rebitizer, J. B.: "Radical Political Economy and the Economics of Labor Markets," *Journal of Economic Literature,* September 1993, 31, 1394-1434.

Rubinstein, A.: "Perfect Equilibrium in a Bargaining Model," *Econometrica,* 50 (1982), 97-109.

Rubinstein, A.: "Finite Automata Play the Repeated Prisoner's Dilemma," *Journal of Economic Theory,* 39 (1986), 83-96.

Rubinstein, A.: "A Sequential Strategic Theory of Bargaining," Bewley, T. F. (ed.): *Advances in Economic Theory: Fifth World Congress,* Cambridge: Cambridge University Press, 1987, 197-224.

Rubinstein, A.: "Comments on the Interpretation of Game Theory," *Econometrica,* 59 (1991), 909-924.

Rubinstein, A. and Wolinsky, A.: "Middlemen," *Quarterly Journal of Economics,* (1987) 581-593.

Rubinstein, A. and Wolinsky, A.: "Decentralized Trading, Strategic Behavior and the

Walrasian Outcome," *Review of Economic Studies,* 57 (1990), 63-78.

Sandel, M.: *Liberalism and the Limits of Justice.* Cambridge: Cambridge University Press, 1982.

Selten, R.: "Reexamination of the Perfectness Concept for Equilibrium Points in Extensive-Games, " *International Journal of Game Theory,* 4 (1975), 25-55.

Selten, R.: "Evolution, Learning, and Economic Behavior," *Games and Economic Behavior* 3 (1991), 3-24.

Shaked, A. and Sutton, J.: "Involuntary Unemployment as a Perfect Equilibrium in a Bargaining Model," *Econometrica* 52 (1984), 1351-1364.

Simmel, G. : *Die Philosophie des Geldes.* München und Leipzig: Duncker und Humblot, 1900, ²1907. (*Gesammtausgabe,* Band 6. Frankfurt a M.: Suhrkamp, 1989.)

Stone, K.: "The Origins of Job Structures in the Steel Industry," Edwards, R. C., Reich, M., and Gordon, D. (eds.): *Labor Market Segmentation,* Lexington, Mass.: D. C. Heath, 1975.

Stone, V. W. K.: "Labor and the Corporate Structure: Changing Conceptions and Emerging Possibilities," *The University of Chicago Law Review,* 55 (1988), 73-173.

Stone, V. W. K.: "The Legacy of Industrial Pluralism: The Tension Between Individual Employment Rights and the New Deal Collective Bargaining System," *The University of Chicago Law Review,* 59 (1992), 575-644.

Stone, V. W. K.: "Labour Markets, Employment Contracts, and Corporate Change," McCahery, J., Picciotto, S., and Scott, C. (eds.): *Corporate Control and Accountability.* Oxford: Clarendon Press, 1993, 61-90.

Taylor, Ch.: *Sources of the Self.* Cambridge, Mass.: Harvard University Press, 1989.

Unger, R. M.: *Knowledge and Politics.* New York: The Free Press, 1975.

Unger, R. M.: *Law in Modern Society: Toward a Critique of Social Theory.* New York: The Free Press, 1976.

Unger, R. M.: "The Critical Legal Studies Movement," *Harvard Law Review,* 96 (1983), 561-675.

Upham, F. K.: *Law and Social Change in Postwar Japan.* Cambridge, Mass.: Harvard University Press, 1987.

Williamson, O.: *The Economic Institution of Capitalism,* New York: Free Press, 1985.

Wittgenstein, L.: *Werkausgabe Band 1: Tractatus logico-philosophicus, Tagebücher 1914-1916, Philosophische Untersuchungen.* Frankfurt a.M.: Suhrkamp, 1984. (*Philosophische Untersuchungen.* Oxford: Basil Blackwell, 1953.)

Notes

1.This essay is a by-product of a joint project by Prof. Masaru Kaneko and the present author: *The Failure of Firms: The Crisis of the Corporate System in Japan.* Most of this essay was written, when the author was staying at the University of Cambridge during the sabbatical leave 1997-8.

2. Aoki's model [1988] of a Japanese firm represents a most cynical version of radical economics (or the 'neo-Hobbsian' view) with workers' resistance replaced by their voluntary cooperation with management. It sees employees of a Japanese firm as cooperating voluntarily with each other and with management to produce 'information values' while competing each other to survive life long promotion races . The model is theoretically inconsistent and empirically untenable.

3. See Section III. Geertz [1983, Ch. 1] classifies the basic metaphors employed in social sciences into game, theatre, and text. The metaphor of game includes not only game theory but Wittgenstein's language game and J. Huizinga's view of play as the paradigm form of collective life.

4. See Atiyah [1978], Gilmore [1974], and Macneil [1978] are among the most prominent authors who are critical about liberal contract theory. Critical legal movement has produced a huge literature on this problem. See for instance Kennedy [1976] and Unger [1983].

5. Inside money (bills of exchange and bank deposits) is a classical case in point. It creates the means for payment according to the need, but only in a more or less stable social institution (such as an autonomously regulated community of merchants and a well-established banking system). Inside money can produce new relationships between merchants at their will and facilitates commercial transactions considerably, but for this very reason, the unintentional interactions of mutually independent contractual relationships sometimes lead to a financial panic. This is the problem which cannot be addressed in the contract paradigm, simply because the unintended result cannot be strategically manipulated.

6. Fried's promise principle of contract [1981] is an attempt to legitimize contract on the basis of an internalized individualistic value of promise-keeping. An examination of Fried's argument will reveal, however, that the internalizaion is entirely based on strategic thinking concerning the overall results of individualistic actions. For Fried, an individual keeps his promise simply because breaking a promise will destroy the very basis of social cooperation which is a prerequisite for the enhancement of his satisfaction. As for conflicting views on the foundations of contract, see R. Craswell

and A. Schwartz [1994]. Gordley [1992] has recently offered an interesting view that the classical contract doctrine is the relic of a skeleton of the Aristotelian philosophy and that the substance of the philosophy had been lost in the history.

7. Macneil [1980, p40] for instance refers to the following norms of relational contracts: role integrity, mutuality, implementation of planning, effectuation of consent, flexibility, contractual solidarity, the linking norms (restitution, reliance, and expectation interests), creation and restraint of power, harmonization with the social matrix.

8. See also Gordon [1985].

9. Paternalistic intervention may be interpreted as a halfway house between altruism and authoritarian domination. See Kennedy [1982]. H. Collins [1993a] also sees, in contractual relationships and in the foundations of market order, the dimensions of power, distribution fairness, and cooperation. Collins calls this perspective 'the social market'. The 'ontological' status of the social market is not necessarily unambiguous, however. It may be taken as the latent values inherent in real market transactions, or alternatively, the values which could be imposed by the courts upon the markets participants. See Feinman's book review of the first edition [1987].

10. Kester [1996] and Gerlach [1992] are only two samples from a vast literature.

11. Imai et. al. [1984] and Gilson/Roe [1993].

12. Kamata [1982] is one of the inside reports of the workers' everyday life in a Toyota factory.

13. In an argument on civil society and constitution, Frankenberg [1997, S.50-55] presents an interesting comparison between two modes of socialization: contractual coordination and voluntary association. The former is based on contractual relationships between isolated private persons and is classified as Gesellschaft according to Tönnies' well-known terminology, while the latter is formed by the agents who are autonomous private persons and active citizens at the same time, and is classified as Gemeinschaft. Although this comparison of contract and association is made in the context of the public law, it is suggestive of the basic difference between them in our context.

14. The following citations from Easterbrook/Fischel [1991] will suffice to show the basic notions. "The normative thesis of the book is that the corporate law should contain the terms people would have negotiated, were the costs of negotiating at arm's length for every contingency sufficiently low. The positive thesis is that corporate law almost always conforms to this model. It is enabling rather than directive." (p. 13) "All the terms in corporate governance are contractual in the sense that they are fully

priced in transactions among the interested parties. They are thereafter tested for desirable properties; the firms that pick the wrong terms will fail in competition with other firms competing for capital. It is unimportant that they may not be "negotiated"; the pricing and testing mechanisms are all that matter, as long as there are no effects on third parties." (p. 17)

15. According to Bebchuk [1989] the mandatory core of the U.S. corporate law includes: the federal rules on insider trading, proxies, disclosure to shareholders and tender offers; the state rules on fundamental corporate changes (mergers, sales of the corporation assets, dissolutions, etc.), allocation of powers between management and shareholders, some procedual aspects of corporate decision making (such as quorum and notice requirement) and changes in the corporate charter); judge-made doctrines on the fiduciary duties of managers and controlling shareholders.

16. See DeMott [1988]. Incidentally, DeMott [1988] raises two points which have implications for our argument. The first point is that fiduciary obligations are of different origins (i.e. Equity rather than the common law) from the individualistic institution of contract so that fiduciary constraints ought to be imposed on the parties' discretion to pursue self-interests. This assertion confirms our conception of contract as a compound social technique. The second is that fiduciary duties are situation specific and defy a logical deduction from the first principle or even a theoretically coherent argument. Fiduciary duties are based on analogy rather than logic. This implies that the values of autonomy (as well as those of community) are latent in the contexts and have to be reconstructed in terms of the practical reason.

17. See Collins [1993b].

18. See Dawkins [1976].

19. Bourdieu [1980] raises the fundamental question concerning the relation between praxis and theory, and that between participation and observation. Considering the fact that the question has never been seriously discussed in the history of political economy and economics, Bourdieu's dismissal of formal models in economics [1980, Ch.2] is understandable.

20. See also Brandenburger/Dekel [1993].

21. "We are attracted to game theory because it deals with the mind." (Rubinstein [1991, p.923]) Note however that Rubinstein [1986] himself opened a new research field of machine games.

22. [T]oo often it [non-cooperative game theory], and in particular equilibrium analysis, gets taken too seriously at levels where its current behavioral assumptions are

inappropriate. We (economic theorists and economists more broadly) need to keep a better sense of proportion about when and how to use it." (Kreps [1990, p.184])

23. Bacharach [1994] for instance says, "Game theory is full of deep puzzles, and there is often disagreement about proposed solutions to them. The puzzlement and disagreement are neither empirical nor mathematical but, rather, concern the meanings of fundamental concepts ('solution', 'rational', 'complete information') and the soundness of certain arguments (that solutions must be Nash equilibria, that rational players defect in Prisoners' Dilemma, that players should consider what would happen in eventualities which they regard as impossible)." [1994, p. 21]

24. See for instance MaCarthy [1978].

25. See Binmore/Rubinstein/Wolinsky [1986].

26. See Rubinstein/Wolinsky [1985a], Rubinstein/Wolinsky [1987], Shaked/Sutton [1984], and Aoki [1988].

27. D. M. MacKay [1991] suggests that a participant's viewpoint ("I-story") could not be reduced to an observer's one ("B-story", or brain-story), simply because the state of a participant's brain activities will change as soon as he is told the "B-story" about his own past brain activities.

28. The consistency of the interactive belief system is investigated, for instance, in Brandenburger et. al. [1993].

29. In the case of more than three players, the assumptions of a common prior and common knowledge of conjectures have to be added.

30. "By a closed universe is meant one in which all the possibilities can be exhaustively enumerated in advance, all the implications of all possible explored in detail so that they can be neatly labeled and placed in their proper pigeonholes." "Certain things can only be expressed *informally*. For example, in game theory, it is typically understood that the structure of the game tree is to be common knowledge. But there is no way of expressing this within a formalism..." " Any formal characterization of how we acquire knowledge is bound to be an oversimplification and hence will generate distortions if pushed beyond its limitations. In particular, one has to expect distortions if 'closed universe' methodologies are applied to 'open universe' problems. This risk is greatest when attempts are made to interpret a state as incorporating a specification of the universe that is totally all-embracing. To know a state then includes knowing, not only everything there is to know about the state of the physical world, but also everything there is to know about everybody's *state of mind,* including their knowledge and beliefs."

31. The classical argument against artificial intelligence is Dreyfus' [1979].

Anderlini's argument [1990] that the human mind may be captured by a Turing machine because both are based on finitely many operations are at best tenuous, and misleading.

32. If one could write an algorithm, this would imply in our dialogue model that one could anticipate and enumerate all the possible proposals and counter proposals in every possible sub-dialogue before the dialogue starts. This is the most extreme form of presentiation. As for the problem of common knowledge, Prof. M. Nakayama, a respectable game theorist and the then colleague of mine, once made an interesting remark to the effect that common knowledge is easily and straightforwardly attained if players of a game get together and read (loudly) the rules of the game to themselves. The problem with this solution is of course how to ensure the background agreement of cooperation on the basis of strategic rationality.

33. The models of repeated games are also based on the Nash program. Starting from strategic rationality, they seek a cooperative solution. The results are not necessarily satisfactory for the Nash program. See the survey articles Fudenberg [1992] and Pearce [1992].

34. One way of defining common knowledge is to apply the knowledge operator infinitely many times. This kind of definition has been called into question by some authors (e.g. Bacharach [1994]), since bounded rationality sets a limit to the syntactic depth of sentences. On the other hand, bounded rationality leads to infinite regress, since procedures to deal with uncertainty resulting from bounded rationality will engender uncertainty. See Lipman [1991].

35. See for instance a survey article by Mailath [1992].

36. It is striking to see that the epistemological foundations of game theory are still caught by 'the old thoughts' in *Tractatus logico-philosophicus,* which had already been overcome by *Philosophishe Untersuchungen* half a century ago. See Vorwort to the latter (Wittgenstein [1984, S.231-233]).

37. These words are Wittgenstein's.

38. Rapoport et. al. [1976] adapt N. Howard's notion of metagames. Terminology is a little confusing here. In the text, by the term metagame is implied a game which is supposed to determine the rules of the original game. Howard's notion of metagame is based on contingent strategies, as we explain in the text.

39. See for instance Binmore [1994, pp. 174-179].

40. The problems with the Habermasian dichotomy of life world and systems have been intensively discussed in the secondary literature. J. Berger [1986] and N. Frazer [1989] are among the typical critiques of Habermas.

41. Our picture of actions owes much to Hannah Arendt's well known arguments on human actions [1958, 1981], though mimesis is not taken as primordial in Arendt's view. On the other hand, P. Bourdieu's powerful argument on habitus [1980] rests on the notion of practical mimesis: Habitus is conceived as practical senses embodied in (individual and collective) dispositions as well as bodies; it offers the socially valid schemata of perception, thinking, and action (i.e., it functions as the sense of a game, not as the rule of a game). Geertz's study [1980] on the 19th theatre state of Bali centres on mimetic political power which stems from the model-and-copy notion of order.

42. One of the themes in Habermas' *Fakzität und Geltung* [1992] seems to be that the Rechtsstaat institutionalizes, in the form of parliamentary and legal institutions, the tensional yet complementary relationship between communicative rationality of life world and the functional imperatives of markets and administration.

43. See Kindleberger [1978].

44. Mary Douglas [1986] argues that social institutions provide and enforce the basic classifications and categories which individuals employ in perceptions and thinking, and thereby control their memories, self-images and identities.

45. In an interesting study on the 19th century railway capitalism [1994], Kostal shows that the then English legal institutions with their own modus operandi had disorganizing effects upon the emerging railway industry. Bratton [1993] argues that the corporate law mediates conflicting forces existent in a corporate economy. For instance, the fiduciary obligations which directors of a publicly held firm owe to the shareholders may be thought of as mediating between the organizational efficiency of a firm and the basic social institution of property.

46. See also Kessler [1943], Dawson [1947], and Horwitz [1992, Ch.5,6,7].

47. See Habermas [1981].

48. The communitarian critique of liberalism (e.g. Ch. Taylor's disengagement [1989] and M. Sandel's unencumbered self [1982]) seems to center on this point. As remarked in Note 6, Fried's alleged liberal theory of contract (i.e. contract as promise, Fried [1981]) is in reality based on this concept of autonomy as manipulative subjectivity. The genuine theory of contract should be rather grounded on communicative actions of promise, as is explicated by Hannah Arendt [1958].

49. Microeconomics Mark II attempts to capture trust in terms of bounded rationality. Bounded rationality is plagued, however, with the problem of infinite regress. See Lipman [1991].

50. Frug [1984] classifies the ideology of bureaucracy into four models: the formalist

model, the expertise model, the judicial review model, and the pluralist/market model. In the expertise model bureaucracy is pictured as a natural community, in which subjective values such as leadership, loyalty, and personality play a dominant role. In the context of the Japanese post-war corporate system, the indigenous sense of community plays the same role as the expertise ideology.

51. See Upham [1987, pp.203-4]. "These three strands of administrative process--- the exclusion of independent outsiders, its consultative consensual character, and the virtual impossibility of attacking it legally from within or without ---complement one another and create an environment in which good relations are the key to success in dealing with the government."