INTRODUCTION

A very substantial body of empirical and theoretical literature now exists which purports to show that the explanation of long-term contracts by means of the classical law of contract is most problematic. The classical law, and its economic corollary in relatively unsophisticated forms of neo-classical economics, assume contractual promises to be the legal expression of the intentions of rational, utility-maximizing individuals making discrete exchanges in perfectly competitive markets. There is a strong implication bound up in this assumption that the parties to a contract would rapidly alter their allocative decisions should changed circumstances offer them the possibility of realizing profits in excess of those to be realised by performance of the existing contract. This implication is contradicted by the widely corroborated empirical finding in the case of long-term contracts that such shifts, even when of recognizable and quantifiable benefit to the potentially breaching party, typically are eschewed in order to realize what is assessed as the greater utility of the preservation of a long-term contract or wider long term relationship. Indeed, short-term individual maximizing behaviour is rejected as opportunistic.

At first glance, it would seem that very serious shortcomings of the classical law are exposed by these empirical findings, and we will argue that this is so. However, in our opinion the way in which long-term contractual behaviour is to function as counter-evidence to the classical law has not hitherto been sufficiently clearly formulated. Defences of the classical law which can, to some extent, be successful in their claims that this law can account for the rejection of opportunism have been and may continue to be mounted. This possibility rationally arises because there is a continuing lack of clarity about the exact nature of the shortcoming of the classical law at issue.

We will argue that this shortcoming is fundamental. It is the implicit psychological and sociological assumption in the dominant law and economics literature of rational economic behaviour as narrowly individual utility-maximization that has run out of explanatory productivity in the case of long term contracts and must be regarded as false. Efficient long-term contractual behaviour must be understood as consciously co-operative. We see a longterm contract as an analogy to a partnership. The parties are not aiming at utility-maximization directly through performance of specified obligations; rather, they are aiming at utility-maximization indirectly through long-term co-operative behaviour manifested in trust and not in reliance on obligations specified in advance. The co-operative mechanism by which utility is achieved in a long-term relationship is radically different from that in the paradigmatic, short-term, specified contract. The precise conduct required by future longterm co-operation is necessarily unable to be specified in advance and the shares in the joint product of that co-operation are equally often not specified in advance. The parties accept a general and productively vague norm of fairness in the conduct of their relationship.

In this paper, therefore, we use two paradigms, which we would like to keep distinct, of individual utility maximization and co-operative utility-maximization (which we shorten to ‘co-operation’). We wish to use them to say, as bluntly as clarity requires that the explanation of long-term contracts requires the rejection of immediate individual self-interest as the measure of economic rationality and its replacement by common interest as this measure. One may put it this way, that the adequate form of self-interest in long-term contracts is co-operation. In so doing, it is essential to recognize that the individual utility-maximizer taken as a rationally discussable theoretical concept is now so unproductive that it must be rejected in the explanation of long-term contracting and in this there is entailed a very strong criticism of the heart of the classical law.

Our argument will be pursued along two lines, one of which we trust that this paper will complete but the
second of which can only be outlined here and which will be the task of future work to complete. First, in a brief review of the existing literature on long-term contracting, the problems which this literature seems to pose for the classical law will be set out. In essence, these problems are the typical agreement of contractual documents of so open-ended a character that they simply cannot be regarded as fixing strict liabilities in respect of risks of non-performance. Even more, particularly when documents purport to fix such liabilities, they typically are ignored by a repertoire of extra-legal strategies when the liability arises. This degree of flexibility seems to make the classical law more or less irrelevant to these contracts.

The more powerful of the still broadly classical law’s responses which have been and can be made to its apparent irrelevance will then be taken up. We will argue that the more sophisticated transaction cost accounts of forms of governance do not take sufficient distance from the classical law. Though the very substantial contribution of these accounts must be recognized, this contribution has now run up against the limits to which it can be developed. Transaction cost accounts of governance now involve theoretically unscrupulous variations of what is meant by the concept of the individual utility-maximizer. Nothing but the extent of ingenuity can limit the unscrupulous defences which may be made of a concept. But, if assessed as part of an explanatorily progressive programme, then the maintenance of individual utility-maximization must make some determinate claims about the empirical attitudes of contracting parties. Once these claims clearly are recognized, then it will be seen that they are not supported by the empirical evidence of the attitudes of the parties to long-term contracts.

Pursuing this will bring us to the second line of argument we will wish to develop. We will attempt to set up a testable model of the co-operative attitudes and behaviour of the parties to long-term contracts which formalizes some of the explanatory advances in contract theory associated in particular with the works of Macaulay, Macneil, and Williamson which it is our intention to examine in future empirical work. For the present, we offer the model as a potentially more powerful explanation of the behaviour of parties to long-term contracts than the individual utility-maximization model and thus as itself a good reason, apart from the difficulties attendant on the maximization concept, for the rejection of the classical law in the explanation of long-term contracting.

THE FEATURES OF LONG-TERM CONTRACTUAL BEHAVIOUR

The problems posed for the classical law by long-term contracts seem clear and very profound. The classical law regards the contractual remedies which are open to an individual utility-maximizer faced with a breach as the principal resources that party has to protect her or his contractual expectations. What should at once be said about this is that typically the classical law’s remedies simply are not used by the parties to long-term contracts. The evidence we have shows the contracting parties disregarding the remedies they may have even when these clearly would win them a short-term gain. The evidence available entirely supports Macaulay’s early observation that:

Disputes are frequently settled without reference to the contract or to potential or actual legal sanctions. There is a hesitancy to speak of legal rights or of threats to sue in . . . negotiations.’

If the legal remedy is not pursued when it is available, then the contract itself is not of the first importance. One does not need a contract to exchange goods one needs the contract to get a state-underwritten guarantee of a remedy in the event of a breach. If there will be no necessary recourse to the remedy, then the form of the contract has less importance. Accordingly, there is considerable empirical evidence that long-term contracts will be formed even when there is less than even readily available clarity about the terms of those contracts, clarity being rejected in favour of a, productive ambiguity. As Beale has clearly expressed it in relation to a manufacturing industry:

. . . formal use of contract remedies to settle disputes was unusual. Court proceedings were very rare except for enforcing
uncontested debts and arbitrations were uncommon. Claims were not settled out of court on the basis of contractual rights. . . when a contract was being made. . . the planning was far from complete. . . the exchange of paper produced no legally enforceable contract. Manufacturers were usually aware of this but do not seem to be very worried by it. 11

This non-use of contracts turns on a rejection of the classical understanding of contract as a form of economic allocative mechanism. The classical law of contracts centrally turns on the goal of presentation, the goal of making a present decision about all - including future - aspects of a contractual relationship. 12 The parties to a contract determine all its terms at the time they agree. This point is to be identified by the acceptance of the offer. Such an agreement turns on the assumption that the parties' judgements about the nature of the world at the time of agreement, including judgements about the way the world will develop during the time of performance, are correct: this, of course, involves an element of risk. The strict liability of contractual obligations is a presentiated way of dealing with those risks. The party undertaking an obligation is strictly liable for its performance or nonperformance, and in this sense the risk is allocated under the contract to that party. 13

In long-term contracts, where the margin of such risk is considerable, a party will be loath to contract on a strict liability basis. Accordingly, the market may be eschewed as a way of dealing with this margin of risk:

... where contracts are peculiarly difficult to draw up and an attempt to describe what the parties have agreed to do or not to do . . . would necessitate a lengthy and highly involved document, and where, as is probable, a long-term contract would be desirable, it would be hardly surprising if the emergence of a firm . . . was not the solution adopted. 14

This reason for the emergence of the vertical integration of production has not always been described in the clearest way. It is not really that the transaction costs of attempting rationally to allocate all risks are lowered by integration. It is that the firm overcomes the residual risk which remains for those making the commitment to production even after they have decided to enter into some sort of relationship and which cannot be eliminated. 15 Were all risks capable of being presentiated, there would be no residual risk. The question for the organization of production would be simply which governance structure involves fewest transaction costs. But this typically is not the entire question. The problem is that presentiation is a quite illusory goal and all long-term contracts must in practice be incomplete. 16 There must be a margin of irreducible uncertainty at any particular point of 'acceptance', uncertainty which produces this residual risk. In this sense, it is market failure that produces integration through the firm. 17

One can say that the market fails in the sense that the transaction costs of the adjustment of long-term commitments are less through the firm and, as part of this, one must recognize that, as market transaction costs are infinite for large scale projects, 18 the firm can do things that simply cannot be done by the market conceived on the lines of the classical law. This situation follows, from the point of view of our present concerns, because within the firm there is an organizational structure of co-operation which deals sequentially with the contingencies of long-term projects in a hierarchical but nevertheless cooperative way involving a 'corporate culture' of general commitment to the goal of the firm's success. 19 It is this unanimity of purpose which provides the framework within which problems will be typically dealt with in such a way as to minimize their cost consequences.

Freed of non-rational considerations, the choice of how to deal with the governance of long-term commitments should boil down to the choice of the governance structure which keeps transaction costs to a minimum. 20 This choice may be of a long-term contract rather than integration, because, of course, the firm has its own organizational costs and these may well outweigh its benefits to the contracting parties. 22 The point which follows from the above comments on the nature of the firm, however, is that the long-term contracts themselves cannot begin to look like the discrete exchange paradigmatic to the classical law or the firm would be the most cost-effective form of governance even in these areas (or the commitment would not be made). The long-term contract equally has to reject the fruitless goal of complete presentation even for market governance and does so by incorporating an 'open-ended' approach which leaves a great margin for
the variation or complete renegotiation of commitments or even eschews attempting to give those commitments any definite form at the outset but awaits the circumstances to arise which will allow such definition. This is cooperation within the market which is analogous to the co-operation organized within the firm.

A very wide repertoire of planning devices for long-term contracts now exists which to some extent are specific to particular enterprises and on which more work would be welcome but from which some general legal23 and economic24 principles can be drawn. Those principles eschew presentation and really turn on a commitment to the co-operative efforts of each of the parties made in good faith (or to the acceptance of independent third party adjudication) to realize their joint and several goals.25 It is an entirely natural claim that this renunciation of presentation is a fundamental contradiction of the remedy and formation doctrines of the classical law.26 The situation is summed up adequately by Atiyah:

The modern commercial transaction is, in practice, apt to include provision for varying the terms of the exchange to suit the conditions applicable at the time of performance. Goods ordered for future delivery are likely to be supplied at prices ruling at the time of delivery; rise and fall clauses in building or construction works are the rule and not the exception; currency-variation clauses may well be included in international transactions. . . . The rewards and penalties for guessing what the future will bring are no longer automatically thought of as being the natural consequences of success or failure in the skill and expertise of business activity."

We have omitted the following from the above quotation from Atiyah:

And even when such [explicit variation] provisions are not included in the contract itself, business people are in practice often constrained to agree to adjustments to contractual terms where subsequent events make the original contract no longer capable of performance on a fair basis.

We believe this is also accurate, but it raises a different point. Here we are dealing not with the extension of long-term contract planning formally to provide for uncertain contingencies but with a co-operative response to failures in that planning. The classical law is clear about the response that should follow any such failure. This is liability and, indeed, efficient liability, because a firm that cannot make correct long-term decisions should be driven out of business. However, what Atiyah is postulating, and what the evidence we have shows to be the case, is that failures under these circumstances lead rather to extra-legal strategies to keep the long-term relationship alive in all but the most acute circumstances.

There is a rather good example of this, widely known and discussed, based on Westinghouse's difficulties over uranium supply contracts in the 1970s. Westinghouse undertook very large long-term uranium supply contracts whilst leaving themselves without full cover of their own supplies. Shifts in the costs of all energy sources - in which the successful cartelization of oil prices by the Organization of Petroleum Exporting Countries (OPEC) played some part, made these contracts potentially ruinous, even for a corporation of the size of Westinghouse. So desperate was the industry as a whole that litigation was instituted by Westinghouse's buyers which Westinghouse tried to defend by a plea of commercial impracticability under DCC 2-615.28 Joskow has shown that Westinghouse made a number of what one might politely term 'non-optimal decisions' over these supply contracts, and, relying on an analysis of impossibility in contract derived from Posner,29 he became rather warm in saying that Westinghouse should not be excused performance but should bear the costs of its non-optimal decisions.30 When, it would seem, the court's adjudication denied Westinghouse relief under 2-615, this was welcomed thus by Maughmer, who shared Joskow's reasoning and amplified his tone:

The extension of relief to Westinghouse via section 2-615 would have created serious inroads in contract law from both a legal and an economic viewpoint. By applying strict tests and cautious interpretations to the elements of section 2-615, courts are able, as a matter of policy, to protect the legal and economic functions of contracts.31
Thus the law on 2-615 is now authoritatively stated to be that commercial impracticability is basically a dead letter, for if Westinghouse going bust in order to perform a contract is not a case of commercial impracticability, then nothing ever can be, and Joskow's analysis is taken to be evidence of the value of the Posnerian defence of the classical law of presentiated risk allocation.

All this is very fine, except that a consultation of the list of corporations wound up for insolvency in the United States of America in the 1970s will not yield Westinghouse's name and, indeed, none of the heralded protection of the function of contracts took place. When the court seemed to declare the use irrelevant to the solution of this crisis in the energy economy of the United States of America, Westinghouse reached a set of completely renegotiated contracts of supply with its buyers on terms as favourable as the generally adverse business conditions allowed and things continued much as before (though in a changed international energy economy). What one imagines happened is that the buyers realized that they could gain no possible advantage from the liquidation of Westinghouse for, as even Joskow recognized, Westinghouse's pricing and supply policies were designed in good faith to encourage its buyers and thus expand the nuclear energy industry. No alternative more favourable supplier could conceivably become available, especially not after Westinghouse's trauma. Once freed from the panic of the oil crisis and the competitive suspicion and hostility into which the mutually destructive idea of holding Westinghouse to its contracts or of Westinghouse abandoning its buyers led, a sensible co-operative adjustment to the changed circumstances took place.

We have clearer evidence of these non-legal strategies in respect of other long-term supply contracts which suffered strain during the recession in the 1970s. Daintith's example of iron ore contracts is particularly significant, for the contracts he examined were very poorly drafted, their weakness following from their drafters' obvious commitment to presentiation. Even prices were fixed over long periods. It would be hard to exaggerate the depth of the shortfall in demand for steel production over the period that these contracts were to run, and yet virtually none of the formal legal remedies under those contracts were taken up. By a series of entirely extra-legal negotiating strategies, the relationship between the buyers and sellers of ore was renegotiated and, indeed, in a strong sense the contractual relationship was maintained. But the contracts had all been transformed into more flexible forms, with prices, quantities, and delivery dates becoming open to subsequent determination. The point is that the original form of the documents did not facilitate or even allow for this factor, but this form proved irrelevant as the document was changed by extra-legal negotiation. This example is corroborated by such evidence as we have.

In sum, then, long-term contractual documents eschew pursuit of the goal of presentiation in order to leave open-ended the parties' ability to deal with contingencies during the course of their performances. Furthermore, the parties' typical recourse to extra-legal strategies when their documents fail to provide for a reasonable resolution of such difficulties as do occur shows a commitment to flexibility far in excess of that which could conceivably be provided for by any document in order to avoid having to pursue formal remedies.

THE PROBLEM OF LONG-TERM CONTRACTUAL CO-OPERATION: THE PARTIES' ATTITUDES TO THE ADJUSTMENT OF THEIR COMMITMENTS

The conclusion that should be drawn - but which has not been sufficiently strongly drawn from what we know of long-term contract planning and extra-legal strategies - is that classical contract should be completely rejected as an explanation of long-term contracting. Risk allocation through presentation simply is not the mechanism long-term contracting parties use. But presentation is the corollary of regarding contracts as the expression of the intentions of the parties and this in turn is the legal corollary of assuming a market composed of rational, utility-maximizing individuals. It is an explanatory requirement of a proper understanding of long-term contracting that we carry through our rejection of presentation to the rejection of the classical assumptions of the behaviour and attitudes of the contracting parties. These parties do, of course, typically rationally gauge their utilities, but not as discrete individuals.
Open-ended documents and extra-legal dispute resolution are not in themselves sufficient to account for the form of long-term contracting. For such readily observable non-classical phenomena do not really go to the heart of the method of risk allocation going on in the long-term contract. Let us consider open-ended contract planning over, say, price and quantity adjustment. One might have such formal provisions, but they do not themselves really speak directly to the point at issue. We do not mean by this that formal provisions can never be perfectly flexible, though this is so. We mean that the open-ended provisions might themselves be interpreted narrowly in a competitively hostile fashion and that there is nothing in the formal document that could prevent this. Just as the static and purportedly fixed allocations of risk under presentiation turn on competitive bargaining between rational utility-maximizing individuals, so the plausibility of writing contracts in an open-ended fashion turns on assuming a co-operative attitude to the resolution at the appropriate time of the problems initially left openended. Without a shift in attitude, formal provision for flexibility is fruitless, for one cannot create a co-operative attitude by writing down that such an attitude will be taken to contingencies as they arise. One needs the attitude to make the writing have any meaning (though the writing then reinforces the attitude, as under UCC 1-102).

This really is to say that explanation of the open-endedness of long-term contractual documents and the prevalence of extra-legal strategies to preserve long-term relationships require a fundamentally different set of assumptions about the unit of the analysis of exchange. The classical law cannot describe the mechanisms for dealing with risk in long-term contracts because the assumption of the purely individual utility-maximizer does not capture the cooperative stance which is fundamental to those mechanisms.

This strong claim for the lack of explanatory power in classical contract seems to involve three empirically testable hypotheses about the nature of long-term contracting, the last of which is the real heart of any claim that cooperation is a more explanatorily valuable model of long-term contracting behaviour than pure individual maximization. The first hypothesis is that the form of long-term contracts as documents will tend to be open-ended and to display a rejection of the goal of presentiation in favour of explicit flexibility. The second hypothesis is that, in addition to the explicit sophistication of these documents, there will be a co-operative recourse to extra-legal strategies to resolve problems which cannot be handled under these documents. The third hypothesis, which is the foundation of the plausibility of formally providing for flexibility and of turning to extra-legal strategies when necessary and thus is of more fundamental interest, is that the parties to the contract will, in all but the most extreme cases, adopt a co-operative rather than narrowly maximizing, opportunistic attitude to their own and others' performance.

THE NATURE OF TRANSACTION COST ANALYSIS

There is considerable empirical work on all of these hypotheses, so much in the first and second cases that, though further evidence would be most welcome, particularly in respect of the specific contract planning and extra-legal strategies of particular enterprises, we regard them as already being borne out by the evidence briefly discussed above. Amongst this evidence, we would draw particular attention to the writings of Macaulay, Macneil, and Williamson because - hardly uniquely - we regard these as representing the best of the available resources in the 'law and economics' literature for the examination of long-term contracts. In particular, their accounts of the openendedness of long-term contractual documents and the parties' recourse to extra-legal strategies set up the third hypothesis, that the parties' conduct will be consciously co-operative, as a requirement for the explanation of long-term contractual behaviour.

Macaulay's discussions of extra-legal strategies all reveal co-operative attitudes to the contract41 and these findings have, we feel, been more or less corroborated. However, though Macaulay has utilized his findings to set up very compellingly the necessity of a rival to the classical contracting model, he has not really advanced such a model in an explicitly coherent way. On the basis of this type of finding, Williamson already has asked explicit questions about the behavioural assumptions informing the classical law and criticisms of it.42 Macneil's work contributes to this questioning and takes the issue further by hazarding a number of schemata
of co-operative contractual norms setting out the behavioural assumptions apposite for long-term contracting. We now intend to reformulate Williamson's and Macneil's behavioural questions in such a way as to stress the necessary element of co-operation, consider the classical responses to this problem of co-operation, and then advance our model of the co-operative attitudes of long-term contracting parties.

Williamson's discussion of 'the behavioural assumptions imputed to contractual man' in the chapter of *The Economic Institutions of Capitalism* on 'Contractual Man' is conducted by recognizing two such assumptions as central to transaction cost economics. These are 'bounded rationality and opportunism'. These assumptions are established polemically, being intended to show the heuristic superiority of transaction cost economics in comparison with neo-classical economics. As against the assumption of rational decision-making in perfect markets, transaction cost economics 'acknowledges limits on cognitive competence', as 'bounded rationality is the cognitive assumption on which transaction cost economics relies'. With respect to individual utility-maximization, whereas 'neo-classical man confronts self-interested others across markets [and] bargains are struck on terms that reflect original positions', transaction cost economics 'substitutes subtle for simple self-interest seeking'. An apparatus of levels of rationality and degrees of self-interestedness are developed which extend the transactional apparatus for the analysis of boundedness and less direct maximization into the institutional accounts of the different governance structures which Williamson develops.

Without wishing to detract from the enormous productivity of Williamson's work, we must say that the stylistic form of this chapter on 'Contractual Man', entirely representative of the style of that work, recalls to mind nothing so much as Bentham. A powerful insight is broadened through a plethora of classification and concept formulation focusing on idiosyncratic investment and asset specificity, but in this breadth there is something of a sacrifice of depth. The transaction cost apparatus is extended, in *The Economic Institutions of Capitalism*, to cover the whole of the advanced capitalist economy, but only in the form of a set of boundary conditions, of which bounded rationality is the most important, to the still retained assumptions of individual maximization. This can go on only to a certain extent. The point must come when one has to ask fundamental questions about the heuristic power of a basic unit of analysis which can be applied only with a vast number of *ceteris paribus* ('other things being equal') clauses having to be entered for it. Bounded rationality functions as an exception for Williamson:

> . . . but for bounded rationality, all economic exchange could be effectively organized by contract. Indeed, the economic theory of comprehensive contracting has been fully worked out

What sort of an exception is it that is of far greater importance than the so-called normal case? What plausibility can be given to the normal case if it only exists through its exceptions, or through 'concessions to human nature as we know it', as Williamson says? We do not know of any case discussed in the modern philosophy of science that can begin to compare with the tenacity of the retention of problematic core assumptions in neo-classical economics and its more sophisticated refinements. But the tenacity is not without cost. By the time Bentham has finished classifying all the circumstances which, say, influence penal policy - such as the chance of getting caught, the hardness of the offender to be punished, and so on - there is nothing left of his basic idea that punishment should be proportionate to the mischief of the offence. By the time Williamson has given his full institutional account of the conditions of economic behaviour, surely there is equally nothing left of the basic intuition of individual utility-maximization in long-term relationships.

This questioning of core assumptions is not a line actively pursued in Williamson, because dwelling on the discussion of information costs can apparently do a great deal to save the initial individual maximization approach. If we see relationships being preserved rather than terminated despite the occasion for legal termination arising, this might be redescribed as the parties simply adjusting their view of their self-interest as the development of their relation over time yields progressively more information and expands the bounds of their rational pursuit of that self-interest. 'Co-operation' can thus be reduced to the constant 'renegotiation' of self-interest along lines initially developed by Alchian and Demsetz in the context of the labour relationship:
To speak of managing, directing, or assigning workers to various tasks is a deceptive way of noting that the employer continually is involved in renegotiation of contracts on terms that must be acceptable to both parties.54

What one is tempted to do in the context of the labour relationship when one actually knows something of the concrete nature of that relationship is to say that this account is just wrong. One useful way of distinguishing between the good, reliable labour relationship and a bad one is to identify just what Alchian and Demsetz leave out - a type of attachment between the parties that cannot be reduced to a contract-nexus - or, even worse, a cash-nexus. 55 Now, this would be right, for Alchian and Demsetz do make hermeneutic errors of a type we will examine in Coase, of just missing what is essential to the relationship between the parties because of an unshakeable commitment to (mis-)describing that relationship in strongly individualistic ways. However, for the moment, it is perhaps better to acknowledge this type of reasoning and see what costs of theoretical integrity it involves.

When one follows the contractual applications of transaction cost analysis, one has the curious feeling of the tail wagging the dog. Transaction costs are to be minimized in order to approximate to the perfect discrete exchange, but the way in which this exchange works as a goal is in theoretical terms entirely perverse. One can assume zero transaction costs, but the actual securing of that assumption takes a great deal more effort than is actually repaid when it is secured. The main focus cannot be the residual assumption, for the whole account shows it is not even remotely applicable but, rather, attention is concentrated on the boundary conditions which are its corollaries. Of course, there is a great deal about the explanatory form of neo-classical and transaction cost economics which is expressed in this. Williamson is a little shamefaced about discussing behavioural assumptions, because he recognizes that in economics there is 'a widely held opinion that the realism of the assumptions is unimportant'. 56 This agnosticism about the realism of assumptions really does place serious limits on what can be achieved even by economic explanation of Williamson's type and something must be said about this here.

For there is, of course, a sense in which the most interesting developments in the economics of contracting (and much else) are, as it were, focusing on what we have referred to as Williamson's boundary conditions and do so to such an extent as effectively to question the realism of the basic underlying assumptions. An obvious example is those game theoretical accounts of mutual interdependence which, moving beyond the prisoner's dilemma games probably most widely known in the 'law and economics' literature, now contain highly sophisticated accounts of firm structure 58 and seem to offer considerable potential for a wide range of institutional analyses59 through more sophisticated modelling.60 Such modelling is an example of the clear pursuit of realism in institutional economic analysis in an emerging 'behavioural economics',61 'economic sociology',62 or even 'political economy'63 which may, indeed, radically question neo-classical assumptions.64 These movements are highly welcome, but their productive utilization in the explanation of contracting will, in our opinion, have to take a strict stand against the form of 'realism' which presently dominates transaction cost analysis, particularly in the 'law and economics' literature. As it is Coase who has determined the nature of this 'realism', it is against him that our criticism should be pursued.

This criticism of a lack of realism seems a remarkable one to bring against Coase, for, of course, the power of his work lies, in an important sense, in its claims to be realistic: 'Modem institutional economics should study man as he is, acting within the constraints imposed by real institutions. Modern institutional economics is economics as it ought to be.'65 Coase's explanations of institutions purport to be of real structures, classically of course, of the firm:

It is hoped to show... that a definition of a firm may be obtained which is... realistic in that it corresponds to what is meant by a firm in the real world... the definition we have given is one which closely approximates to the firm as it is considered in the real world"

Although the reasoning involved did not become clear until 'The Problem of Social Cost' was published,
Coase's account of The Nature of the Firm puts forward a paradigmatic transaction-cost explanation, the firm being described (against some contemporary contributions that are now not widely read) as a cheaper way of dealing with the risks of complicated production than the market.

In transaction cost analysis after Coase generally, a hypothetical discrete exchange carried out with zero transaction costs is assumed and then the costs ancillary to establishing the exchange are added in as - to put it in a way of which Coase would not approve - externalities. The object of the exercise is to keep such costs to a minimum, for they obstruct or prevent the exchange. Hence the conclusion is the establishment of the least costly appropriate governance structures. This may mean regulating the market through congenial principles of contract or integrating through the firm (or even state governance).

By setting up transaction cost analysis in this way, Coase generated a serious bias which has characterized that analysis ever since. There is a very strong separation between the realism of his statement of boundary conditions, the transaction costs, and the unrealistic nature of his assumption of the transaction at zero cost. Coase recognizes that transactions at zero cost could never take place but does not really see what this means. He thinks there will be a problem of residual ineliminable costs but he does not see why. The negotiating, information gathering, organizing, and so on within which transactions take place are not only costs, they are also the social relations which are essentially facilitative of the transaction. All actions, including all transactions, can take place only within a constitutive social system. If one really took away all the costs of exchanging, the exchange would not take place cost-free. It simply would not take place at all.

However, this is absolutely not what Coase wants to say. At the hands of Coase, transaction cost economics has, seemingly as a result of its technique but actually because of certain social and political positions he adopts, closed off all possible explanations of human nature and social relationships other than the most thorough-going individualistic ones. Coase does believe - and claims to identify this belief in Adam Smith - that there is some residual quality about human beings as such that makes them exchange, or - as Coase's more modern synonym has it- choose. 'Economics', Coase says, is 'the science of human choice'. This is like saying that physics is the science of forces and objects, in that whilst it is in a sense true, it is so utterly abstract as to be useless. But Coase is quite sanguine about 'the acceptance by economists of a view of human nature so lacking in content', indeed he celebrates not only that economics might be applicable not only to all human phenomena but to the 'animal behavior' of 'the rat, cat and octopus'.

If we are to do anything with this idea, we must have some idea of concrete preferences, and, permeating his claims for generality, this is just what Coase has:

I believe that human preferences came to be what they are in those millions of years in which our ancestors (whether or not they can be classified as human) lived in hunting bands and were those preferences which, in such conditions, were conducive to survival.

This identification of the preferences effective in contemporary economies and Coase really has in mind the United States of America - with some general idea of human preferences as such is complete nonsense which receives no corroboration from any philosophic or sociological work on the determinate features of human preferences of which we are aware, other than the really quite suspect discipline of sociobiology, which Coase significantly cites in his support to the exclusion of all other social theory. Ignorance of social theory's conclusions about the nature of human agency and social structure is essential to Coase. His position, which is a common enough one, rests entirely on a mistaken identification of capitalism, a specific economic form with a clearly delimited historical provenance, with 'choice'.

It is obvious that on this basis Coase could not possibly give an accurate account of the origin or the nature of the capitalist (or indeed any) economic system, nor can he do other than grudgingly acknowledge the
structural properties of that specific system. These are very serious shortcomings which prevent any attempt to extend Coase's work into a general account of the modern economy. Coase correctly observes that 'in mainstream economic theory, the firm and the market are, for the most part, assumed to exist and are not themselves the subject of investigation' and his own work undertakes such an investigation. But his accounts are based on the very assumption of a perfect market - of transactions at zero cost - which he is trying to refine, and there is a self-defeating circularity about this:

What differentiates [my writings] is not that they reject existing economic theory, which... embodies the logic of choice and is of wide applicability, but that they employ this theory to examine the role which the firm, the market and the law play in the working of the economic system."

Coase's objection to assuming markets to exist is not that he wants to explain the market's existence, for he himself makes this assumption. He objects to assuming the market to exist everywhere and he goes on to explain instances of its non-existence (forgetting that this is all instances) as a departure from the normal case. The institutional thrust of Coase's work really is rather undercut in this way for a principal economic institution, the free market, is never itself explained. Rather than being regarded as a governance structure itself requiring explanation, the market is given the status of being the natural form of life, neither requiring nor permitting explanation.

What is most important to us here is that determining whether individual utility-maximizing assumptions still hold for contemporary long-term contracting behaviour simply cannot be an issue for Coase. He thinks that this assumption holds for all times and indeed for all creatures. If one is a little less ambitious about one's claims and is at pains to understand what attitudes and behaviour actually inform specific contractual phenomena, then the type of general applicability Coase claims must be viewed not as a strength but as the weakness of a theory now making claims which are so wide as to have no particular descriptive value for long-term contracting behaviour (or, indeed, for any particular behaviour). We believe that an accurate account of the attitudes and behaviour of the parties to long-term contracts requires a more realistic description of their co-operation, rather than the accumulation of the facts of co-operation as exceptions to individual utility-maximizing assumptions. Our point at the moment, however, is that this question cannot even arise for Coase. All institutions are the products of responses to a given human nature which functions as the assumed basis of explanation in his work when rather that nature - individual utility-maximization - is itself an empirical hypothesis which should be tested.

In the way Coase sets up transaction cost economics, it is immune from criticism. Its essential assumption of individual rational utility-maximization is stated so widely that it can never be attacked and all the power comes from the reality of the boundary assumptions. One can keep adding boundary assumptions indefinitely, but the theory which allows this can never be wrong, and this is the most profound failing a theory can have. Coase's retention of the basic unit of neo-classical explanation in transaction cost economics should rather be viewed as an unscrupulous accumulation of boundary conditions - transaction costs - which have the theoretical form of exceptions to the essential form - neo-classical maximization - of that explanation. The acceptability of a form of explanation which generates such exceptions as a condition of the basic plausibility of the explanation is entirely suspect. What should be at issue is an assessment of the accuracy of the psychological and sociological assumptions of purely individual utility-maximization as the basis of explanations.

Williamson, we believe, generates more than enough evidence about the necessity of inventing concepts to save individual utility-maximization to show that it should not be saved but, remaining within a broadly Coasean notion of transaction cost analysis, does not attempt the necessary theoretical innovation. It is, however, to Macneil's enormous credit that he attempts to go beyond this type of explanatory structure. His account of long-term contracting behaviour attempts to make co-operative relations central to the explanation, avowedly working against any basic stress on the rational, utility-maximizing individual; we will consider this account now. Macneil explains the boundary conditions of transaction cost analysis not as costs (which
should be minimized) but as essential relations which must be fully integrated into the account because their heuristic value in explaining long-term contracting massively dwarfs the purely abstract and obstructive notion of individual utility-maximization.

Macneil's crucial departure from the transaction cost approach lies in his depiction of the phenomena transaction costs describe as costs not as costs but as facilitative relations. The goal of the perfect discrete exchange, even as a remote abstraction, must be eschewed because it is inconceivable outside the relations which constitute even that exchange. Achieving zero transaction costs would not leave the perfect allocations of the rational utility-maximizer. It would leave nothing, because those allocations take place only through the relations described as costs. Neo-classical and transactional analysis:

... assumes the existence of very complex relations between the parties - relations established through society generally, language, law, and societal economic organization. But once such relations are assumed, the impact of those relations on the analysis is typically ignored. Ceteris paribus conquers all. . . . Because economic analysis is the analysis of social behavior, economic man is necessarily in society at all times. . . potential fallacy lurks in all social analysis starting from the non-social, relation-omitting model of neo-classical economics.

As Macneil puts it in an economic fashion: 'Because it is impossible to conduct exchange without transaction costs. . . they are every bit as much a factor of production as capital and labour.' Macneil continuously stresses a facilitative relational basis in explaining the content of contracts. He argues that this content is not arrived at by negotiations composed of perfect discrete exchanges conducted within transactional boundaries, but is the product of negotiations whose very form is constituted by external and internal relations.

Macneil's account of the co-operation between long-term contracting parties runs essentially as follows. The self-interest of the individual utility-maximizer must bring about a certain element of co-operation between the parties if their separate goals are to be realized through mutual performances. However, such co-operation does not require commitment to the goal of the other party and indeed may, within prudential limits, be inimical to it. The transaction cost analysis describes the structures which set these prudential limits (and other boundaries), but they are to be kept to a necessary minimum in order to give as free a rein as possible to the rational individual allocation of resources by the parties. The exchange remains predicated on narrow self-interest: the elements of co-operation are considered to be an external structure.

For Macneil, the recognition that 'all mutual planning in transactions. . . is conflict laden', and indeed may involve 'the most brutal kinds of in-fighting', is coupled with a description of co-operation which gives it a rather more central place than that of 'external material. . . of little interest'. The common sociality essential for all human activity and the political limits to self-interest which prevent economic competition from decaying into war or parasitism are described, and their elements of co-operation are made central to the relational account. Furthermore, crucially, Macneil then goes on to argue that 'law contributes more than general stability, it is directly facilitative in [that] it provides for the accomplishment of co-operation and the continuation of interdependence through external and internal values of contract behaviour. . . generated. . . in billions of contractual relations'.

External norms or values are imposed, not only, nor even necessarily most importantly, by 'the positive law of the sovereign, but also from many other sources [including] private law, such as that imposed on. . . businesses by trade associations'. Not only are there such relatively 'vertical impositions', but there is also the 'more horizontal imposition of external values, such as those arising from. . . customs of a trade'. These foster co-operation by reducing the 'choice of a party which is reciprocating too little, is too powerful, is terminating relations, or is following arbitrary or other procedures viewed as inadequate'. Finally, internal norms or values orient 'both [the] actual behaviour and [the] principles of right action of contracting parties. In the latest formulation, a set of ten common contract norms underpin all contracting by generating a co-operative attitude which respects 'solidarity and reciprocity', setting the boundaries within which legitimate negotiation and competition are allowed. A range of relatively discrete and relatively
relational norms operate within the common norms, but essential cooperation emerges at this internal level as well as at all other external levels. Any legitimate competition is bounded by an integral acceptance of cooperation as operative within the contract:

The word 'solidarity' (or 'trust') is not inappropriate to describe this web of interdependence, externally reinforced as well as self-supporting, and expected future cooperation. The most important aspect of solidarity... is the extent to which it produces similarity of selfish interests, whereby what increases (decreases) the utility of one participant also increases (decreases) the utility of the other... Seldom, if ever, is this merger of interests complete, but it is omnipresent, immensely significant, and, in a vast range of circumstances, complete for most practical purposes... [S]imilarity of interests may be produced by external forces such as sovereign law. But... solidarity may and does arise internally in relations.

Macneil's analysis of contractual behaviour shows conduct which is predominantly so modelled with this element of co-operation in the minds of the parties that a contract 'no longer stands alone as in the discrete transaction, but is part of a relational web'. All the negotiating tactics adopted by parties, concerning formation, performance, variation, termination, and application of remedies, are explained as being informed by this attitude, so that, at the heart of the analysis, it is no longer possible to work with the assumptions of perfect discrete exchange, for they cannot plausibly be attributed to an economic actor. Such an attribution 'postulates individuals acting as if the relations in which those individuals exist had no effect on their behaviour'. Transaction cost analysis treats parties as separate individual maximizing units and then concerns itself with 'the prevention of their subsequently acting as separate maximizers, the limiting of opportunism'. But, crucially, we should note that in contracts:

... there can be present a 'sense of productive increase from the relationship which can dwarf variations in expectation, or of long-term anticipations of mutual benefit that dwarf variations in shares received by parties', This anticipatory, commonly held 'sense' of the parties may virtually obliterate any present separation as maximizers, thereby making them effectively a single maximizer.

There are certain elements in Macneil's work which, in our opinion, rather undercut the power of this notion of contracts as 'instruments for social cooperation'. These turn on a failure to appreciate the limits to the cooperation which can be brought about by contracts properly understood as the legal expression of capitalist exchange. The nature of the co-operation arrived at through capitalist competition is, of course, overlaid by many themes of conflict. However, in terms of showing that co-operation is an essential and irreducible element of efficient long-term contracting behaviour, we regard Macneil's work as a foremost contribution to the social theory of the modern economy. It requires, however, empirical examination and possible factual corroboration of its co-operative hypothesis if its status is to be accepted.

In sum, the transaction cost analysis of contracting holds, in our opinion, the greatest promise for the examination of the difficult empirical case of long-term contracts. However, the predominant line of transaction cost analysis in the 'law and economics' literature is still so heavily dominated by Coase's quite unshakeable commitment to an assumption of individual utility maximization as the unit of analysis that the realization of this promise faces serious handicaps. Much transaction cost analysis and other developments in institutional economics are beginning to question this commitment. Such questioning is essential if the principal feature of efficient long-term contracting, conscious co-operation, is to be properly appreciated and therefore such contracting be adequately explained.

THE CO-OPERATIVE ATTITUDES OF PARTICIES TO LONG-TERM CONTRACTS

Having shown the necessity of replacing long-term individual utility maximization with long-term mutually-reinforcing co-operation as the unit of the analysis of efficient long-term contractual behaviour, we should now like to formalize this idea of co-operation and indicate how we intend to operationalize it in future work, and do so in Figure 1 below.
<table>
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<tr>
<th>Party 1's analysis of the benefit of the relationship to it</th>
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<tr>
<td><strong>A</strong></td>
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<td><strong>1</strong>                                              <strong>2</strong></td>
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<td>Party 1's incentive to continue the relationship</td>
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<td>Party 1's expectation of an undefined share in the joint gains to be generated by the relationship (which share is expected to be larger than any gain achievable by it independently)</td>
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<th>Party 1's assessment of the value which Party 2 places on the relationship</th>
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<td><strong>B</strong></td>
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<tr>
<td><strong>1</strong>                                              <strong>2</strong></td>
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<tr>
<td>Party 2's incentive to continue the relationship</td>
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<td>Party 2's expectation of an undefined share in the joint gains to be generated by the relationship (which share is expected to be larger than any gain achievable by it independently)</td>
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**FIGURE 1:** Model of self-interested behaviour which consciously adopts cooperation as the optimal long-term strategy

This model assumes that the continuance of a long-term relationship does not depend on the sanctions provided by the law nor on direct market pressures but rather on a package of incentives and disincentives established through a continuing co-operative relationship. 'A' in this model represents the package of reasons for Party 1's wish to continue in the relationship. These are determined by a - perhaps informal or even implicit but in long-term contracting often highly formalized cost-benefit analysis of the value of continuing the relationship rather than terminating it and of the costs of terminating it rather than continuing it. Party 1 expects to gain more from the continuing co-operation than from any alternative commitment of resources. 'B' in this model provides the justification for Party 1 continuing to rely on Party 2's future co-operation. *This relationship of trust, we believe, is the crucial feature of our model.* It gives Party 1 the incentive to make further idiosyncratic investment in the relationship and it gives that party some protection against Party 2 acting in an opportunistic way to exploit the bilateral monopoly created by the relationship. So long as Party 2 continues to value the relationship more than any alternative commitment of its resources, Party 2 will not intentionally act in such a way as to risk Party 1 deciding to withdraw from the relationship.

Exactly the same model will apply to Party 2's analysis of the relationship. The relationship will continue so long as each party's analysis concludes that continuance is more advantageous than termination and *this essentially requires that each side can continue to trust with confidence in the other's cooperation.* The model requires reciprocity in making this evaluation and in relying on the other party's self-interest in continuance.

The thinking of the parties we are trying to drive at runs essentially like this: 'I calculate that I shall be better off in the longer term if I continue my relationship with you instead of terminating it; and I also estimate that you similarly have calculated that you will be better off if the relationship continues.' The first stage of our model, A, is the self-interested appraisal of its own position conducted by each party. The second stage, B, is the estimate which each party makes of the cost-benefit analysis carried out by the other party. Let us expand this reasoning.
1. Party 1's analysis of the value of the relationship to it

(a) Incentive on Party 1 to continue the relationship

The obvious starting-point is each party's assessment of the net advantages expected to be gained from continuing the relationship, namely, the surplus of the expected benefits over the expected costs. Unlike a partnership, in which the proportionate shares of the net profit are determined in advance, in a longterm contractual relationship the 'shares' which each party will gain are not determined in advance, because each party operates as an independent profit centre. However, each party expects (i) the relationship to generate joint profits which will exceed the sum of the net profits which each party could produce independently; and (ii) that those joint profits will be divided in a way which exceeds the net profits of independent production. The relationship maximizes the joint profit and thus maximizes each party's own expected profits. Unless the jointly produced profit meets this standard of being so large as to be likely to yield more than independently produced profits, either party will terminate the relationship, as indeed either will if the division of the joint profit does not in fact yield excess profit. This cost-benefit analysis is not a once-and-for-all calculation: it will be a continuing assessment updated in the light of current information available to the parties.

(b) Disincentives on Party 1 against terminating the relationship

A second part of each party's own assessment will be the calculation of the expected costs of terminating the relationship. Williamson has identified the importance of idiosyncratic asset-specific investment which is made in a longterm relationship, namely, the investment of resources which could not be transferred to any other use or to any other relationship. If a party were to withdraw, it could not adequately salvage the investment which has been committed to developing the existing relationship. This is an investment which the party expects to generate gains within the existing unique relationship, but which cannot do so elsewhere.

There may be a further cost to terminating, which is the cost of developing a substitute relationship with another party if that is desired. This cost of developing an alternative relationship will, in a long-term contracting situation, often be substantial. In an empirical study of the relationship between car manufacturers and car dealers in the United Kingdom, the manufacturers said that the cost of replacing a dealer would be high. It would take a long time to search for a suitable dealer, with only one in fifty applicants being suitable in the opinion of the dealership manager of one manufacturer. Even if the manufacturer could find a suitable applicant with suitable premises, it would take the new dealer a considerable time to learn about a new range of cars, about the manufacturer's distribution network, servicing standards, supplies of spare parts, and so on. The cost of finding and training a new dealer clearly was a very powerful disincentive to terminating an existing dealership.

2. Party 1's estimate of the value which Party 2 places on the relationship

In considering the maintenance of the relationship, each party takes into account an estimate of the cost-benefit analysis which it expects the other to be conducting. Each party estimates the benefits which the other expects from continuing the relationship and estimates the costs which the other would expect to incur from terminating the relationship. Each party relies on the incentive which arises from the other party's expectation of joint excess profits as the outcome of continuing co-operation, and on the disincentive to terminate which arises from the other party's expectation of costs consequent upon the ending of the relationship. From each party's point of view, these

In all, we are trying to model the fundamental reciprocity of concerns between the parties, where each identifies its own best interest so closely with the interest of the other that it is inaccurate to view them as individual maximizers. They are joint maximizers. Whilst the parties remain separate profit centres and thus a hypothetical point at which their relationship could be terminated does exist, their typical behaviour is co-
operative. If we may partially repeat ourselves, one could say that this is merely sophisticated self” interest. There is no objection to this, if the burden of individual utility maximization is separated from what is meant by self-interest. We believe that clarity is better served by seeing co-operation and individual utility maximization as rival explanations.

HYPOTHESES TO BE TESTED IN EMPIRICAL STUDIES

We are investigating various types of long-term business relationships where we can gain access for observation and interviews with key personnel. For this purpose, we have developed a number of hypotheses which we propose to test on the basis of the data to be gathered from actual business relationships.

By 'long-term relationship', we refer to a business relationship in which the parties (firms or individuals) have made an idiosyncratic investment of resources for which no substitute relationship is readily available, namely, any alternative relationship would involve (i) substantial search costs to find a suitable 'partner', and (ii) a considerable period of time before the parties could achieve the degree of understanding and co-operation already achieved in the existing relationship. The hypotheses which we have developed and hope to test in empirical studies are:

That the parties to a long-term relationship will continue to co-operate in maintaining and developing the relationship so long as:

(i) (the incentive) each party calculates that, in the long run, the benefits which it expects to receive as a result of the co-operation will exceed the benefits which it could derive from any alternative use of its resources; and

(ii) (the disincentive) each party is unwilling to abandon the idiosyncratic investment which it has made in the relationship; (the disincentive will be increased if a party would wish to develop a new relationship with a third party, should the existing relationship terminate); and

(iii) (the reciprocal trust) each party feels confident that a similar incentive and disincentive are operating upon the other party, so that it may rely on the continuing co-operation of the other.

If the hypothesis in (iii) above is established by empirical findings, it is likely to carry with it the negative finding that the parties to a long-term relationship do not rely on either legal remedies or on market factors to preserve the relationship.

Our contribution to the analysis of long-term relationships is centred on the emphasis on factor (iii) above, the reciprocal trust. The incentive and disincentive in our hypotheses are obviously based on the work of others, but we believe that an important additional factor is trust in the way these factors work on the other party.

It will be clear enough that our model draws heavily on transaction cost analyses, not least of all Williamson's, and in conclusion it is as well to state again what we hope to add to those analyses. The substantial findings of transaction cost analyses presently exist, at the very best, as a very unwieldy collection of exceptions to a basic assumption of individual utility maximization. What is worse is that to the very large extent that they serve to shield that assumption from criticism when it is at odds with the appreciation of the co-operative features central to the long-term contract, they are explanatorily regressive. Following Coase, transaction cost economics has largely cast its explanations in terms of narrowly individual interest when the issue which seems to be of most importance at the moment seems to be the explanation of an emergent relationship of co-operation based on mutual trust. We hope, following Macneil, to place the insights of transaction cost analysis in a more productive framework by setting up those insights not as a protective barrier of exceptions around individual utility-maximization but as counter-evidence to holding that assumption to be the only possible basis of the investigation of long-term contracting.

NOTES AND REFERENCES

2 One form of this idea is the notion of the efficient breach. The rejection of the possibility of coming to any general


4 David Campbell has analysed why and how this can be the case in 'The Undeath of Contract: A Study in the Degeneration of a Research Programme' (1992) 22 Hong Kong Law J. 20.

5 One is obliged to say that many such defences are irrational in that they are not really defences at all; they simply fail to acknowledge the problems involved. We will examine below one of these cases concerning long-term uranium sales.

6 We do not claim, of course, that all parties involved in long-term contracts act cooperatively. Purely individualistic attitudes are common enough. We do claim that those parties which contract efficiently act co-operatively.


8 There is a sense in which this work attempts to challenge individual utility-maximization as a description of long-term contracting behaviour in the way that the concept of satisficing behaviour did (H. A. Simon, Administrative Behavior (3rd ed. 1961), and evolutionary theory is doing (R. R. Nelson and S. G. Winter, An Evolutionary Theory of Economic Change (1982)) for maximization goals in corporate planning.


15 Within the sense of 'eliminated' we mean to include complete shifting through insurance.

16 Macneil, op. cit., n. 12; Campbell, op. cit., n. 7, pp. 84-86.


18 A. D. Chandler, Scale and Scope (1989).


21 O. E. Williamson, Markets and Hierarchies (1975) ch. 7.

22 Coase, op. cit., n. 20, chs. 7-8.

23 I. R. Macneil, 'A Primer of Contract Planning' (1975) 48 Southern California Law Rev. 627. This article provides the essential structure for Macneil's casebook, Contracts: Exchange Transactions and Relations (2nd ed. 1978), and thus the casebook usefully provides a catalogue of the planning devices he describes.

24 Williamson, op. cit., n. 20, ch. 3.


31 J. T. Maughmer, 'Commercial Impracticability as a Contractual Defence' (1979) 47 Univ. Missouri-Kansas City Law
Rev. 665.


34 A more valuable decision, though universally excoriated in classical accounts of 2-615, was *Aluminium Company of America v Essex Group Inc.* 499 F Supp 53 (1980), which used the impracticability plea as a basis for the reasonable renegotiation of energy supply contracts. One should note, however, that even this was extra-legal as even the most relaxed reading of frustration remedies under the common law or the UCC could not yield this renegotiated outcome.

35 J. P. Dawson, 'Judicial Revision of Frustrated Contracts: The US' (1984) 64 *Boston Univ. Law Rev.* 25-26. Dawson expands this into an account of the irrelevancy of the plea of impracticability and sets up an account of frustration along similar lines. But it is not the practice of adjustment that is irrelevant, it is the ridiculous legal plea that will not even recognize the practice.

36 When one is a little appreciative of the distance between the oligopoly economy of giant corporations desperately seeking to expand typically moribund effective demand by largescale planned ventures and the neo-classical economy of buyers who should never commit themselves without being covered, as envisaged by Joskow, then one can readily imagine that Westinghouse's active encouragement of its buyers was at least arguably rational. The alternative would have been the conclusion that the nuclear energy programme could not have been developed privately or, more generally, that the enterprise would stagnate.


40 Macaulay's reading of all the reported US appellate contract litigation of the two decades up to 1985 yielded examples of the litigious dissolution of long-term relationships only when 'prompted by major shocks to the world economic system' (Macaulay, op. cit., n. 37 (1985), p.472).

41 Macaulay, op. cit., n. 9, and 'The Use and Non-use of Contracts in the Manufacturing Industry' (1963) 9 *The Practical Lawyer* 13, and op. cit., n. 37 (1977), and op. cit., n. 37 (1985)).

42 Williamson, op. cit., n. 20, ch. 2.


44 Williamson, op. cit., n. 20, p. 44.

45 Id., p. 45.

46 Id., p. 44.

47 Id., p. 45.

48 Id., p. 49.

49 Id., p. 45.

50 Anything of Bentham's will convey his elephantine pedantry, but perhaps *An Introduction to the Principles of Morals and Legislation* (1970) chs. 12-14 provide a particularly clear example.

51 Williamson, op. cit., n. 17, pp. 140-41. The fully worked out theory to which Williamson refers is, of course, the Arrow-Debreu model.

52 Williamson, op. cit., n. 20, p. xiii.

53 And in fact what happens is that one of Williamson's behavioural assumptions plays so much the inferior role to the other, bounded rationality, that it really falls out of consideration. This is a mistake, because, as R. Cooter in 'The Cost of Coase' (1982) II *J. Legal Studies* I points out, strategic bargaining is an obstruction to contracting *theoretically distinct from in addition to* imperfect information. Our work is an attempt to state this insight as strongly as its full appreciation in the context of long-term contracting requires. It is a typical feature of Posner's work that he has a
very brief way with this. Difficulties are typically explained away in this corpus by being redefined in such a way as to confirm Posner's initial position, and so, in this instance, strategic bargaining is a transaction cost (Posner, op. cit., n. 33, pp. 54-55). This is a perfect example of what is called 'concept stretching' in the modern philosophy of science, a strategy for defending original positions at the cost of any actual explanatory growth.


56 Williamson, op. cit., n. 20, p. 44.

57 R. D. Luce & H. Raiffa, Games and Decisions (1957). Luce & Raiffa try to come to terms (pp. 91-107) with the counter-intuitive non-co-operative result that tends to be produced by finite horizon prisoners' dilemma games. Now, extremely sophisticated reformulations of game theory avoiding these problems can, no doubt, be produced (for example, D. M. Kreps et al., 'Rational Co-operation in the Repeated Prisoner's Dilemma' (1982) 27 J. Econ. Theory 245) but just how far this type of remodelling to produce an intuitive result known in advance is actually productive is a prime example of the type of question we are trying to raise.


66 Coase, op. cit., n. 14, pp. 33-34, 54.

67 Id., pp. 97-114.


69 R. Coase, 'Adam Smith's View of Man' (1976) 19 J. Law and Econ. 529.


71 Coase, op. cit., n. 14, p. 5.


74 Coase, op. cit., n. 14, p. 4.

75 The most productive lines of contemporary development are expressed in R. Harre, Social Being (1979) and R. Bhaskar, The Possibility of Naturalism (2nd ed. 1989).

76 Coase, op. cit., n. 14, pp. 4-5.


78 S. Lukes, Individualism (1973) chs. 11-13, 18-20.


80 To the extent that this is so, Coase's work represents a substantial failure to pursue a number of highly productive lines from Veblen which were taken up by a number of other institutionalists, including obviously Commons but represented principally by the sadly relatively little-known Clarence Ayres. For example, see C. E. Ayres, Science: The False Messiah (1927) and Holier than Thou: The Way of the Righteous (1929) in One Volume with a New Introduction: Prolegomenon to Institutionalism (1973) xi-xii. The empirical richness to be found in Ayres is a very different type of 'realism' from that of
Coase.
81 Coase, op. cit., n. 14, p. 5.
82 Id.
83 As is being undertaken by, for example, M. Taylor, The Possibility of Co-operation (1987).
84 Coase is quite happy to say, in The Firm, the Market, and the Law (p. 2) that utility is 'a non-existent entity which plays a part similar, I suspect, to that of ether in the old physics'.
92 Ibid., p. 1.
93 Id.
94 Ibid., p. 42.
95 Ibid., p. 93.
96 Ibid., pp. 36-37; and Macneil, op. cit., n. 43 (1983), p. 367.
97 Ibid., p. 351.
100 Ibid., p. 379.
104 Macneil, op. cit., n. 43 (1980), ch. 2.
105 Macneil, op. cit., n. 88, p. 1034.
106 Macneil, op. cit., n. 12, p. 595.
107 Macneil, op. cit., n. 89, pp. 726-35, 753-80; op. cit., n. 23 (1975), pp. 666-67; and op. cit., n. 88, pp. 1044-46.
111 Macneil, op. cit., n. 89, pp. 767-702.
113 Macneil, op. cit., n. 88, pp. 1023-24. (Macneil is quoting from a letter sent to him by S. T. Lowry.)
115 Campbell, op. cit., n. 7.
117 But the incentives and disincentives of the parties need not be of equal weight, as long as they are each of sufficient weight to generate confident mutual reliance. One party's expected share of the joint gains may be greater than the other's. Nevertheless, each will have an incentive to continue so long as it expects its share to be greater than any profit it could make from any alternative commitment of resources. Similarly, one party may have made a heavier idiosyncratic investment in the relationship than the other. Nevertheless, each party is under a disincentive to terminate if it has made an investment of such a size that it is loath to lose it.
118 Williamson, op. cit., n. 17, pp. 105-10.