More Easily Done Than Said: Rules, Reasons and Rational Social Choice

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Abstract—Legal decision-making emphasizes, in a very self-conscious way, the justificatory significance of reasons. This paper argues that the obligation to provide reasons for choices, which must be articulated and structured around a set of generally shared and publicly comprehensible categories of thought, can serve to make the space of possible choices 'concept sensitive' in a very useful way. In particular, concept sensitivity has the effect of restricting certain movements within the choice space so that some of the systematic difficulties in achieving an equilibrium in social choice which arise out of an excess of rational doing are avoided. The resulting equilibrium is path dependent. But because it is dependent on a choice path which 'makes sense' (or is ordered by thought precisely because it is concept sensitive), it is not the sort of arbitary path-dependent social choice which originally concerned Kenneth Arrow. This paper illustrates these points with examples from criminal law procedure, contract law and constitutional law.

1 *Introduction*

One long-standing conception of rationality argues that rationality inheres in individuals and is concerned essentially with identifying the most effective means for achieving an individual's predetermined ends. While such a maximisation exercise may require that the individual's ends be rationally ordered, that is, that they be rationalisable according to a preference relation which is both complete

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and transitive,[1] this conception of rationality has nothing to say about what these ends should properly be. Thus, this is a conception of instrumental rationality only, and it is the one which has long informed the theory of rational choice.

However, there is an alternative conception of rationality, at least as long-standing as the first, which offers the possibility of deliberating over ends as well as means.[2] On this conception, some individual ends are more justified than others. We might also say, at the risk of sounding pedantic, that this conception of rationality views some ends as more *justifiable* than others, that is, more easily supportable with *reasons* that other individuals will recognise as compelling. This has the effect of making this second understanding of rationality more conceptual and, therefore, more social than the first purely instrumental understanding.[3] For if an individual can offer reasons to others for his ends, then these reasons must be articulated under the aspect of concepts and categories of thought which the others share.

In this paper I want to use these two different understandings of rationality to draw out an important contrast between the rationality exemplified in rational choice theory, and as modelled in social choice theory in particular, and the rationality which is shown in the processes of legal reasoning and adjudication. Despite its very self-conscious attempt to offer a more broad-ranging normative agenda to economics, rational social choice, I want to suggest, is still very much about rational 'doing', the effective choice of means for predetermined ends. Legal reasons and rules, on the other hand, are much more about rational 'thinking'. They order legal decisions, not merely as preferences do, but under concepts, the units of our thought.

This much suggests a contrast between law and economics, but I want to suggest an advantage as well. Social choice theory has confronted a series of unresolved problems which I shall argue reflect badly on its conception of rationality. There is some help to be found for these problems in the law's understanding of a system of rules and reasons. Essentially, the argument is this: social choice theory suffers from an excess of the very 'doing' that the theory so rationally prescribes. This excess of rational doing takes the form of cycling, where for any given rational choice there is always another which is preferred. Eventually, rational preference takes social choice back to some previously rejected alternative. Hence, the cycle. However, suppose that the obligation to provide reasons for certain choices, reasons which had to be articulated around a set of generally shared and publicly comprehensible categories of thought, could serve to make the space of possible choices 'concept sensitive'. By concept sensitivity I mean that there would be restrictions on what might be 'sensible' movements within the choice space. Then, while there might be things we could

[1] A preference relation is *complete* if and only if for all possible alternative choices x and y either x is preferred to y or y is preferred to x or they are indifferent. The relation is *transitive* if and only if when x is preferred (or indifferent) to y, and y is preferred (or indifferent) to z, then x is preferred (or indifferent) to z.

[2] Aristotle, Kant, and Hegel would obviously exemplify this tradition.

[3] See Donald Davidson, 'The Very Idea of a Conceptual Scheme' in his *Essays on Truth and Interpretation* (New York: Oxford University Press 1985).

'do' if it was only a question of what we preferred, we might, nonetheless, not be able to do those things if we had to articulate a set of publicly accessible reasons, or justifications, for such a doing. After all, some things just do not bear thinking about, at least if they have to be thought about openly. As my title suggests, they are more easily done than said.

I want to suggest that this is an insight which law can offer to the economic theory of social choice which, as suggested, suffers from an excess of rational doing because it is largely unconstrained by thought or reasons. The argument is organized as follows: in section 2 I introduce the general problem of social choice and exemplify it with the problem of majority voting. Section 3 shows how certain restrictions on individual preferences can help to avoid the social choice problem, but the argument shows that these involve severe and implausible forms of value restriction. Section 4 illustrates how certain procedural rules can generate a structure-induced equilibrium for social choice, and my argument shows how the procedure of a criminal trial might be interpreted this way. In this section I also introduce the idea of a concept sensitive strategy space, that is, the notion that some choice processes, or movements within the strategy space, are more easily articulated within the language and concepts we share than others. In section 5 I show, with the help of examples from contract and constitutional law, the applicability of the idea of a structure-induced equilibrium to the notion that judges must provide reasons for their judgements, reasons which must in turn be organized around certain well-recognized and developed legal categories. Section 6 offers a guarded concession to the idea that some of the analysis in the previous five sections might appear too formalist and categorical, but argues that even if legal categories are defeasible, they still have a rule-like impact on what judges can properly do under the law. In section 7 I finish with some concluding remarks on the inevitable difference which must exist between an ordering provided by individual preference and an ordering provided by shared concepts, the units of our thought.

2 *The General Problem of Social Choice and the Example of Majority Voting*

Social choice theory asks us to consider, in a logically rigorous way, the best method for moving from a set of (non-identical) individual preferences to that social choice which, amongst a broad range of possibilities, might be thought to be the most attractive accommodation of these different preferences. As Kenneth Arrow showed in his pioneering work *Social Choice and Individual Values*,[4] some apparently attractive principles or axioms, which one might have thought *any* reasonable method of social choice could easily satisfy, are inconsistent with one another and, therefore, are not simultaneously achievable. This is the thrust of his famous 'impossibility theorem', and it has provided the focal point for

[4] Kenneth J. Arrow, *Social Choice and Individual Values* 2d edition (New Haven: Yale University Press, 1963).

developments in the theory of social choice over the last several decades.[5] Recently, the tools of social choice have been usefully extended to issues of multi-criterion decision-making, where in place of individuals providing preference orderings as the data for social choice, different values or normative criteria are said to order the various social choice possibilities from best to worst. The social choice problem in this latter context becomes what it is to synthesize or accommodate the orderings provided by these different values or criteria so as to produce the best overall social choice.[6] Again, Arrow's theorem provides some reason for being less than optimistic that such a synthesis can reasonably be achieved.

While it is important to remember that Arrow's impossibility theorem captures a broader set of difficulties, the essential problem of social choice is nicely illustrated by the majority voting paradox.[7] Suppose that there is a committee of three individuals A, B, and C, who have to vote on three possible policy outcomes x, y, and z. As shown in Figure 1 (from top to bottom) individual A prefers x to y to z; individual B prefers y to z to x; and individual C prefers z to x to y. If the committee votes on each pair of possible outcomes to determine a majoritarian winner, the seeming paradox in this case is that there is no way for a majority on this committee to choose anything but a minority-preferred alternative. That is, for any alternative chosen, there is always another alternative which is preferred by some majority of the committee to that choice. This also suggests that there is no choice in this situation which is stable under majority rule, since there is the constant temptation for some majority to move onto the majority preferred alternative, even if that means cycling back to reconsider a previously rejected alternative and going through the same process of majority selection all over again. Hence, this situation is also said to illustrate the problem of majority cycling.

A social preference cycle, where alternative x is socially preferred to alternative y, y is preferred to z, and z is preferred to x, is exactly what Arrow meant to avoid when he required that social choice be collectively rational. Collective rationality simply means that the rules of social choice should generate an

[5] This literature is huge and social choice theory now even has its own journal *Social Choice and Welfare*. For excellent surveys of some of the central results of social choice theory, see Amartya K. Sen, *Collective Choice and Social Welfare* (San Francisco: Holden Day 1970); Amartya Sen, 'Social Choice Theory' in Kenneth J. Arrow and Michael D. Intriligator, eds, 3 *Handbook of Mathematical Economics* 1073 (New York, North Holland, 1986); and Dennis C. Mueller, *Public Choice* II 373–441 (Cambridge: Cambridge University Press 1989. For interesting reconsideration of some of the fundamental assumptions underlying social choice theory, see the essays in Jon Elster and Aanund Hylland, *Foundations of Social Choice Theory* (Cambridge: Cambridge University Press, 1986).

[6] See Kenneth J. Arrow and Herve Raynaud, *Social Choice and Multicriterion Decision-Making* (Cambridge: MIT Press, 1986). Susan Hurley has also effectively analyzed multicriterial decision-making as a social choice problem in her *Natural Reasons* 225–53 (Oxford: Oxford University Press, 1989). Hurley has some serious reservations about whether the Arrow conditions, which he proved incompatible, can easily (sensibly) be transferred from the interpersonal to the multicriterial context. For some analysis of multicriterial decision-making in the law from a social choice perspective, see Bruce Chapman, 'Pluralism in Tort and Accident Law: Towards a Reasonable Accommodation' in Gerald J. Postema (ed.) *Philosophy and the Law of Tort* (Cambridge: Cambridge University Press, forthcoming 1998).

[7] For a demonstration that market contracting, and the Kaldor-Hicks efficiency which such market contracting is said to achieve, is also subject to the social choice problem, see Bruce Chapman, 'Trust, Economic Rationality, and the Corporate Fiduciary Obligation' 43 *University of Toronto Law Journal* 547 (1993).

INDIVIDUALS:

A	B	C
x	y	z
y	z	x
z	x	y

By majority, x is preferred to y, y is preferred to z, and z is preferred to x.

FIG. 1 The majority voting paradox

ordering of the possible outcomes, such that if x is socially preferred to y, and y is socially preferred to z, then x should be socially preferred to z. This transitivity or ordering requirement is what is violated in the majority voting cycle.

However, Arrow did not believe, if social choice was collectively irrational, that actual cycling would be observed. Rather, he feared that collectively irrational social choice would show itself as a kind of arbitrary dependence of the final social choice on the choice path, something which is now commonly referred to as path dependence.[8] Again, this general problem is nicely illustrated with the majority voting paradox. If, consistent with *Robert's Rules of Order*,[9] the above committee were to adopt the idea that alternatives rejected by a majority of voters are not again to be reconsidered, then a voting cycle is avoided, but the final majoritarian choice depends entirely on which pair of alternatives was first

[8] That this was the basis for Arrow's insistence on collective rationality is evidenced most clearly when he defends the idea against a claim made by James Buchanan that rationality is a property of individuals that one cannot sensibly predicate of a society. See Arrow, above n.4, at 120:

> It is against this background that the importance of the transitivity condition becomes clear. Those familiar with the integrability controversy in the field of consumer's demand theory will observe that the basic problem is the same: the independence of the final choice from the path to it. Transitivity will ensure this independence ...
>
> Collective rationality in the social choice mechanism is not then merely an illegitimate transfer from the individual to society, but an important attribute of a genuinely democratic system capable of full adaption to varying environments.

In fact, while full transitivity of the social preference relation (i.e., social preference and indifference) implies path independence, it is not required for it; something slightly weaker will do. On this, see Douglas H. Blair, et al, 'Impossibility Theorems Without Collective Rationality' 13 *Journal of Economic Theory* 361, 365–69 (1976). For discussion and formalization of the concept of path independence, see Charles R. Plott, 'Path Independence, Rationality, and Social Choice' 41 *Econometrica* 1075 (1973). For recent discussion of the Buchanan objection to collective rationality, see Amartya Sen, 'Rationality and Social Choice' 85 *American Economic Review* 1 (1995).

[9] For a thorough discussion of *Robert's Rules of Order*, and other rules of parliamentary procedure, in the context of the majority voting paradox, see Saul Levmore, 'Parliamentary Law, Majority Decisionmaking, and the Voting Paradox' 75 *Virginia Law Review* 971 (1989).

considered by the committee. For example, if the committee considered the pair (x,y) first, a majority would select x and then a different majority would go on to select z over x in the next and final round. On the other hand, if the same committee considered the pair (x,z) first, then z would be selected in this first round, and y would defeat z in the final round. Alternative x would be the final choice if the committee considered the pair (y,z) first. The final choice, therefore, would depend on how the alternatives were initially divided up for consideration. In Arrow's terms, it would be path (or partition) dependent. It is also thought that such path dependency gives tremendous strategic power to whoever sets the agenda since, given the right agenda, any result can ultimately be achieved as the final outcome.

3 *Value Restriction and Preference-Induced Equilibrium*

It is easy to prove that if the majority voting paradox is to occur as illustrated, either in its cyclical or path-dependent form, then the particular Figure 1 profile of individual preferences, exemplified by the above committee of three, must be present somewhere in the population of voters.[10] This makes it very interesting to examine the special properties of this particular profile of individual preferences. By so doing, we should be able to determine more precisely the structure of decisive disagreement across individuals which is destabilising for majoritarian choice and, conversely, those features of community consensus which allow for greater social stability. Since what needs to be avoided here is a particular profile or pattern of preferences across individuals, and not any particular individual preference, it is common to speak of 'value restriction' rather than preference restriction. Nevertheless, the strategy of value restriction is to work towards equilibrium within the space of preferences. Thus, we can speak of value restriction as a kind of preference-induced equilibrium strategy for majority voting.[11]

The particular profile of individual preferences which is illustrated by our committee of three is sometimes referred to as a Latin square.[12] One can see the

[10] Suppose that a majority of voters prefer x to y, y to z and, in violation of collective rationality or transitivity of the social preference relation, z to x. Let the set of all voters in the population who prefer x to y be K. Likewise, let the set of such voters who prefer y to z and z to x be L and M respectively. Thus, since x is majority preferred to y, then K is a decisive set of voters for x over y. Likewise, L and M are also decisive sets of voters for y over z and z over x respectively. But any two of these decisive sets must contain at least one voter in common, because if they did not, then the majority voting paradox would not occur. For example, if all of those voters in K, who prefer x to y, also preferred z to y, then they would be decisive for z over y, a contradiction. Thus, someone in K who prefers x to y must also prefer y to z, i.e., must be in the set L. But this is just to say that the preferences exemplified by voter A on our committee of three must be present somewhere in the population of voters if a majority voting paradox is to occur. Similar arguments will show the necessity of overlap between the sets L and M and K and M, or the presence of voters like B and C in the population. For a more detailed exposition of this proof, see Robert Sugden, *The Political Economy of Public Choice* (Oxford: Martin Robertson, 1981). 157–8

[11] On value restriction, see Amartya Sen, 'A Possibility Theorem on Majority Decisions' 34 *Econometrica* 491 (1966).

[12] See Sugden, *supra* n.10, at 157–58. The term seems to originate in the majority voting context with Benjamin Ward, 'Majority Voting and Alternative Forms of Public Enterprise' in J. Margolis (ed.) *The Public Economy of Urban Communities* (Baltimore: Johns Hopkins Press, 1965).

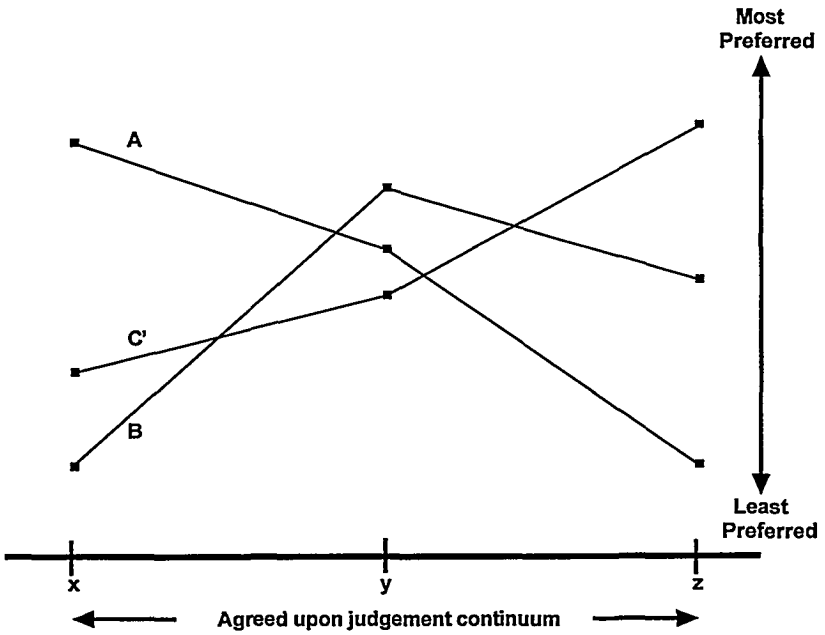

FIG. 2 The single dimension of judgement case

'square' as the presence of each one of the three alternatives x, y, or z, as either 'best', 'worst', or 'between' for at least one individual in the population of voters. Thus, if this profile of preferences is necessary for the voting paradox to occur, then the absence of such Latin squares is the form of value restriction which is sufficient for ensuring stable majority choices. This reduces to requiring that all voters agree that one of the three alternatives is either 'not worst', 'not best', or 'not between' the other two.[13] The interpretive question then becomes why one might expect one of these forms of value restriction to occur within a population of voters.

Some social choice theorists provide the following interpretation of 'not worst' value restriction, which is illustrated in Figure 2. They claim that individual preferences will often be 'single-peaked', which amounts to saying that, for every

[13] This somewhat awkward terminology is hard to avoid if one wants to separate out the different ways of avoiding Latin squares (or of achieving 'Latin squarelessness'!). The terminology originates with Sen, above n.11, although he uses the word 'medium' rather than 'between'.

set of three alternatives, (i) there must be some single generally agreed upon continuum of judgement along which the alternatives for choice can be assessed, *and* (ii) there is one alternative which everyone agrees is of intermediate value on that continuum.[14] Given (i) and (ii), this version of value restriction means that the intermediate alternative on the judgement continuum will be a 'not worst' alternative for every person in the community.[15] Further, if preferences do satisfy this form of value restriction, the final equilibrium choice under majority voting will be that alternative which is most preferred by the median voter, that is, the voter whose most preferred alternative is directly in the middle of the distribution of all voters' most preferred alternatives along the judgement continuum.[16] In Figure 2 the median voter is individual B; thus, alternative *y* would be the final majority choice.

However, this appears to be a very demanding value restriction requirement. The problem is that often there is no single judgement continuum along which all the alternatives for choice can be assessed. Most choice situations are multidimensional, with each of the alternatives being assessed by the individuals along various different judgement continua all at once. The general problem which this poses for majority voting, even when the attribute space is limited to only two dimensions, can easily be demonstrated with the help of Figure 3. (Variations of this diagram will also prove useful later in the analysis, when it is shown how the process of legal reasoning through adjudication avoids some of the difficulties posed by the majority voting paradox.)

In Figure 3, let the two axes represent the two judgement continua, or dimensions, along which the various alternatives for choice are assessed. Call these D_1 and D_2, respectively. Thus, the different alternatives, with their varying amounts of the two attributes D_1 and D_2, can be located at various points in this two-dimensional space. Each individual voter is assumed to have a most preferred alternative, or ideal point, in this two-dimensional space, an alternative which represents the best combination of the two attributes for that voter. For our committee of three individuals, represent the three ideal points as A, B, and C. Assume that each individual likes an alternative in the space of possibilities according to how close that alternative is to the individual's ideal point.[17] This means that through any point it will be possible to trace a circle, whose centre is the individual's ideal point, which links alternatives in the space between which the individual will be indifferent. Call this an indifference circle. Points inside this circle will be preferred by the individual to points on it, and points on it

[14] The term 'single-peakedness', together with the proof of its significance for avoiding the majority voting paradox, originates with Duncan Black, *The Theory of Committees and Elections* (Cambridge: Cambridge University Press, 1958). For good discussion, see Dennis Mueller, *Public Choice II* (Cambridge: Cambridge University Press, 1989) 63–5.

[15] One can see, conversely, that if all individual preferences do not satisfy the 'not worst' value restriction requirement, these preferences would not be single-peaked for everyone. On both sides of that worst alternative, there would be more preferred alternatives, which is to say there would be two preference peaks, one on each side.

[16] For exposition and proof of this 'median voter' result, see Black, above n.14, and Mueller, above n.14. Also see n.18.

[17] In the parlance of social and public choice, this amounts to assuming that individual preferences are Euclidean.

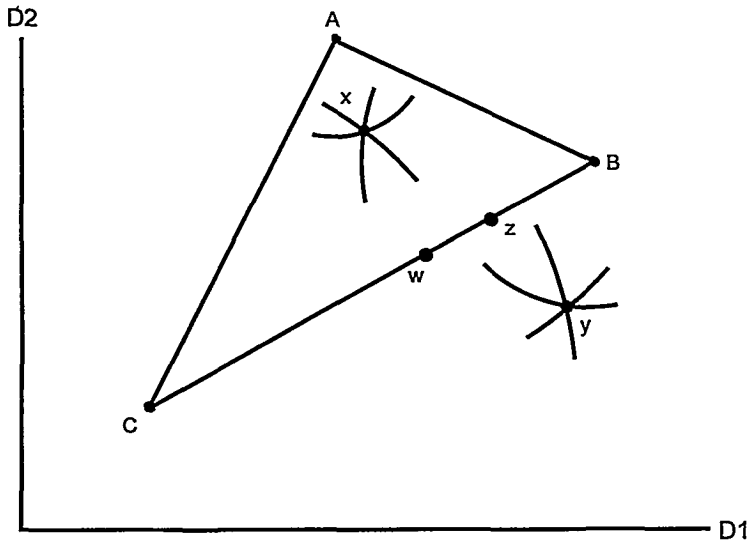

FIG. 3 The multidimensional case

will be preferred to points outside it. The points x and y in Figure 3 are just two of an infinite number of points where three of these indifference circles, one for each of A, B, and C, intersect.

The lines connecting the ideal points of the different individuals represent contract lines in the usual way. That is, the individuals whose ideal points are so connected would agree to move from a point off the line, where their indifference circles cross, to some mutually preferred point on the line where the circles are tangent to one another. Movements along the contract line, on the other hand, are movements about which the two individuals would have diametrically opposed views.

Now consider any point like y which lies outside the triangle ABC formed by connecting the ideal points of all three individuals. It will always be possible to move from y to some point like z, either on or inside the triangle ABC, which is unanimously preferred. This is because point z lies inside the indifference circles of all three individuals which intersect at y. Since this is generally true for any point outside the triangle ABC, but not true for any point on or inside the triangle, ABC is said to enclose the Pareto optimal set of alternatives within the policy space. Points outside the Pareto optimal set are obviously not stable policy choices under majority voting.

Now consider any point like x within the Pareto optimal set. Point x is also not a stable point under majority voting. This is because it is always possible to move from x to a point like w which is preferred by a majority of the committee,

in this case individuals B and C. Since this is generally true for any point within the Pareto optimal set formed by the triangle ABC, there is no point in the Pareto optimal set which is stable under majority voting. Thus, no point in the multidimensional policy space represented by Figure 3 is stable under majority voting given the three ideal points for voters A, B, and C.

Of course, it is possible, even within such a multidimensional policy space, to avoid this sort of pervasive instability. For example, if the three ideal points of the three voters A, B, and C just happened to fall along a straight line within the space, then there would be a stable policy choice under majority voting at the median ideal point on this line. But this is effectively to collapse the multidimensional policy space into some single dimensional attribute, here defined by the line ABC, with respect to which all voters are agreed the policy space is to be ordered, and then to go on and use the familiar median voter result which is applicable to such situations.[18] However, it seems much more likely that, in a multidimensional policy space, individual preferences would be such that the three ideal points would form a triangle rather than a straight line. And in this case the problem of instability under majority voting must again be faced.[19]

This analysis has shown that it may be difficult to achieve a preference-induced equilibrium for majority voting if the choice space is multidimensional. It seems natural to think that preferences in this space would be such that a majority voting paradox would be produced. We arrived at this result by beginning with the idea of single peaked preferences, a particular form of value restriction whose interpretation seemed to turn on there being a single dimension, or judgement continuum, which all voters were agreed provided a decisive reference ordering for the alternatives (e.g., more or less costly, or more or less 'left' or 'right' on the political spectrum). Thus, the tension between a multidimensional choice space and the single peakedness requirement, which we have also characterized as 'not worst' value restriction, seems to be particularly obvious. However, this analysis should also suggest that a multidimensional choice space is in conflict with the other forms of value restriction, such as 'not best' or 'not between' value restriction, even though these forms of the restriction may not seem so obviously to turn on the decisive significance of any single judgement continuum. After all, the multidimensional choice space shows how easy it is to generate the instability of the voting paradox, and a Latin square, inconsistent with any one of the different forms of value restriction, must be present if that voting paradox is to occur.

Nevertheless, there is an interpretation of 'not between' value restriction which

[18] For discussion, see Mueller, above n.14, at 63–66. In the 'multidimensional' case discussed in the text, the median ideal point dominates all other points in the policy space because (i) along with all points on the line ABC, it forms part of the Pareto optimal set, and (ii) amongst members of the Pareto optimal set, only it can command the support of a majority against movements away from it in either direction along the line ABC.

[19] Strictly speaking, there are further possibilities for stability, even in the multidimensional case, but they continue to be highly restrictive and, therefore, unlikely. See Charles R. Plott, 'A Notion of Equilibrium and Its Possibility Under Majority Rule' 57 *American Economic Review* 787 (1967). For discussion, see Mueller, above n.14, at 67–74; and Gerald S. Strom, *The Logic of Lawmaking* (Baltimore: Johns Hopkins Press, 1990) 65–66.

seems less demanding than the single peakedness interpretation of 'not worst' value restriction and, further, it is one which can usefully be brought to bear on a multidimensional policy space of the sort shown in Figure 3. Strictly speaking, however, this argument will require that we attend to the idea that a majority voting equilibrium can be structurally induced rather than merely preference induced. Moreover, I shall show over the next several sections of the paper that adjudicative procedures and legal reasoning are one attractive method for achieving such a structurally induced equilibrium.

4 *Choice Processes and Structure-induced Equilibrium*

In a sense, the notion of a structure-induced equilibrium has already been introduced through the idea of path dependence. Arrow, it will be recalled, was worried not so much about cyclical or unstable social choice as he was about the possibility, if social choice was not collectively rational, that the final outcome would be determined less by its intrinsic merits and more by an arbitrarily or strategically selected choice path. He imposed collective rationality as a requirement on social choice rules to avoid this sort of problem.

However, there is a difference between protecting a final social choice from some *ad hoc* dependence on an arbitrary or thoughtless choice path, and insulating social choice from any such process-based influences altogether. While the former is defensible in terms of rationality, the latter is overkill, and commits the rationality of social choice to a very partial sort of consequentialism, where only final outcomes, no matter how they are achieved, are what count.[20] It may be that if we are going to take choice paths or processes seriously, then the very notion of collective rationality, or the transitivity of the social preference relation, will have to be relaxed.

Of course, this means that final social choices will be path dependent, but it will not be the sort of arbitrary or thoughtless path dependence which so concerned Arrow in his original work. Indeed, I shall now argue that some legal choice paths or processes are so permeated by thought, or the obligation to give reasons, that they make some things hard to do. Again, the point is that some things are more easily done than said. In the problematic context of social choice and majority voting paradoxes, where the rush to do things according to our preferences means only that social choice is cyclical and unstable, this may be a very good thing.

[20] This might seem like an odd claim, since so much of social choice theory seems to be concerned with the conditions or axioms which it is reasonable to require of a social choice rule, that is, the *process* for choosing alternatives. This is true, of course, but a close examination of the conditions reveals that they are typically conditions which work on the space of final outcomes and, further, that the conditions are related to one another through a collective rationality or transitivity condition which renders the choice path through the alternatives completely irrelevant. For argument that this makes social choice theory a great deal less general than its practitioners claim, see Bruce Chapman, 'The Rational and the Reasonable: Social Choice Theory and Adjudication' 61 *University of Chicago Law Review* 41 (1994), and the references cited there at n. 62.

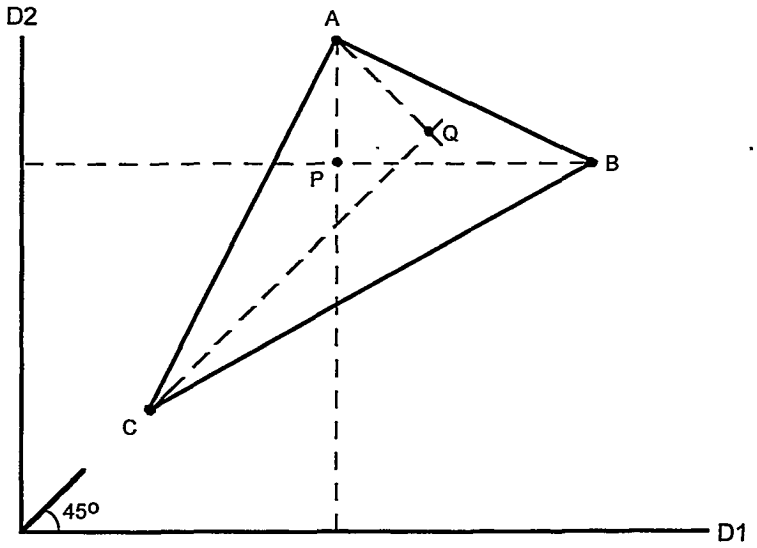

FIG. 4 Issue-by-issue voting

A. *Issue-By-Issue Voting*

One way structurally to induce a majority voting equilibrium which has been discussed in the social choice literature is issue-by-issue voting. Consider again, for example, the multidimensional choice problem represented by Figure 3. Our earlier analysis showed that there would be a problem of unstable majoritarian choice here if the committee of three voters had ideal points which formed a triangle like ABC in the figure. The reason was that for any majoritarian policy choice in the figure, it would always be possible for a new majority to form and to propose moving to a new point. However, suppose that some movements in certain directions within the policy space were not possible. Then, it is much more likely that some of the policy choices will be stable. This is what is accomplished when a legislature adopts issue-by-issue voting.

Essentially, issue-by-issue voting controls for the problems presented by a multidimensional policy space by limiting voting to one issue or dimension at a time. The effect of doing so, given certain assumptions,[21] is that the policy option defined by the intersection of lines through the median voter's ideal point in each dimension is the final majoritarian choice. Thus, in Figure 4, which reproduces the triangle in Figure 3 with these median voter lines added, point P is the final choice. Now point P would not be stable without issue-by-issue

[21] The most important assumption is that preferences are separable in the two dimensions. More will be said about this below, text at notes 38 and 39.

voting, since a move in either a north–west, north–east, or south–east direction (i.e., moves in which simultaneous changes on both dimensions are involved) would be sufficient to attract support by a majority of the committee. However, such moves are not possible under issue-by-issue voting which only permits moves in either a pure east–west or pure north–south direction. But moves in either of these restricted directions do not attract majority support. Thus, point P is stable as a final majoritarian policy choice.

It should be noted that the final choice of P as the majoritarian outcome under issue-by-issue voting is affected neither by the particular point in the space of alternatives from which the voting begins, nor by the order in which the committee considers the two issues.[22] In these respects, therefore, the outcome is process independent. However, it is not path, or partition, independent in Arrow's sense. Suppose, for example, that the issues were not oriented as they are in Figure 4, namely, around the horizontal and vertical axes, but were instead oriented at right angles around the 45° (north–east) ray from the origin of these axes. Then the intersection of the two lines running through the median voter's ideal point in each dimension would be at point Q in the policy space, a point generally different from point P. In this respect, therefore, the final outcome is path, or partition, dependent.

Does this not mean that we have simply exchanged one form of political conflict for another? Where once the different voting coalitions faced each other over the space of alternatives, and confronted the possibilities there of cycles and strategic manipulations of the agenda, now they will see that the orientation of issues will determine the final result under path-dependent voting, and so they will simply turn their attention to that. Or so the argument might go.

However, this ignores the fact that it may be harder to articulate some choice paths, or partitions of the alternatives, into a sensible set of issues than others. Thus, a self-conscious use of path dependence may discipline the possibilities of movement in the choice space in a way that Arrow's more arbitrary notion of path dependence does not. This is particularly likely to be true if the choice path, or the partitioning of alternatives within the choice space into issues, has to be justified, either *ex ante* or *ex post*, by a set of publicly articulated reasons. The obligation to give reasons for a proposed move within the space of alternatives can expose some such moves as less sensible (although, perhaps, no less preferred) than others. This, surely, can make these moves a great deal harder to accomplish. Moreover, the result can be more stability in social choice than there would be if such reasons did not have to be provided at all. This, I now want to suggest, is an insight which social choice theory could do well to borrow from law and legal reasoning.

[22] See Strom, above n.19, at 100. The latter conclusion depends upon individual preferences being additively separable in the two dimensions. On this, see below, text at nn.35–39. If preferences are separable in this way, the final outcome will also not be affected by the possibility that voters might try to vote strategically, rather than sincerely, this because there is no advantage to voting strategically in such a case. This last conclusion depends on a kind of backward induction argument, where sincerity on the last issue to be voted on induces a like-minded sincerity throughout the voting process.

JUDGES:

A	B	C
I	G_S	G_L
G_S	G_L	I
G_L	I	G_S

FIG. 5 Judicial preferences for outcomes in the criminal trial

B. *The Example of a Criminal Trial*

Consider the case of a criminal trial where there are two salient issues to be determined, namely, the verdict and the sentence.[23] Suppose that there is a panel of three judges who will decide both issues. The possible outcomes are three, namely, that the accused will be found innocent (outcome I), that the accused will be found guilty and receive a severe sentence (outcome G_S) and, finally, that the accused will be found guilty and receive a lenient sentence (outcome G_L). Suppose that the three judges have the following preferences, shown in Figure 5, for these three outcomes. Judge A thinks that the accused did not commit the crime, but if he did the judge feels that he should receive a severe rather than a lenient sentence as an appropriate punishment for it. Thus, judge A prefers I to G_S to G_L. Judge B, on the other hand, thinks that the accused did commit the crime and agrees with judge A that the accused should receive a severe sentence as the appropriate punishment for it. Thus, judge B prefers G_S to G_L to I. What about judge C? She is in some doubt about whether the accused actually committed the crime; thus, she is reluctant to impose a severe sentence. On the other hand, given her doubts about the matter, she is also reluctant to let the accused off completely. Thus, she prefers G_L to I to G_S.

It should be obvious that this particular preference profile across these three judges reproduces a Latin square. Thus, without some structurally induced equilibrium, there is a real risk of a majority voting cycle here. However, it is also clear that legal procedure breaks down the possible outcomes into issues involving verdict and sentence. Leaving aside for the moment the important question of which of these two issues should be decided first, it is important to

[23] The example of a criminal trial, and the contrast which it presents for other social choice processes, is discussed in Gerald Kramer, 'Some Procedural Aspects of Majority Rule' in J. Chapman and J. Pennock, eds. *Due Process* (New York: New York University Press, 1977). For discussion of Kramer's analysis, some of which anticipates the discussion provided here, see Bruce Chapman, 'Rational Environmental Choice: Lessons for Economics from Law and Ethics' 6 *Canadian Journal of Law and Jurisprudence* 63, (1993) 80–5.

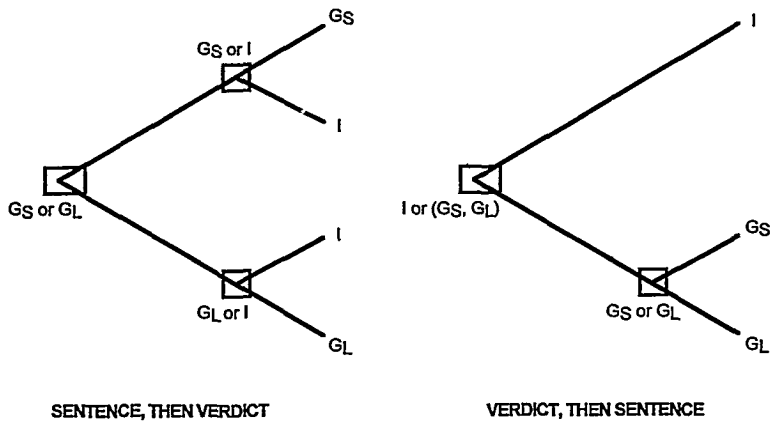

FIG. 6 Two alternative criminal processes

note that the mere presence of these as the salient issues of the case has the effect of limiting the possible partitions of alternatives.

For example, if the issues were decided 'sentence first, verdict afterwards',[24] then the first choice partition would be (G_S, G_L), with the winner in this contest to go on to compete with outcome I in the final verdict-determining round. But it is not the case that both G_S and G_L would be compared with I under such a procedure. In decision tree form, this procedure could be represented by Figure 6 (left).

On the other hand, if the procedure was 'verdict first, sentence afterwards', then the verdict issue would be represented as a choice between the bracketed or partitioned terms (G_S, G_L) and (I). Then, if the verdict was for guilty, the judges would go on to determine the sentence by choosing over the pair (G_S, G_L). Again, in decision tree form, this particular procedure could be represented by Figure 6 (right).

More needs to be said about which one of these two criminal trial procedures might be preferable, but the first thing to notice is how much easier it is to talk about, or even, perhaps, to conceive of, these two procedures than it is certain alternative choice sequences. For example, one could imagine, as a variation on the Figure 6 (left) procedure, first choosing between G_L and I, and then going on to choose between the winner of that contest and the remaining alternative G_S. (Indeed, according to Arrow's notion of path independence, the outcome from this variation should be the same as that under Figure 6, left.) But such a procedure, while easy enough to lay out in such abstract form, is very hard to articulate in context. What issue in a criminal trial is represented by the pair

[24] This is, of course, how the Queen would have had it at Alice's trial; see Lewis Carroll, *Alice in Wonderland* (D. Gray ed. 1971) 96.

(G_L, I)? What legal category does such a partitioning of the alternatives represent? The same puzzled questions would attach themselves to a choice sequence which, as a variation on Figure 6 (right), embedded this pair as one of the bracketed alternatives in the first step of that two-step process. The general point here is that some partitions of the alternatives just seem to make more sense or, at least, are easier to talk about than others. This also makes it easier for us to understand, and be disposed towards, the choice sequences which make use of such partitions.

This still leaves open which of the two sensible procedures should be chosen. ('Sensible' here refers to those procedures which are easily accommodated within, or articulated by, the language and concepts we share.) Should it be 'sentence first, verdict afterwards', or 'verdict first, sentence afterwards'? Both procedures appear to impose the same issues, or concepts, upon the choice space. However, there is an important advantage in the latter procedure, and it is one which brings us back, at last, to the idea of value restriction.

Recall that one of the forms of value restriction sufficient for avoiding the majority voting paradox was 'not between' value restriction. That is, where all voters are agreed that one of the three alternatives in any triple is either better or worse than (i.e., not between) the other two, a voting paradox cannot occur. Now consider the difference between the two criminal trial procedures. The procedure which resolves the verdict issue first, and then goes on to consider the sentence, asks each judge to choose first between alternative I and the pair (G_S, G_L). This is an easy choice for judges A and B because their preferences satisfy 'not between' value restriction with respect to alternative I. Alternative I has a certain kind of salience for them. Judge A can unambiguously choose to find the accused innocent, regardless of what the sentence might be (i.e., can choose I over either G_S or G_L), and judge B can just as easily choose to find him guilty (i.e., can choose either G_S or G_L over I). These two judges may disagree vehemently about whether the accused should be found guilty, but at least they agree that this *is* the primary issue which divides them.

Judge C, on the other hand, sees the issues quite differently. Because she puts alternative I *between* G_L and G_S, she has some difficulty with the initial choice of verdict. For her a guilty verdict is attractive only if the sentence is lenient, not severe.[25] Unlike for her colleagues, for judge C it appears that the sentence is a more salient issue than the verdict.[26] But she will have to decide the verdict before the matter of sentencing is resolved, something which presents her with a dilemma.

Judge C might wonder why she in particular has to be burdened this way. But now we are in a position to give her an answer. Under a 'not between' value

[25] Technically, her preferences are not (additively) separable in the two dimensions. On this, see below text following n.27. As we shall see, the effect of imposing 'not between' value restriction with respect to alternative I in the criminal trial is to require her to choose as if her preferences were (additively) separable.

[26] We can see this once we recognize that judge C, by putting alternative I between alternatives G_L and G_S, shows that she thinks there is more at stake in choosing between the sentencing alternatives than there is in choosing between any one of these alternatives and alternative I.

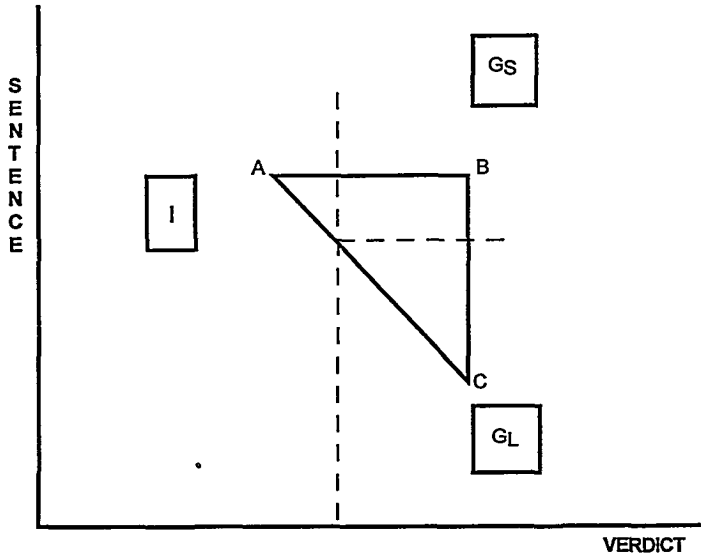

FIG. 7 Multidimensional criminal process

restriction requirement, *someone* may have to be burdened with the fact that his or her preferences may not satisfy the restriction. That is the consequence of trying to avoid the majority voting paradox, and all that goes with it, by way of preference restrictions. Moreover, this also explains why the procedure 'sentence first, verdict afterwards' is inferior. This procedure, unlike the one which puts the verdict first, does not impose a 'not between' value restriction requirement on anyone. Under the sentence first procedure, each judge continues to have the same opportunity to express his or her original 'unpartitioned' (pairwise) preferences over the choice space. In other words, individual judges are not made to reveal any real commitment through their preferences to the salient criminal law issues of verdict and sentencing.

The only real question, therefore, is on whom the burden of value restriction should fall. Should the 'not between' obligation single out alternative I, thereby burdening judge C, or should it single out alternative G_L or alternative G_S, burdening judges B and A, respectively? But this last question has already been answered, at least if one is prepared to concede that some partitions within the space of alternatives make more sense than others. It is this idea which prevents the sensible bundling of alternative I with either alternative G_L or G_S. Thus, it is alternative I which must be singled out as either better or worse than the other two. Judge C, therefore, must be the one who is burdened.[27]

Figure 7 demonstrates the effect of the verdict first procedure in a way which

[27] A different partitioning of the alternatives, one which burdens judge A, is considered below; see text at n.36.

allows the connection to earlier arguments to be more easily seen. In Figure 7 the choice space has been divided by the dotted lines into three different areas. The area to the left of the vertical dotted line represents innocent verdicts in the criminal law trial. The area to the right shows guilty verdicts. Within this right-hand space, the area above the dotted horizontal line represents severe sentences, the area below lenient ones. The different ideal points of our three judges are represented at the three corresponding points A, B, and C. Second place preferences are indicated by the proximity of the ideal points to neighbouring areas. For example, the fact the judge C ranks alternative I second and alternative G_S third is indicated by the location of her ideal point being closer to area I than to the area G_S.

Contract curves can be drawn in between the various ideal points in Figure 7 to form a triangle just as was done in Figures 3 and 4. However, the effect of the different criminal law procedures is to restrict the sorts of coalitions which can form in this choice space and, therefore, to restrict the possibilities of cycling. Under sentence first, verdict afterwards, for example, the coalition between judges A and B can form to choose G_S over G_L, and the coalition between judges A and C can form to choose I over G_S. But the partition (G_L, I) is not available under this sequence and so the coalition between judges B and C cannot form. This is stabilizing for majoritarian choice. Moreover, it is stabilizing in a non-arbitrary way; the result, while path dependent, reflects a sensible partitioning of the alternatives into recognizable legal issues.

Nevertheless, there is still the worry that this procedure, which puts the sentence before the verdict, does not require the judges to show any real commitment in their preferences to the salience of these issues for the trial. As already indicated, judge C, whose preferences are not organized around (or separable in) these issues, is no more burdened by this criminal law procedure than judges A and B whose preferences are separable in a way that reflects a genuine commitment to the issues. Moreover, we can see this difference in Figure 7. Judges A and B can move up their respective preference orderings without doing any conceptual violence to the salient issues of verdict determination and sentencing which order the space of outcomes around the horizontal and vertical axes, that is, in east–west and north–south directions. For example, judge A could move in order of preference from area G_L to area G_S in a due north direction, and then from area G_S to area I in a due west direction. With equal ease judge B could move from area I due east to area G_L, and then due north to area G_S. But judge C cannot move from area G_S to area I in a pure west direction without having to move thereafter in a *south–east* direction to area G_L. This combination of moves graphically reveals her lack of commitment to the issue space.

The verdict first, sentence afterwards procedure imposes this sort of issue-based separability upon all the judges. That is, it forces them to take these issues seriously in their preferences. In terms of Figure 7, the first step verdict determination requires all the judges to consider an east–west movement. Then,

if an eastward movement is chosen (the verdict is guilty), the procedure asks them next to consider a movement in a north–south direction (the sentencing). These are both movements which judges A and B can be clear about, even though they have diametrically opposed views on the appropriate direction to be taken in the first step of the procedure. Judge C, on the other hand, must first resolve her south-east orientation in either a pure east–west or pure north–south way before she can take part in the two-step procedure. That is the effect, in graphical form, of burdening her with 'not between' value restriction. Moreover, how she resolves to orient herself in the issue space will determine which of the other two judges she chooses to vote with in the first step of the two-step procedure. In either event, however, the final result will be a non-arbitrary, path-dependent result where the judges are also asked to show some commitment to the non-arbitrariness of the choice path in the way they shape their preferences.

The example of the criminal trial shows, therefore, how salient legal issues, addressed in a certain sequence, can bring order to a social choice problem so that some of the difficulties of the majority voting paradox might be avoided. In the next section of this paper it will be shown, as a more general matter, that legal reasons, also organized around salient legal issues, can have the same effect. However, before turning to that discussion, it is worthwhile pausing to make one more connection between the idea of value restriction and the two criminal law procedures which have been discussed here.

These two procedures, it will be recalled, are represented in Figure 6 (left and right). These figures show the two procedures to be structurally different in a way that turns out to be quite significant for majoritarian choice. Specifically, in Figure 6 (left) there are two paths by which one can reach alternative I as a final outcome. In Figure 6 (right), on the other hand, there is only one path to reach any of the alternatives as final outcomes. Thus, if one were (somehow) to transpose the choice procedure represented by Figure 6 (left) into the outcome space represented in Figures 3 and 4, then the decision tree in Figure 6 (left) would have to become less 'tree-like'. This is because there would now be a closed circuit beginning with some *status quo*, going through either outcome G_L or G_S on separate branches, and terminating in the common outcome I, as if two branches of the tree had somehow grown together again. Figure 6 (right), on the other hand, would not transpose into such a closed circuit.

This is a significant difference for majoritarian choice because 'arboricity' is another one of the possible forms of value restriction which is sometimes discussed in the literature.[28] Arboricity, as the name suggests, is the requirement that individuals order alternatives in the choice space according to how far they are from some ideal point as measured by the distance *along the path traced out*

[28] See Arrow and Raynaud, above n.6, at 38–40. Arrow and Raynaud credit originality for the condition of arboricity to David Romero, *Variations sur L'Effet Condorcet* (Thesis of the 3rd Cycle, Université Scientifique et Médicale de Grenoble, 1978). They limit its applicability to determining the optimal location of a public utility within a tree-like network, given the orderings provided by different criteria for different locations. The discussion provided in the text of this paper suggests a quite different application of the idea.

by a common tree. A tree is defined as a graph without a closed circuit. Thus, the arboricity condition effectively requires that individual preferences be ordered (by distance) around the sort of decision tree shown in Figure 6 (right) but not Figure 6 (left).[29] There are, in other words, to be no short circuits. This is another way to appreciate the significance for majoritarian choice of putting the verdict before the sentence in criminal law procedure.

Of course, simply requiring a decision tree without closed circuits does not by itself impose any real discipline on preferences. An individual whose preferences do not satisfy the arboricity condition, and who is concerned only about preference satisfaction, can simply reach along the decision tree to grasp alternatives in order of preference. But suppose this individual had to provide publicly available (and comprehensible) reasons for the choices she made at various nodes of the tree. She might have to do this to justify her behaviour, or perhaps to convince some other individuals to join with her so that she can make her way through the choice space as part of a politically decisive coalition. If the decision tree has the effect of making certain reasons available in a way that other reasons are not, then the decision tree, combined with the obligation to provide such reasons, could privilege certain movements within the choice space and prevent others altogether. In social choice or majoritarian voting, where the problem appears to be an excess of decision-making to the point of cycling, this sort of restriction on movements in the choice space may well be advantageous. In the next section it will be argued that the obligation to provide reasons in law can have just this sort of beneficial effect.

5 *Reasons, Legal Issues, and Structure-induced Equilibrium*

A. *The Contract Paradox*

Suppose again, as in Figure 8, that there is a panel of three judges.[30] This time they are considering whether the defendant has breached her contract with the plaintiff. Judge A's view is that there is a contract, but that the defendant's

[29] The rational choice theorist is wont to object at this point that if the path to an outcome really matters, then outcomes reached by different choice paths should be treated as different outcomes. This would prevent closure of the circuit when Figure 6 is transposed into the outcome space. The difficulty with this strategy is that it renders empty the very rationality conditions which helped us define the problem of a voting cycle in the first place. An outcome revisited after a cycle is no longer the same outcome. For a summary and critique of various versions of this self-serving, but ultimately empirically empty, strategy in rational choice theory, see Susan Hurley, *Natural Reasons* 55–83 (Oxford University Press, 1989). Also, for excellent discussion of the rational choice theorist's strategy, as well as a way to limit some of its arbitrariness, see John Broome, *Weighing Goods* (Oxford: Blackwell 1991) 100–07.

[30] The following example shows a version of what Lewis Kornhauser has called 'the doctrinal paradox'; see Lewis Kornhauser, 'Modeling Collegial Courts. II. Legal Doctrine' 8 *Journal of Law, Economics, & Organization* 441 (1992). It seems to have first surfaced, without a name and for very brief discussion, in Lewis Kornhauser and Lawrence G. Sager, 'Unpacking the Court' 96 *Yale Law Journal* 82, 114–15 (1986). More recently these two authors have returned to the problem in Lewis Kornhauser and Lawrence G. Sager, 'The One and the Many: Adjudication in Collegial Courts' 81 *California Law Review* 1 (1993). For further discussion of it, see the papers by John Rogers, David Post and Steven Salop, and Maxwell Stearns in 'Colloqium: Appellate Voting Rules' 49 *Vanderbilt Law Review* 993–1085 (1996).

	IS THERE A CONTRACT?	WAS THE CONTRACT BREACHED?	IS THE DEFENDANT LIABLE?
JUDGE A	YES	NO	NO
JUDGE B	NO	YES	NO
JUDGE C	YES	YES	YES
MAJORITY:	YES [2:1]	YES [2:1]	NO [2:1]

FIG. 8 The contract paradox

behaviour does not amount to a breach of it. Accordingly, he holds in favour of the defendant. Judge B believes that the defendant's behaviour would amount to a breach if there was a contract. However, he believes that there is no such contract in this case. Therefore, he too holds in favour of the defendant. Judge C believes both that there is a contract and that the defendant has breached it. Therefore, she holds in favour of the plaintiff. By a majority vote of two to one, the defendant prevails.

The interesting question here is *why* the majority thinks the defendant should prevail. It is not because there is majority agreement that there is no contract in this case. On the contrary, a majority of the court has found that there is a contract. Nor can it be the majority view that the contract was not breached in this case. Again, the majority view here is that there has been a breach. Moreover, let us assume that these are the only salient issues in the case. Thus, a majority of the court thinks both that there has been a contract and that it has been breached. Yet the court votes in favour of the defendant.

There is, surely, some kind of majority voting paradox here, although it is not exactly analogous to those which have been discussed earlier. There is no real temptation, for example, for a majority of judges in this case to reconsider their final choice in light of some previously rejected alternative, that is, there is no temptation to cycle. The majority is perfectly content with its final choice, and there does not seem to be some other majority which might form to upset that choice. Only a minority of the court thinks that the plaintiff should win.

Yet, just as in the earlier discussed voting paradoxes, there are three different majorities here which seem not to hold a fully consistent set of views. There is a majority who thinks there is a contract and, further, a majority who thinks that the defendant's behaviour amounts to a breach of that contract. Yet these two majorities on the only salient issues of the case do not add up to a majority

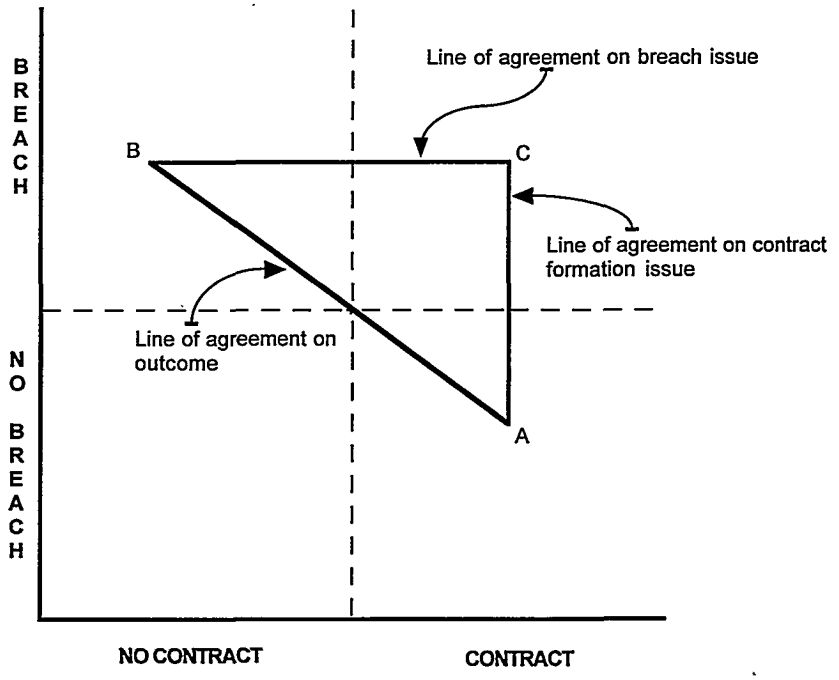

FIG. 9 Multidimensional contracting

result for the plaintiff. That looks like an inconsistency. Some refer to it as 'the doctrinal paradox'.[31]

Moreover, we can represent these three different majorities in a diagram which is very similar to our earlier Figures 3, 4 and 7. In Figure 9, for example, the contract existence issue is represented by the horizontal axis with the threshold between 'contract' and 'no contract' indicated by a dotted vertical line. Likewise, the issue of contract breach is represented by the vertical axis, with the dotted horizontal line indicating the difference between the 'breach' and 'no breach' categories. These dotted lines serve to partition the choice space into quadrants. Judge A's ideal point is located in the south-east quadrant, judge B's in the north-west quadrant, and judge C's in the north-east quadrant. Represent these different ideal points as A, B, and C, respectively. Then, the majority agreement between judges A and C that there is a contract can be represented by the contract line AC connecting their two ideal points. Movements along this line, of course, are movements concerning the breach issue about which these two

[31] See Kornhauser, above n.30, and Kornhauser and Sager, *supra* n.30. Kornhauser shows (at 453–4) that the doctrinal paradox is not in general equivalent to the majority voting paradox. The discussion in the text of this paper, which relates the two, is not meant to deny this. Rather, the argument is only that the resolution of the doctrinal paradox in law and legal reasoning may point the way for social choice theorists to control for the majority voting paradox as well.

have opposing views. A similar contract line BC, representing majority agreement between judges B and C on the issue of breach, has also been drawn in. Finally, the agreement between judges A and B as to the appropriate result in the case can be represented by a line AB. Thus, we can use the three different contract lines for the three different majorities to enclose a triangle within the choice space, just as was done for Figures 3, 4 and 7.

However, it must be recognized that the choice space in Figure 9 is different from that shown in Figures 3, 4 and 7 in one important respect. Movements in the Figure 9 choice space represent resolutions of particular issues rather than choices of outcomes. For example, the majority coalition of judges B and C, while decisive in favour of the plaintiff on the one issue of breach, is not sufficiently decisive for a final outcome or judgement favouring the plaintiff. For that result the existence of a contract must also be shown. Equally, the majority coalition of judges A and C, while decisive for the plaintiff on the contract existence issue, is not sufficiently decisive for a judgement in favour of the plaintiff without there also being a showing of breach. Thus, these particular majority coalitions are not destabilizing in the space of actual outcomes in the way that cyclical majorities typically are. The only majority coalition which is decisive in the space of actual outcomes is that which unites judges A and B.

However, Figure 9, focused as it is on the issues, does force us to question the basis for the agreement between judges A and B. By assumption, there are only two legal issues in the case, and the two judges have completely opposite views on each issue. In such circumstances it seems inaccurate to say that there really is a majority agreement between these two judges on any matter of law. Certainly, it would be a challenge for this majority to articulate any common legal view. Nor is the deficiency merely that which separates a plurality from a majority view. On the contrary, there *is* a majority view on both of the relevant issues before the court in this case. Moreover, as we have already seen, judges A and B each form an essential part of these other majorities, and together these majorities add up to a judgment in favour of the plaintiff.

Suppose that the court adopted issue-by-issue voting. Then the two issues would be resolved in favour of the plaintiff, and the plaintiff would emerge the winner. But would such an outcome be stable? It seems not, since judges A and B would rather have it otherwise. But if these two judges had to support their choice of outcome with reasons, that is, if they had to work within the issues of contract rather than just with their shared preference for an outcome, then their majority coalition seems very unlikely to form. The obligation to provide reasons commits them to moving in either an east–west or north–south direction in the Figure 9 issue space. But these are movements which, far from uniting judge A and B to each other, unite each of them (in different ways) with judge C. It is as if in Figure 9 the triangle cannot be closed between points A and B. Or, in the language which recalls the arboricity condition, it is as if there are no short circuits. One can only move from A to B through C, but C represents the ideal point of a median voter (in a two-dimensional space) who will resist any such

moves away from C. Thus, in this way the obligation to provide reasons can be stabilizing for majoritarian choice.

It might be objected, however, that the coalition of judges A and B secures a result which is just as stable in the space of final outcomes as the ideal point C is in the space of issues. Moreover, it might be said that there is no more path or partition dependence in one of these results than in the other. It all depends upon *which* majority coalitions are allowed to form around *which* partitions of the alternatives. However, a slightly different legal example shows that this is not generally true. In the following section, it will be shown that an issue-by-issue or reason-based resolution of a case both secures more stability and is less arbitrarily path dependent than an outcome-based resolution of the case which is not backed up with reasons or does not show the same sensitivity to the issues.

B. *The Jurisdiction Paradox*

It is common to illustrate the doctrinal paradox with the US Supreme Court case *National Mutual Insurance* v *Tidewater Transfer Co.*[32] In this case the Court approved the extension of the diversity jurisdiction to the citizens of the District of Columbia, despite the fact that both of the rationales for that result were emphatically rejected by substantial majorities of the justices. A minority of three justices held the somewhat controversial view that in some circumstances Congress may give an Article III court jurisdiction outside the bounds of Article III. A majority of the Court rejected this view. Another minority of two justices held that the word 'State' in Article III could be read to include the District of Columbia. This view was also rejected by the majority of justices. Nevertheless, because the extension of the diversity jurisdiction could be grounded in either of these two views, the two minorities on the Court were, in the result, sufficient in combination to provide a 5 to 4 vote in favour of extending the jurisdiction.[33] This paradoxical result is illustrated in Figure 10.

The incoherence in this case between the majority result and the majority reasoning which leads away from this result is as troubling as it was in the contract hypothetical discussed above. However, because each of the legal issues here is a separate cause of action which, if successful, could ground its own legal outcome, there is a greater potential here than in the contracts case that there will be actual instability and path dependence over outcomes if the incoherence

[32] 337 U.S. 582 (1949).

[33] Justice Frankfurter pointed to the doctrinal paradox embedded in this result in the final paragraph of his dissent in *Tidewater*, above n.32, at 655:

> A substantial majority of the Court agrees that each of the two grounds urged in support of the attempt by Congress to extend diversity jurisdiction to cases involving citizens of the District of Columbia must be rejected—but not the same majority. And so, conflicting minorities in combination bring to pass a result—paradoxical as it may appear—which differing majorities of the Court find insupportable.

	IS THERE J1?	IS THERE J2?	IS THERE J*?
JUDGES A [x 2]	YES	NO	YES
JUDGES B [x 3]	NO	YES	YES
JUDGES C [x 4]	NO	NO	NO
MAJORITY:	NO [7:2]	NO [6:3]	YES [5:4]

where: J1 is the first possibility for jurisdiction;

J2 is the second possibility for jurisdiction;

and J* is the possibility for jurisdiction, all things considered.

FIG. 10 The jurisdiction paradox

remains unresolved.[34] In particular, a party who argues for an extension of the diversity jurisdiction in some subsequent case based only on *one* of the two possible causes of action considered in *Tidewater* should now lose. After all the reasoning in *Tidewater* provides sufficient support for such a result. On the other hand, if this party were to raise the second possible cause of action as an issue, then the case would be on all fours with *Tidewater* and, presumably, the case would now be decided like that earlier case, that is, in favour of the party. One might reasonably wonder why adding a plausible but ultimately flawed second legal argument should enhance the first party's prospects of winning a favourable result in this way, particularly when such a result cuts against all the available legal arguments provided by the opposite party. Moreover, if this first party had had the misfortune of having her case heard before *Tidewater* was decided, then there is every reason to think that the flawed second argument would not have been raised at all and that the second party would have won the case. This would exemplify the arbitrarily path-dependent potential of *Tidewater*.

Moreover, there is a second kind of arbitrariness in a case like *Tidewater* when

[34] The difference between the contracts case and *Tidewater* also suggests why the doctrinal paradox may be more common than casual observation would suggest. In cases like *Tidewater*, a court must address each of the individually sufficient causes of action to dispose of the case. This makes it more likely (although not essential) that each judge will reach each issue and that the doctrinal paradox might show itself. In the contracts hypothetical, on the other hand, a judge might just advance a view on one of the issues sufficient to dispose of the case in favour of the defendant (e.g., that there is no contract) and not reach the other issue (e.g., that the contract was breached). In such a situation, the doctrinal paradox would not show itself, although in the best judgment of the majority of the court it might still be that the plaintiff should win on the issues.

the result of the case is not coherent with its reasoning. Whether a party wins the case depends, as we have seen, not so much on whether the party can carry a majority of the court on each legal issue, but rather on how each judge votes across the issues towards an outcome. If the judges who are in the minority on each of the two issues happen to be the same judges, then a doctrinal paradox will not occur. A party who loses on the issues will also lose on the outcome. On the other hand, if the judges who are in a minority on one of the issues do not overlap (or do not overlap sufficiently) with the judges who are in a minority on the other issue, as was the case in *Tidewater*, then the doctrinal paradox can occur and the party might win on the outcome despite having lost on the issues. This difference in the outcome between two parties, where the parties are equally unsupported by the court on the issues, but where the identity of the individual judges providing this lack of majority level support happens to vary, will strike some as arbitrary and unfair. Under issue-by-issue voting, since both parties would equally lose on the issues presented, such unfairness would be avoided. The identity of judges across the different issues is inconsequential.

6 *The Importance of Defeasibility*

A. *Defeasible Rules Across Cases*

It might be argued in reply to the last point that the identity of judges, or how they vote, across different issues should not be thought inconsequential. Indeed, it might be thought that a judge, quite properly, might change her vote on the second issue depending on how the first issue was resolved.[35] Such a judge would be indicating that her preferences were not separable in the issues in the way that 'not between' value restriction requires. Judge C in the case of the criminal trial, illustrated in Figure 5, has already provided us with an example. Her preferences were different from those of judges A and B in the example. Where the latter two judges could decide the verdict issue independent of sentencing, judge C's resolution of the verdict depended on what the sentence might be.

It was argued earlier that issue separability, or not between value restriction, might have to be imposed on someone if we wanted to be sure of avoiding the majority voting paradox. Further, it was argued that a sensible breakdown of the issues, one which carved up the criminal law trial in a recognizable way, and which had the effect of imposing this separability on the judges' preferences, would have the judges decide the verdict and then the sentence. Thus, the

[35] This is to be contrasted with the idea of changing one's vote on the *outcome* depending on how the first issue is resolved. This is what happened in the two Supreme Court cases, *Pennsylvania* v. *Union Gas Co.* 491 U.S. 1 (1989) and *Arizona* v. *Fulminante* 111 S. Ct. 1246 (1991), where Justices White and Kennedy respectively each voted, out of deference to the Court's majority view on one issue, against his substantive view of the case. These votes have attracted both critical and supportive comment. For criticism, see John M. Rogers, '"I Vote This Way Because I'm Wrong": The Supreme Court Justice as Epimenides' 49 *Kentucky Law Journal* 439 (1990–91); for support, see David Post and Steven C. Salop, 'Rowing Against the Tidewater: A Theory of Voting by Multijudge Panels' 80 *Georgetown Law Journal* 743 (1992).

argument was that judge C had to be burdened with a value restriction, or separability requirement, that separated out alternative I.

However, it must now be recognized that the breakdown of the choice space into these issues may not have been so sensible or obvious after all. Suppose, for example, that a majority of the court in the criminal law case began to see the issues as judge C does, that is, as indicating the issue of sentencing as more important than the verdict itself. One could easily imagine such a scenario. Suppose, for example, that the alternative G_S represented capital punishment for the accused.[36] Then, judges B and C might define the most salient issue between them, with judge B supporting the severe punishment, and judge C being unambiguously opposed to it, but neither putting this alternative between the other two. In such circumstances one could certainly imagine carving up the issue space so that the procedure was first to decide on capital punishment (G_S), or not (G_L, I), and then going on, if necessary, to resolve the choice over the pair.[37] Such a procedure or partitioning of the alternatives, rather than burdening judge C as before, would burden judge A with 'not between' value restriction on G_S.

Moreover, the possibilities for this sort of reconsideration of the issues are quite general. In the contracts case, for example, it may be that a judge will operate with a broad understanding of contract formation so long as his colleagues on the bench support him with a narrow understanding of contract breach. However, if the other members of the court do not support his narrow understanding of breach, then he might be tempted to narrow his own views on the facts necessary to support contract formation.[38] Indeed, one might even predict that such a judge would vote strategically on the issue of contract formation, finding that there is no contract (although he thought there was) because he was concerned that a majority of his colleagues would find a breach.[39]

Would such a judge be behaving inappropriately? At first glance it seems that he is, since his best judgment on the salient legal issues supports the finding of a contract and, presumably, it is his best judgment on that issue which we want him to give. Moreover, we might still think that the obligation to give reasons on these different issues will discipline him sufficiently (or, at least, somewhat) to vote sincerely rather than strategically. After all, it will surely be harder for him to argue for a position that he thinks is false than one he thinks is true.

But, again, the problem may not be one of strategic manipulation of the issues

[36] For analysis of the issue of capital punishment as the salient one for jury members, and for the consequent tendency of such jury members to vote strategically around the verdict issue, see Edward P. Schwartz and Warren F. Schwartz, 'Deciding Who Decides Who Dies: Capital Punishment as a Social Choice Problem' 1 *Legal Theory* 113 (1995).

[37] To be able to choose G_S directly makes it sound like the procedure allows for a sentence of capital punishment without ever having to consider the verdict, as if, for example, the choice procedure made lynching the salient issue. A more plausible interpretation would see the choice of G_S as finding the accused guilty of a capital crime, i.e., a crime for which there is no further choice to be made about the punishment. The choice of the pair (G_L, I) would involve choosing to determine the accused's guilt on a non-capital crime.

[38] See Kornhauser and Sager, above n.30, at 50–51.

[39] Ibid, at 51–56. Kornhauser and Sager are careful to point out the ambiguities that surround any characterization of judicial voting as 'strategic' rather than sincere.

at all. Rather, it may be that the judge is working with a rudimentary conception of contractual wrongdoing which does not break down very naturally into the issues as they are typically presented by the law, namely, contract formation or existence and contract breach. In such circumstances, it does not seem as correct to say that the judge is manipulating the issues as it does to say that the issues are manipulating the judge.

Now suppose that a majority of the judges feel this way about the issues presented to them. In such circumstances, it may well be that a majority will feel that some, perhaps largely inchoate, overall conception of contractual wrongdoing favours the defendant, even though the plaintiff wins in their majority view on each of the contractual issues as these are traditionally formulated and presented to the court. Again, we have the doctrinal paradox, but we are tempted to resolve it differently. Where before we felt that the legal issues, and the obligation to provide reasons around those issues, should discipline judicial outcomes, now we might worry that somehow we have come to have the issues wrong, and it is the issue space, and not the judges' sense of an appropriate outcome, which needs to be revised.

This argument might be harder to make in some areas of law where the legal issues seem quite settled. Indeed, contract law might appear to be such an example. It does seem hard to think that the issues here are not properly organized around contract formation and breach.[40] But in other areas of law, for example, the law against discrimination, it seems likely that the issue space will be less settled, and that there is a real danger in too mechanically following a majority judicial view through the case on an issue-by-issue basis.[41] In these circumstances, it certainly seems more likely that the court could have a common majority view on the outcome even though as yet they have not been able to agree on the particular rationale, or set of reasons, which supports it. In such a case it would be wrong to insist on issue-by-issue voting and the disciplinary power of reasons, and better to go with the judges' shared sense, however inchoate or rudimentary, of the appropriate outcome.

This suggests that while the legal issues should provide guidance through the case, they should do so in a non-absolute or defeasible way. However, now some might wonder whether this middle ground can really bear any weight. Either legal categories matter, and matter absolutely, or they do not, and judges are free to exercise a strong form discretion to form whatever majority coalitions are necessary to achieve their most preferred outcome. Put succinctly, either the law is autonomous of judges, or judges are autonomous of the law.

However, this argument fails to appreciate that the autonomy of law has two implications. On the one hand, it implies that legal issues rather than judicial

[40] However, Kornhauser, above n.30, at 455, provides an example where the contractual issues are confused by the presence of a possible estoppel claim. Moreover, as subsequent discussion in this paper will show, the contract existence issue, while legally salient, is itself subject to some issue-based indeterminacy. On this, see below, text following n.43.

[41] Kornhauser and Sager, above n.30, at 28–29, provide an example from the law dealing with gender discrimination.

preferences should order legal outcomes, and that the obligation to provide reasons around these legal issues will go some way to ensuring that this will be the case. On the other hand, it implies that any given judicial announcement of the relevant legal issues is fallible, and at best only (one hopes) a very educated and experienced guess of what the rules of law actually require in the case. That there is some space between these judicial announcements of the relevant rules and what the law might require in fact is what is problematic about some of the more simple-minded versions of legal positivism. Thus, far from revealing a retreat from the autonomy of legal categories, the notion of defeasibility provides evidence for believing that these categories impose themselves on judicial choice from outside, that is, independent (to some extent) of what judges might have said or might have thought.

What defeasibility does require, of course, is that the judges continue to work *with* the legal issues when they do not work *within* them. That is, when some departure from an established legal category or rule is being contemplated, the judge must provide a reason for the departure, or for not treating the case before her as a case under the rule like the others. In other words, the publicly articulated legal rules in prior cases exercise a kind of discipline on her as the best guesses by other judges of what the law requires, but, as the law is autonomous of these earlier pronouncements, she is not absolutely bound by them so long as she can provide a reasoned departure *from* them. Thus, even under defeasible categories of law, a judge must continue to orient her judicial choices, or her search for like-minded judges within some new majority coalition, with respect to the already settled and established legal rules or issues.

Having made such a departure from the established legal categories, it is always tempting, and perhaps quite useful, for a judge to announce a new rule which, in her view, orders the cases better than the old rule did. But it is important to recognize that the new rule is itself defeasible and, therefore, subject to legal correction. After all, the judge who announces the new rule in this way did not herself come to see what the law required in the case by beginning with the rule, as if by deduction, and subsuming the case under it. Rather, the judge began with prior cases, and the rules which were announced in those cases, and found some relevant difference, or similarity, in the instant case which called for different, or like, treatment. But such a judgement about some relevant difference or similarity between cases, even if perfectly secure in itself, does not require the judge to be working with a fully articulated rule or universal legal category, complete with all the individually necessary and jointly sufficient conditions which define it. Rather, it is enough for her, in developing the law in this way, to be working with quite particular conditions. For example, if she thinks that the earlier pronouncement of some rule is too narrow, then she will identify some legal factor announced as necessary in the earlier decision and argue that it is not necessary. The consequence might be that the case before her should then be treated as a like case, contrary to what one might have expected under the earlier more narrow rule. On the other hand, she might seek to narrow some

previously announced rule by arguing for the necessity of some additional condition not hitherto noticed and articulated in the cases. This could have the effect of distinguishing the case before her from the earlier cases subsumed under the rule. The essential point is that, while a judge might in any given case announce some new general rule, she will actually be working with quite particular judgements at the margins of the rules already announced. However, one should not be confused by the general nature of the announcement of a new rule into thinking that the judge's innovation is completely unconstrained by previous judicial pronouncements of the salient legal categories, issues, or rules.[42]

B. *Defeasibility Within a Case*

The legal theorist whose name is most closely associated with the concept of defeasibility is H.L.A. Hart.[43] For Hart, defeasibility referred to the characteristic ability of legal concepts to organize the particulars which lie under them only in so far as the concepts go uncorrected in the cases or, more generally, in subsequent legal argument. Although he believed that the notion of defeasibility had wide application in the law, Hart developed the idea most explicitly with reference to the concept of a 'contract'. Since issues of contract have already been discussed above, and since the contract example allows one to illustrate the significance of defeasibility both within a case as well as across different cases, it is worthwhile looking into Hart's discussion of defeasibility in more detail. As we shall see, defeasibility provides a very different way of looking at the aggregation of different criteria into an overall rational choice from that which is typically, and so problematically, used within rational social choice.

For Hart, as much as for other legal scholars in the area, there is the usual list of positive conditions required for the existence of a valid contract (e.g., at least two parties, an offer by one, its acceptance by the other, consideration on both sides). However, knowledge of these conditions does not, according to Hart, give a full understanding of the concept of contract. What is also needed is some knowledge of the various ways in which the claim that there is a contract might be defeated. Such defences to the claim would include, for example, that there was fraudulent misrepresentation, duress, or lunacy. Hart suggested that the concept of contract was best explained by setting out a list of conditions which are *normally* necessary and sufficient for the existence of a valid contract, together with a series of 'unless' clauses that spell out the conditions under which this existence claim is defeated.

[42] For a more detailed presentation and exemplification of the argument presented in this paragraph, see Chapman, 'Rational and Reasonable', above n.20, at 64–106. Heidegger has argued that all understanding depends upon 'non-cognitive coping skills', that is, skills which resist a full theoretical articulation. For an interesting suggestion that this might mean that a judge has to work with something less than a fully explicit (i.e., theoretically robust, non-defeasible) account of what makes certain criteria 'relevant' for a given decision, see Brian Leiter, 'Heidegger and the Theory of Adjudication' 106 *Yale Law Journal* 253 (1996).

[43] See H.L.A. Hart, 'The Ascription of Responsibility and Rights' in A. Flew (ed) *Essays in Logic and Language* 145–66 (Oxford: Oxford University Press, 1960). For discussion of the significance of Hart's analysis, see G. Baker, 'Defeasibility and Meaning' in P.M.S. Hacker and J. Raz (eds) *Law, Morality and Society* (Oxford: Clarendon Press, 1977) 26–57.

Hart recognized that those theorists who showed an 'obstinate loyalty to the persuasive but misleading logical ideal that all concepts must be capable of definition'[44] would be constantly tempted to reduce an 'irreducibly defeasible'[45] concept to a set of conditions which are *always* necessary and sufficient for the concept's deployment in particular circumstances. What Hart had in mind here was the theoretical ploy which would accommodate defeasibility in one step by positing the *absence* of the defeating conditions as some of the necessary conditions for the concept's proper use.

However, Hart also recognized that such a reductive move serves only to obscure and ultimately misrepresent a legal concept's essentially defeasible nature. As its borrowing from the world of property law suggests, a concept is defeasible (i) if it is subject to termination or defeat in the face of certain contingencies, *and* (ii) it survives intact if no such contingencies mature. The representation of (the absence of) the defeating conditions as necessary conditions for the positive application of the concept fails to make sense of the idea in (ii) that, *until* some factual evidence on the defeating conditions is forthcoming (one way or the other), the concept simply *does* apply to the facts already at hand.

Indeed, it is this aspect of defeasibility which makes sense of two pervasive truths about legal practice. First, consider the application of the notion of defeasibility across cases, something which has already been discussed. On a definitional or deductive account of the rules which order different cases, any revision in the rule would leave the prior cases without their earlier justification. On the other hand, the idea of defeasibility applied to rules or, more generally, to any general characterization of the reasons supporting a result in a given case, means that the characterization does not presume to be conclusive, but only authoritative until new arguments, meeting an appropriate burden of proof, come along to dislodge it. However, what is dislodged at that point is the general characterization or formalization of the reasons within some area of law which were thought to support the result, not the result itself.[46] The latter (much like the *prima facie* case to be discussed below) operates as a perfectly appropriate interim judgement given the arguments advanced to that point. In this way, therefore, a defeasible common law development of the cases can allow for the revision of what has gone on before without requiring its outright rejection.[47]

[44] Hart, above n.43, at 152.

[45] *Ibid.*, at 150.

[46] In this way, therefore, a court can be result-bound in the way that Kornhauser demands in Lewis Kornhauser, 'Modeling Collegial Courts I: Path Dependence' 12 *International Review of Law and Economics* 169, 172–80 (1992), without also being absolutely rule-bound. Kornhauser rejects the idea that adjudicators are either rule-bound or reason-bound because he works with too absolute (and insufficiently defeasible) a notion of what it is to 'respect' prior rules or reasons.

[47] The difference between the logic of defeasibility and the logic of entailment under, say, deduction should be noted here. Under entailment, if p implies r, then p and q implies r; additional evidence does not undermine the original implication. Moreover, given the entailment, if p is true, so is r. By contrast, under defeasibility, while p might be true, and imply r as certain, the truth of p and q need not imply r as certain or true. In other words, under defeasibility, it might (sometimes) be that p is true and r false; that is the effect of having new arguments or evidence to consider. On the differences between classical logic and the logic of defeasibility, see G. Baker,

Second, the notion of defeasibility also makes sense of the complicated structure of pleadings and subsequent presumptions, as well as shifting burdens of proof, which is characteristic of legal argument within any given legal case.[48] The more absolute understanding of rules as necessary and sufficient conditions does not. Consider again an example from contract law.[49] Suppose that the only apparent legal issue is whether there is a contract in the case. The plaintiff alleges that there is offer and acceptance, as well as mutual consideration. Call these facts X. The defendant does not dispute the truth of X, that is, does not deny the plaintiff's allegations, but only adds a new matter, Y, for the court's consideration, namely, that the defendant is an infant. Is Y or, more accurately, not-Y part of the definition of contract, or a necessary part of the plaintiff's case against the defendant? Do we assign the burden of proving Y to the defendant simply because of practical convenience or ease of proof? If the answer to both of these questions is yes, then what are we to make of the possibility that the plaintiff chooses not to join with the defendant on Y, but rather goes on to allege Z, that is, that the plaintiff delivered necessaries to the defendant? Is this too part of the definition of contract? If it is, then the (complicated but absolute) rule of law here is that X and Z establish the sort of case for the plaintiff to which Y is an insufficient defence. Put succinctly, if X and Y and Z are true, then the defendant is liable.

However, one might reasonably inquire whether it is correct to be so absolute about the rule thus derived. After all, a subsequent consideration, introduced by the defendant, still seems to have the potential of undermining *this* rule. Indeed, such a relationship of 'confession and avoidance' is already in place in the way that the different contractual considerations and factors have been synthesized to produce the final result under this rule. When only X is proved as true, the plaintiff wins the case. When X and Y are proved true, the defendant wins. And, finally, at least in this case as so far developed, when X and Y and Z are proved true, then the plaintiff wins. But this is the stuff of defeasibility, not absolute rules. Unlike for the alphabet, we have little reason to be confident that this rule, and the highly structured argument from which this rule has been derived, ends with Z.

This highly structured sequence of confession and avoidance also shows that proof of Z, or the fact that the plaintiff has contracted to deliver necessaries, is not a necessary part of the plaintiff's *prima facie* case for breach of contract against the defendant. The *prima facie* case is complete with proof of X (in this

'Criteria: A New Foundation for Semantics' 16 *Ratio* 156 (1974). For closely related discussion of the logical difference that exists between a defeasible ordering and the sort of ordering for decionmaking that is contemplated in rational choice theory, see Bruce Chapman, 'Law, Incommensurability, and Conceptually Sequenced Argument' 146 *Pennsylvania Law Review* 1701 (1998).

[48] See the excellent discussion in Richard A. Epstein, 'Pleadings and Presumptions' 40 *University of Chicago Law Review* 556 (1973), which shows its indebtedness to Hart's earlier work. For a sustained argument that adjudicative processes present a more plausible structure for convincing argument than the models of formal logic, see Stephen Toulmin, *The Uses of Argument* (Cambridge: Cambridge University Press, 1958).

[49] The following example is borrowed from Epstein, above n.48, at 569–71.

sense X is sufficient), even though it might not contain all the allegations that the plaintiff may need to prove in order to recover (in this sense X is not sufficient). Rather, proof of Z is only needed as a response if the defendant proves Y, or his status as an infant, something which then makes the delivery of necessaries a relevant issue. In this sense, therefore, proof of infancy is conceptually prior to proof of necessaries. The same could be said, albeit more controversially, about the conceptual priority of proving the existence of a contract before considering a possible defence to that claim in the proof of infancy.[50]

Defeasible rules, therefore, can provide guidance for rational judicial choice, whether that be across different cases or through the different issues within a case. But the guidance so provided is not absolute. In this way, therefore, while legal reasons constrain more than preferences what we can do under the aspect of our rules, the law also provides a way for thinking rationally beyond what our current rules and reasons might allow. This, one likes to think, is a familiar enough idea to lawyers, accustomed as they are to the notion of the reasonable, and the parasitic idea that reasonable people might disagree.

C. *Defeasibility and Rational Social Choice*

However, before leaving the topic, it is worth showing how very different this notion of reasonable defeasibility is from the idea of a rational ordering of competing considerations which is found in social choice theory. In social choice, as in all of rational choice, competing considerations order alternatives in one or the other of only two possible ways. Either the considerations are subject to trade-off against one another,[51] or one of the considerations is thought to be absolutely and lexically prior to the other and never to be traded off against it.[52]

If the former relationship characterizes, say, two different and competing normative considerations, then it will always be possible to draw an indifference curve, representing the terms of trade between the considerations, through any point within the relevant two-dimensional choice space. In a sense, therefore, the first model presents us with a space of considerations which is solid in (non-intersecting) indifference curves. On the other hand, if the two considerations are ordered lexically, then this same space will be completely empty of indifference curves. All points will be related to each other by strict preference, with those

[50] The multi-staged structure of legal argument and procedure, especially as it concerns excuses and the conceptual priority which excuses give to criminal wrongdoing (excused from *what?*), is a constant theme in George Fletcher's work; see, e.g., George Fletcher, 'The Right and the Reasonable' 98 *Harvard Law Review* 949, 950–62 (1985). Infancy is a more controversial than excuses as an example of a logically subsequent consideration since it is arguable that it operates more as an exemption, that is, as something that denies the very applicability of contract or criminal law principles in the first place. However, the fact that the infancy consideration is in turn subject to the contract being for necessaries, where contractual obligation is restored, suggests otherwise.

[51] For some analysis of the possibility of working 'trade offs' within social choice theory, see Donald E. Campbell and Jerry S. Kelly, 'Trade-off Theory' 84 *American Economic Review* 422 (1994).

[52] A lexical (or, more faithful to its origins in the ordering of words in a dictionary, a lexicographical) ordering of principles requires us to satisfy the first principle in the ordering as much as possible before going onto the second, the second before we consider the third, and so on. See John Rawls, *A Theory of Justice* 43 (Oxford: Oxford University Press, 1971).

points having more of the lexically privileged consideration always being preferred to those which have less, and with larger amounts of the lexically inferior consideration only being relevant to breaking ties between alternatives which have equal amounts of the lexically privileged one.[53]

Defeasible rules, reasonably enough, find a middle ground between these two extremes. Under defeasible accommodations of competing normative considerations, the relevant two-dimensional space need be neither full nor empty of indifference curves. Consider, for example, the commonly held view that social utility and respect for individual rights provide two competing considerations in many social choice problems. Where the trade-off theorist would accommodate these two considerations under indifference curve analysis, a theorist like John Rawls, who gives a lexical priority to the respect for individual rights over the achievement of greater social utility, would not allow the trade-offs that such indifference curve analysis contemplates.[54] Different from both of these, the defeasible rules theorist might admit that a rights violation was essential to present an initial pleading; an argument based only on social utility would not do. In this first respect, therefore, the defeasible rules theorist shares something with the theorist who puts rights first in a lexical ordering. However, on proof of an individual rights violation, the defeasible rules theorist might reason that social utility could then become an issue and overcome the presumption in favour of individual rights. Of course, this could only occur at the second stage of some multistaged proceeding designed to accommodate these two competing considerations in a self-consciously path-dependent way. Nevertheless, in this second respect, the defeasible rights theorist is a great deal less absolute than the lexical ordering theorist and much more like the trade-off theorist.

In the final analysis, therefore, under defeasible legal rules, it seems that there might well be indifference curves within the relevant two-dimensional space, but only ones which can run in one direction from some point in the space reached through an exclusive and prior concern for individual rights. However, the point of this discussion has not been to argue for any particular or specifically nuanced version of a multi staged, path-dependent accommodation of individual rights and social utility as competing considerations which are often relevant to social choice.[55] Rather, the idea has only been to suggest that legal reasoning through defeasible rules provides a method for synthesizing such competing normative considerations which is structurally different from that which is conventional, or even possible (given the requirement of path independence), within social choice theory. Given the problems of logical self-contradiction which have so permeated the latter sort of normative theory, one can reasonably hope that even this more modest suggestion will be welcomed.

[53] Consider, for purposes of comparison, the analogous idea that all words are strictly ordered in a dictionary; there are no ties.

[54] Rawls, above n.52, at 43.

[55] This argument for the characterization of defeasibility as occupying a sensible and attractive middle ground between the requirements of trade-off theory and lexical ordering theory is developed in much greater detail, both theoretically and with examples from tort and criminal law, in Chapman , 'Incommensurability', above n. 47.

7 *Summary and Conclusion*

Since the arguments in this paper have been long and involved, a short summary might be helpful. After outlining the problem of social choice in a very general way, the discussion then turned to a more focused analysis of the majority voting paradox. It was shown that if the majority voting paradox is to occur, either in its cyclical or path-dependent form, it is necessary that a very particular profile of individual preferences be present somewhere in the population of voters (namely, that profile shown in Figure 1). Thus, a sufficient condition for avoiding the paradox is that there be no such profile of preferences, an idea that brought us to various interpretations of value restriction.

With the help of a diagram showing a two-dimensional issue space (Figure 3), it was argued that it is unlikely that a voting paradox will be avoided simply because individual preferences satisfy the needed forms of value restriction as a matter of brute fact. Instead, a structurally induced equilibrium would have to be achieved through the imposition of a self-consciously sequenced choice process. Outcomes under these choice procedures are path dependent, of course, but the suggestion was that, in context, some choice processes, or partitions of the alternatives, simply make more sense than others. Thus, the path dependence was not the arbitrary form of path dependence which seemed to be a concern for Kenneth Arrow. Moreover, it was shown that some of the procedures, such as the verdict first procedure (as shown in Figure 6, right), have the salutary effect of shaping individual voters' preferences around the issues highlighted by these procedures in a way that others do not. It was argued, therefore, that such procedures show a more substantial (less empty) commitment to the legal issues that are identified as salient for social choice.

This led to the idea that if salient issues could discipline social choices in this way, then so could the obligation to give reasons which turned on the same issues. Put succinctly, some things could not be so easily done if they had to be said or talked about as well. Thus, the legal model of reasoned argument was presented as an alternative account of path-dependent rational social choice. Illustrations of the so-called doctrinal paradox were provided, by way of examples from contract law (Figures 8 and 9) and constitutional law (Figure 10), to show the stabilizing effects of ordering choices around reasoned issues rather than preferred outcomes.

In the last section, however, I have suggested that, if the law is truly autonomous, any given articulation of salient legal issues, as well as the judicial determinations of the legal results under them, must be defeasible. Thus, as courts move from case to case, or even from issue to issue within a case, there is always the possibility that a novel consideration or argument will force a reconsideration of what the law actually requires. Legal categories matter, one might say, but they do not matter absolutely. That is the insight provided by a model of defeasible legal rules.

In the social choice context, it was suggested that, while rules and reasons might provide useful guidelines for choice, this defeasibility of legal rules and categories will also provide a welcome flexibility to accommodate changing conceptions of the salient issues over which individual preferences should be properly separable. However, the last subsection showed, alas, that this notion of defeasible rules is quite foreign to the economic conventions for the rational synthesis, in either a lexical or non-lexical form, of competing normative principles. Defeasibility, as an essentially path-dependent idea, cannot be incorporated within the (transitive) orderings of rational social choice.

Of course, there should be no real surprise in the idea that concepts, or the units of our thought, bring order to what we do. If they did not do so, it would be hard to understand (quite literally) why we think much at all before we decide something or, afterwards, why we offer, as in law, rationalizations for what we have done. What is more surprising, perhaps, is that the order which thought brings to decision-making is very different from that which is required according to rational social choice theory.

Yet if we think about what concepts do, then even this last point should not be all that surprising. Concepts bring order to an otherwise unintelligible universe by separating 'this' from 'that'. This makes the process of conceptualization an essentially dichotomizing exercise. Things are understood as either an X or a not-X, at least from one point of view, if they are understood at all.[56] And if there is a common understanding of X across different points of view, then the common understanding (quite possibly in translation) must order itself around the same conceptual dichotomy.

All of this seems trite, if not laboured. However, if we now conjoin the essential dichotomizing nature of concepts with the obvious truth that there is a plethora of things in the world to be ordered by concepts, we are lead naturally to the idea that whatever X might be, not-X includes some plurality which requires further refinement under concepts. Thus, concepts serve to separate, or partition, any space into X and not-X, where not-X is further refined into, for example, Y and Z. Any concept-sensitive space, therefore, must begin (if it is truly concept-sensitive) by partitioning some triple into X and the partition (Y, Z).

By its very nature, therefore, a concept-sensitive *strategy* space must impose some sort of 'not-between' value restriction on any chooser which confronts it. That is just what it *means* to see X for what it is, and for how it differs from the not-X of both Y and Z. If the chooser is a society, as in social choice, then the value restriction is imposed on collective action, and if the mode of collective action is majority voting , then the value restriction is imposed on each and every voter as she proceeds through the conceptually ordered array of alternatives. The resulting decision is path or partition dependent, of course, but choice permeated by thought, or truly rational social choice, could not be otherwise.

An individual chooser confronting a concept-sensitive strategy space faces the

[56] For a more extensive discussion of the relevance of conceptual structure, or form, to law, see Ernest J. Weinrib, 'Legal Formalism: On the Immanent Rationality of Law' 97 *Yale Law Journal* 949, 957–61 (1988).

same thoughtful prospect. Now the different concepts bring a 'not-between' value restricted order to the competing criteria for choosing amongst alternatives, and the result, again, is path or partition dependent. Indeed, as for social choice, the chosen outcome, ordered by concepts, may even be a (Pareto-) dominated alternative, that is, one which is inferior to some other alternative under every one of the possible choice criteria. But this is to see the criteria in a non-rational, concept-*in*sensitive way. Criteria, ordered by thought, may not even conceive the dominant alternative (or, at least, not conceive it in some comparison, or partition, with the dominated alternative), and will almost certainly sometimes view the dominated alternative as a much more *sensible* result.

Therefore, if legal rules and reasons are concept sensitive in their rationality, we should not be surprised that they bring a quite different sort of ordering to decision-making than that which is recommended by the theory of rational social choice. What might still be surprising, however, is that there may be some advantage in this, even for what the rational social choice theorist hopes to achieve for the stable satisfaction of individual preferences. In this paper, I hope to have provided some basis for believing not only in the difference, but in the advantage as well.