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THE IMPOSSIBILITY OF A PARETIAN LOYALIST

ABSTRACT. Amartya Sen has argued the impossibility of the Paretian liberal. While his abstract argument is compelling, the concrete significance of the conclusion is in some doubt. This is because it is not clear how important liberalism in his sense is; in particular it is not clear that the sort of liberalism required for the impossibility result is a compelling variety. We show that even if the argument cannot be used to establish the inconsistency of Paretianism and common-or-garden liberalism, it can be adapted to prove a parallel impossibility. This is the impossibility of combining the Pareto criterion with a loyalty constraint involving certain claim-rights rather than liberty-rights. The impossibility of the Paretian loyalist is of interest in itself but it is also interesting for the light it throws on the source of Sen-style impossibilities.

Keywords: Liberal paradox, liberalism, Pareto-criterion, prisoner's dilemma, rights.

Amartya Sen has argued the impossibility of the Paretian liberal. While his abstract argument is compelling, the concrete significance of the conclusion is in some doubt. This is because it is not clear how important liberalism in his sense is; in particular it is not clear that the sort of liberalism required for the impossibility result is a compelling variety.

We show that even if the argument cannot be used to establish the inconsistency of Paretianism and common-or-garden liberalism, it can be adapted to prove a parallel impossibility. This is the impossibility of combining the Pareto criterion with a loyalty constraint involving certain claim-rights rather than liberty-rights. The impossibility of the Paretian loyalist is of interest in itself but it is also interesting for the light it throws on the source of Sen-style impossibilities.

The paper is in three sections. First we discuss Sen's liberalism result; then we introduce the loyalty analogue; and finally we provide a comparison of the two results. The comparison is designed to identify the common features of the impossibilities claimed and to establish the greater robustness of the loyalty result.

1. THE LIBERAL IMPOSSIBILITY

A social decision function is designed to establish an appropriate

preference relation among alternative social arrangements. It takes the preference orderings of individuals over these alternatives as inputs and it yields the appropriate social preference relation as output. A minimal requirement on the social preference relation is that it identify a best alternative in any subset of alternatives: an alternative that is at least as good as the other members of the subset (see Sen, 1970, pp 150–51). If and only if it satisfies this requirement, it will determine the appropriate social choice.

Whether a social decision function is acceptable or not depends on the conditions which it satisfies. Among the conditions that it ought intuitively to satisfy are the unrestricted domain constraint and the Pareto condition. The condition of unrestricted domain requires that *the function should be defined for any range of individual preference orderings*; it should work for any possible input. The Pareto principle requires, in its weakest version, that *if every individual prefers one alternative arrangement, X, to another alternative, Y, then the social preference relation ought to place X above Y*.

What Sen's argument establishes is that no social decision function can satisfy these constraints consistently with fulfilling a third condition which he describes as the liberalism requirement. This is the requirement that *for every individual i there is at least one pair of alternatives, X and Y, such that i's preference ordering of X and Y fixes the preference yielded by the social decision function*. In other words, there should be at least one pair of alternatives for which *i's* preference ordering is dictatorial.

This is not a demanding requirement, for X and Y may be alternative social arrangements which differ only in how *i* behaves in some quite personal respect; in X, *i* may sleep on his back, in Y on his belly. And Sen's argument does not strictly need even this requirement. It goes through with the requirement of minimal liberalism, according to which *there are at least two individuals such that for each of them there is at least one pair of alternatives over which his preference ordering is dictatorial*.

But however undemanding the requirement imposed, Sen's argument shows that it is nevertheless inconsistent with the other conditions given (see Sen, 1970). We shall not repeat the argument here but it may be useful to introduce a version of the example with the help of which Sen first illustrated it (for another example, see Sen, 1976).

Prude and Lewd constitute a two-person society and, in fulfilment of the liberalism constraint, they each have dictatorial preferences for whether they read something or not. Take *Lady Chatterley's Lover*. Prude's preferences are dictatorial for whether he, Prude, reads it; Lewd's for whether he, Lewd, does so.

Suppose now, not implausibly, that the preference orderings of each over the four social alternatives defined by the reading of this book are as follows. Lewd prefers, first, that both read, next that Prude does and Lewd doesn't, next that Lewd does and Prude doesn't, and last that neither does. Prude prefers, first, that neither read it, next that Prude does and Lewd doesn't, next that Lewd does and Prude doesn't, and last that both read it. The orderings can be represented as follows, where *L* means that Lewd reads the book, *P* that Prude reads, and '*-*' means 'not':

	<i>Lewd</i>	<i>Prude</i>
A.	<i>L & P</i>	<i>D. -L & -P</i>
B.	<i>-L & P</i>	<i>B. -L & P</i>
C.	<i>L & -P</i>	<i>C. L & -P</i>
D.	<i>-L & -P</i>	<i>A. L & P</i>

What social preference will be determined by a social decision function that is both liberal – specifically, liberal with respect to the reading of the book – and Paretian? By the liberalism constraint $A > B$ and $C > D$, where ' $>$ ' represents the social preference, since Lewd has those dictatorial preferences. Equally, looking at Prude's dictatorial preferences, $D > B$ and $C > A$. Putting these together we see that since $C > A$ and $A > B$, it ought not to be that $B > C$. Otherwise there will not be a best alternative identified in the subset of alternatives, A, B and C. But looking again at the two sets of preferences we notice that both parties prefer $B > C$, so that the Paretian condition on the function requires that $B > C$. This illustrates the inconsistency between the liberal and Paretian conditions.

2. THE LOYALTY IMPOSSIBILITY

Sen's argument will establish the inconsistency of the condition of unrestricted domain, the Paretian condition and any constraint which, like his allegedly liberal requirement, ensures that for each individual –

or at least for each of two individuals – there is a domain over which his preferences are dictatorial. We believe that there is an intuitive loyalty requirement which constitutes such a constraint.

The idea of loyalty is familiar from common sense morality (see Pettit and Goodin, 1986; Pettit, 1986; Pettit, 1988b). It is the universally endorsed notion that people do and should enjoy special relationships which impose special obligations. Derek Parfit introduces it as follows.

Most of us believe that there are certain people to whom we have special obligations. These are the people to whom we stand in certain relations – such as our children, parents, friends, benefactors, pupils, patients, clients, colleagues, members of our own trade union, those whom we represent, or our fellow-citizens. We believe that we ought to try to save these people from certain kinds of harm, and ought to try to give them certain kinds of benefit. Common-Sense Morality largely consists in such obligations (Parfit, p. 95).

We assume with Parfit that common sense morality imposes duties of loyalty. We might do this without endorsing the value of a regime of loyalty but we do think that such a regime is attractive. It is an articulated structure with sub-groups within which some individuals make compelling claims on others. Such a dispensation allows for the fact that people rely on one another and bond with one another in different ways and degrees. All are equally citizens perhaps, but before they are citizens they are lovers and parents, colleagues and friends, clients, customers and constituents.

We make one further assumption about loyalty in addition to that which we share with Parfit. This is that among the duties of loyalty recognised in common sense morality is a duty on the loyal agent to let his choice in certain circumstances be controlled by the preference of his principal, even when the preference seems to him ill-informed: even indeed when acting on that preference promises to provide the principal with less preference-satisfaction overall.

This further assumption is plausible, since in many circumstances common sense commends the loyal agent for empowering and respecting the relevant preference of his principal – viz., the principal's preference over what the agent does – rather than paternalistically disregarding that preference for the sake of the principal's overall

preference-satisfaction. In those circumstances loyalty requires the agent to abstain from questioning the principal's preference – usually, his express preference – over what he, the agent, does. It requires him to put himself more or less blindly at the principal's command.

The common sense belief in duties of loyalty supports a condition parallel to the liberalism requirement. At its strongest this says the following: *for each individual i there is at least one loyal agent, and at least one pair of alternatives differing just in how that agent acts – say X and Y – such that i 's preference ordering of X and Y fixes the preference yielded by the social decision function.* But it does not matter if this seems too strong, for all we need is a condition that parallels the minimal version of the liberalism requirement. The minimal condition is as follows. *There are at least two individuals i and j such that i has at least one loyal agent m and j one loyal agent n , and for each of those individuals there is at least one pair of alternatives which differ just in how the loyal agent acts, such that his preference ordering of those alternatives fixes the social preference.*

It is clear that the loyalism requirement mimics the liberal one sufficiently to engage with Sen's abstract argument. The result is a paradoxical inconsistency between the requirement of loyalty and the other two constraints already mentioned: the Paretian condition and the condition of unrestricted domain. The Paretian loyalist is an impossibility.

It will be useful to illustrate the result in a manner that parallels the example of Prude and Lewd. What we need is a predicament such that the upshot of two or more loyal agents respecting the preferences of their principals is that the principals each do less well than they might have done otherwise. Under standard assumptions about the preferences of principals and agents over such an outcome, this will mean that the result is Pareto-inferior.

We can find the sort of example we want by introducing a twist to the prisoner's dilemma. In that dilemma the prisoners, i and j , each have a choice between confessing to a joint crime or not. Confessing is a dominant option for each, in the sense that it serves him better no matter what the other does. And yet the outcome of dual confession is Pareto-inferior to the outcome under which both refuse to confess.

The twist which we introduce to this dilemma is that the prisoners

each have to report this decision through a lawyer – i through m , j through n ; that the lawyers' preferences mimic those of their clients; and that the lawyers are bound by loyalty in such a way that they each have to respect the preference of their client for what decision is reported. Suppose that the prisoners each decide to confess and that they entrust the communication of these decisions to their lawyers (cf. Parfit, 1984, p. 98). The lawyers then have the choice of loyally reporting the decision or not and it turns out that they face a perfect analogue of the prisoner's dilemma. Their predicament is described in the following matrix, where the rankings are from 1 at the top to 4 at the bottom and m 's ranking is given first in each box.

<i>Lawyer m</i>		<i>Lawyer n</i>	
Is loyal	Is disloyal	Is loyal	Is disloyal
3,3	4,1	3,3	1,4
4,1	2,2	4,1	2,2

Imagine now a society consisting of the two lawyers and their respective clients. These parties will serve to illustrate the loyalty result in the way in which Lewd and Prude illustrated the liberal one. The relevant preferences are as follows, where ' M ' means that m is loyal, ' $-M$ ' that m is disloyal, and so on.

<i>i</i> 's and <i>m</i> 's preferences	<i>j</i> 's and <i>n</i> 's preferences												
W X Y Z	<table style="margin-left: auto; margin-right: auto;"> <tr><td style="text-align: center;">M & -N</td><td style="text-align: center;">Z</td><td style="text-align: center;">-M & N</td></tr> <tr><td style="text-align: center;">-M & -N</td><td style="text-align: center;">X</td><td style="text-align: center;">-M & -N</td></tr> <tr><td style="text-align: center;">M & N</td><td style="text-align: center;">Y</td><td style="text-align: center;">M & N</td></tr> <tr><td style="text-align: center;">-M & N</td><td style="text-align: center;">W</td><td style="text-align: center;">M & -N</td></tr> </table>	M & -N	Z	-M & N	-M & -N	X	-M & -N	M & N	Y	M & N	-M & N	W	M & -N
M & -N	Z	-M & N											
-M & -N	X	-M & -N											
M & N	Y	M & N											
-M & N	W	M & -N											

Consider the preference that will be determined by a social decision function that is both loyalist and Paretian. By the loyalty constraint, $W > X$ and $Y > Z$ since i has these preferences. Equally, in view of the preferences of j , $Z > X$ and $Y > W$. Putting these together, it ought not to be that $X > Y$, since $Y > W$ and $W > X$. But since all the parties involved prefer X to Y , the Paretian condition means that $X > Y$. There is an inconsistency then between the loyalist and Paretian conditions.

It is not very surprising that the recognition of loyalties should cause the same Paretian trouble as the recognition of liberties. The recognition of loyalties gives rise, under our assumptions, to certain rights on the part of principals to have their agents act as they prefer. Such loyalty-rights correspond to the liberty-rights enshrined under liberalism. The loyalty-right empowers a person's preference in relation to something in another's gift, the liberty-right empowers his preference in relation to something that is normally in his own power (on rights see Pettit, 1987 and 1988a).

Unsurprising though it may be however, it is certainly worth noting the eruption of a Sen-style impossibility in the sphere of loyalties as well as liberties. What it shows is that the impossibility involved is not just that of a Paretian liberal or indeed a Paretian loyalist. It is the impossibility of a Paretian who respects certain sorts of rights (see Sen, 1983, p. 14).

There are two conditions which it appears that the rights must satisfy. First of all, they must be rights in virtue of which someone's preference over an agent's act-options dictates what the agent must do. In the liberty case the preference belongs to the agent himself, in the loyalty case it belongs to the agent's principal.

Secondly, the rights must be capable of being exercised in a manner that is not Pareto-optimal. In particular, the dictatorial preference must be liable to be maintained even when that means that the bearer of the preference enjoys less overall preference-satisfaction than he might otherwise have had. This condition is fulfilled in the liberty case, so far as Prude and Lewd insist on their rights and thereby give themselves a result that is worse for each than one that they might have achieved. It is fulfilled in the loyalty case, since the prisoners' preferences over what the lawyers do is not influenced by the fact that this will also produce a less than optimal result for each.

But apart from the light which the loyalty analogue throws on the source of the liberal impossibility, there is another reason for taking it seriously. This is that the loyalty result is not subject to a sort of weakness inherent in the liberty case.

Liberty in the sense in which Sen's argument invokes it requires that in a certain personal sphere each agent is allowed to act as he prefers,

or at least to get what such action would provide (see Sen, 1983). His preferences in the matters concerned are made powerful. This conception is not entirely natural, for it leaves no room for the notion that people can waive their liberties: without surrendering their rights, they can decline to insist on them; in a sense, they can decline to exercise them (see Gibbard, 1974). A more common reading of liberty-rights would take account of this feature and equate the enjoyment of a liberty with having the power of choice, not with the possession of a powerful preference (see Nozick, 1974; Gärdenfors, 1981; Sugden, 1981; compare Sen, 1983).

This remark on Sen's conception of liberty would not be damaging if the liberalism result went through just as smoothly under the alternative conception. But it doesn't go through just as smoothly. We can see why, if we consider how Prude and Lewd must view their own situation. We assume that the lesson which they illustrate is of general significance.

Prude and Lewd are in a prisoner's dilemma, as the following matrix makes clear (see Fine, 1975).

	<i>Lewd</i>	
	Read	Don't read
<i>Prude</i>	3,3	1,4
	Read	4,1
		2,2

This is a prisoner's dilemma, because each party has a dominant strategy – Prude's is not reading, Lewd's reading – and yet those strategies lead to an outcome (3,3) which is Pareto-inferior to the outcome (2,2) determined by their other strategies.

If liberties are construed in the preference-centred way, then Prude and Lewd are stuck with their predicament; the preference they each have for their dominant strategy is powerful and so the Pareto-inferior outcome is unavoidable. But if liberties are construed in the other fashion, so that their bearers have the power of choice rather than powerful preferences, then the predicament is less drastic: it may be – we need not claim it must be – that the parties will go for the Pareto-superior outcome by each agreeing to choose his non-dominant option. This can be a strategically rational thing to do – it is a

cooperative equilibrium strategy – and it would not in any way compromise their liberty; although they would have frustrated the preferences which are dictatorial under the other construal, they would still have exercised the powers of choice that are crucial under this (see Gärdenfors, 1981; and, for a rejoinder, Sen, 1983).

The upshot is that while Sen's abstract argument is perfectly sound, it does not so clearly establish the impossibility of a Paretian liberal as the impossibility of a Paretian who endorses a preference-centred rather than a choice-centred sort of liberal constraint. This is our cue, for there is not a similar doubt about what the argument establishes in the loyalty case.

As Sen employs a preference-centred conception of liberty, we have invoked a notion of loyalty under which the principal's preference for how his agent acts is powerful in at least some choices. But this parallel does not introduce a corresponding weakness. Suppose that we gave the principal the power to choose how his agent is to act in those cases where otherwise his preferences would be powerful. It still does not follow that principals would be in a position to ensure the Paretian solution of predicaments like that of our lawyers.

The reason is that there is no need to suppose that the principals, as distinct from the agents, are aware of the predicaments, able to intervene in them, or even able to understand them. Someone who exercises a liberty must be presumed to have the intelligence, opportunity and information required for rational choice. Someone who enjoys a loyalty may fail in all regards. He may be oblivious to the existence of situations which produce Pareto-inferior outcomes. He may not be in a position to negotiate a Paretian solution of such predicaments. He may even be so immature or impaired as not to be able to appreciate what they involve.

The contrast between the two cases can be brought out as follows. The agent who sees that it is strategically irrational for him to insist on a certain liberty may act differently, depending on whether liberty consists in the power of choice or not. But if he is loyal, the agent who sees that it is strategically irrational for his principal to demand a certain loyalty will act in just the same way, whether or not the principal has the power of choice over his behaviour. The fact that the principal has the power of choice rather than just a powerful preference does not mean that he is any more likely to choose strategically.

We conclude then that the impossibility of the Paretian loyalist is interesting on two counts. First, it throws light on the source of the impossibility derived in Sen's original argument: the impossibility of a Paretian liberal. And secondly it represents an impossibility of a less controversial kind than that which the original argument establishes.

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HOW TO COMBINE PARETO OPTIMALITY WITH LIBERTY CONSIDERATIONS

ABSTRACT. I argue that the liberty condition of Sen's important impossibility of a Paretian liberal result is not a condition that liberals (or libertarians) would accept. The problem is that an appropriate liberty condition must be formulated in terms of consent – not in terms of preference. To formulate an adequate condition the framework needs to expand from collective choice rules (which only take information about preferences as input) to rights-based social choice rules (which also take as input information about which options have been consented to and which would violate someone's rights). I formulate a more adequate liberty condition based on the notion of consent that is acceptable to liberals, and then show that Pareto optimality is incompatible even with that condition. I then show how the liberty condition can be weakened in a plausible manner, and describe an interesting class of theories – rights-based Paretian theories – that satisfy the Pareto optimality requirement while being sensitive to liberty considerations.

Keywords: Sen, Pareto optimality, liberty, rights, liberal.

I. INTRODUCTION

A central result in the theory of social choice is Sen's impossibility of a Paretian liberal theorem. According to this result there is no social choice rule defined for all preference profiles that satisfies both a Pareto optimality condition and a weak liberty condition. More precisely, the result is the following.

Let X be the set of all alternatives over which individuals have preferences. It is assumed that there are at least three alternatives. Let I be the set of individuals in society, and let n be the number of such individuals. It is assumed that $n \geq 2$. Let R_i be individual i 's weak preference relation, and P_i be his/her strict preference relation. It is assumed that for each individual i in I R_i is reflexive, transitive and complete. A preference (utility) profile is an n -tuple of weak preference relations (utility functions), one for each member of society. Let O be