Social Choice Theory and Deliberative Democracy: A Response to Aldred

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I. INTRODUCTION

Jonathan Aldred shares our desire to promote a reconciliation between social choice theory and deliberative democracy in the interests of a more comprehensive and compelling account of democracy.[1] His comments on some details of our analysis – specifically, our use of Arrow's conditions of universal domain and independence of irrelevant alternatives – give us an opportunity to clarify our position. His discussion of the independence condition in particular identifies some ambiguity in our exposition, and as such is useful. We are less impressed by the way Aldred characterizes the overall terms of the reconciliation we propose. We believe that his argument on this matter should be resisted because it provides deliberative democrats with a bad excuse to dismiss social choice theory altogether, which is surely not what he intends.

II. RELAXING UNIVERSAL DOMAIN

One hypothesis we defended is that – under suitable conditions – group deliberation induces single-peakedness in individual preferences across a group. If this hypothesis is true, post-deliberation preference profiles fall into a restricted domain to which Arrow's impossibility theorem does not apply and in which Condorcet winners exist. We suggested that deliberation may induce single-peakedness via producing 'agreement at a meta-level', that is, agreement on a shared dimension in terms of which all group members conceptualize the issue. We pointed out that this mechanism might fail in situations of high issue complexity and discussed mechanisms of multidimensional preference structuration in such situations.

Aldred argues that our analysis is 'incomplete at best, and in several respects misleading.' While further research on deliberation's effects on preferences is needed – we do not claim to have provided a 'complete' analysis – we nonetheless hope that our arguments are transparent. As just noted, we defended a hypothesis and a mechanism underlying it. We are not sure whether Aldred's objection is mainly directed at the hypothesis or at the proposed mechanism. Let us briefly revisit both.

The hypothesis that – under suitable conditions – group deliberation induces single-peakedness in individual preferences is an empirical hypothesis. It is neither an *a priori* truth, nor can we (or should we) rule out the possibility of counterevidence *a priori*. Indeed, the possibility of counterevidence makes the hypothesis falsifiable and

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[1] John S. Dryzek and Christian List, 'Social Choice Theory and Deliberative Democracy: A Reconciliation', *British Journal of Political Science*, 33 (2003), 1-28 (hereafter DL).

thus empirically meaningful and non-trivial.[2] Aldred's theoretical 'counterexamples' illustrate this possibility. What matters is whether the hypothesis is supported by empirical evidence. Here the existing – admittedly still limited – evidence on deliberation-induced preference change is consistent with our hypothesis, albeit in a more fine-grained form. Using data from Fishkin's deliberative polls, List, Fishkin, Luskin and McLean have shown that, under certain conditions, post-deliberation preference profiles are more single-peaked than pre-deliberation ones, where the degree of single-peakedness is measured by the maximal proportion of individuals whose preference orderings have no more than one peak on a common dimension.[3]

The question of whether the hypothesis is true is distinct from the question of what precise mechanism explains its truth. The 'meta-agreement' mechanism we proposed has three parts, where each is itself a falsifiable empirical hypothesis.[4] Before we restate the three parts, let us recall two different concepts of a dimension.[5] A *dimension in the semantic sense* is an attribute in terms of which the decision alternatives are conceptualized by the decision-makers, such as the degree of economic liberalism or the degree of secularization. A *dimension in the formal sense* is a purely geometrical 'left'-'right' alignment of the alternatives, which does not carry with it any particular interpretation. Black's definition of single-peakedness requires only the existence of a common formal dimension such that all individuals' preferences have no more than one peak on that dimension. While that formal dimension might be *interpreted* by the individuals in terms of some semantic dimension, such an interpretation is not required for defining single-peakedness. The three-part mechanism we have in mind can now be summarized as follows:

(1)   Under suitable conditions, group deliberation leads individuals to identify a common semantic dimension in terms of which to conceptualize the decision alternatives.

(2)   For a given semantic dimension, group deliberation leads individuals to agree on a corresponding formal dimension, spatially ordering the alternatives from 'left'-most to 'right'-most in terms of the given semantic dimension.

(3)   Once a semantic dimension has become focal and a corresponding formal dimension has been agreed on, group deliberation leads each individual to determine his or her most preferred position ('peak') on that formal dimension, with decreasing preference as alternatives get increasingly distant from the individual's most preferred position.

Our claim was that, *if* parts (1), (2) and (3) occur jointly, *then* the resulting post-deliberation preference profile will satisfy single-peakedness. We noted in our paper that this is an 'if-then' claim. In particular, we take the claim to be defensible irrespective of whether or not its 'if'-condition is empirically correct. As parts (1), (2) and (3) are falsifiable empirical claims, it is *possible* for each to be false. We noted that issue-complexity may undermine part (1). Aldred argues that some semantic dimensions may

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[2] Karl Popper, *The Logic of Scientific Discovery* (London: Heinemann, 1959).

[3] Christian List, James Fishkin, Robert Luskin, and Iain McLean, 'Deliberation, Single-Peakedness, and the Possibility of Meaningful Democracy: Evidence from Deliberative Polls' (working paper, London School of Economics, 2003).

[4] See also Christian List, 'Two Concepts of Agreement', *The Good Society,* 11(1) (2002), 72-79.

[5] Compare DL, p. 14, fn. 53.

not be linear, in that they may not correspond to a formal dimension, thereby undermining part (2). He also argues that individual preferences may sometimes fail to be single-peaked even on an agreed-upon formal dimension, thereby undermining part (3). This is perhaps similar to our example of a radical environmentalist who prefers wilderness preservation to desecration to compromise development. We concede these *possibilities*, given that parts (1), (2) and (3) are falsifiable empirical claims. Our argument, however, was that in a deliberative setting, once part (1) occurs – that is, once some semantic dimension has become focal, via deliberation's social and reflective aspects – parts (2) and (3) are also likely to occur – part (2) via deliberation's informational and argumentative aspects, and part (3) via its argumentative aspects together with rationality. So far, no empirical study has been designed for testing these three parts of our proposed 'meta-agreement' mechanism, but we would welcome appropriate research.

Aldred also argues that group deliberation can induce single-peakedness through direct (substantive) agreement among the individuals that one particular decision alternative is not worst. When there are only three alternatives, agreement that one is not worst is indeed sufficient for (in fact, equivalent to) single-peakedness, but when there are more than three alternatives this is not generally the case. Here a stronger form of agreement is necessary. For *every triple* of alternatives, the individuals must agree that one alternative *among that triple* is not worst. While the latter condition is sufficient for the existence of Condorcet winners, it is still subtly weaker than single-peakedness. It is sufficient only for (in fact, equivalent to) single-peakedness *for all triples of alternatives*, a special case of Sen's value-restriction condition.[6] It is not obvious that individuals can easily reach agreement, for *every triple*, that one alternative among the triple is not worst without some underlying structural agreement. For this reason, we are not convinced that direct 'not worst' agreement without any agreement at a meta-level is a generally plausible route to deliberation-induced single-peakedness.

III. RELAXING INDEPENDENCE OF IRRELEVANT ALTERNATIVES

Another hypothesis we defended is that group deliberation can induce agreement on the set of relevant decision alternatives. If this hypothesis is true, then the Borda rule and other positional rules – often criticized for their vulnerability to certain forms of agenda manipulation – become more defensible social decision procedures. Among Arrow's conditions, independence of irrelevant alternatives rules out such procedures. We suggested that, *if* in a deliberative setting the set of alternatives is non-arbitrarily demarcated, *then* a relaxation of Arrow's independence condition – which according to Riker 'prevent[s] the rigging of elections' – may be more acceptable in that setting.[7]

Aldred argues that we 'make a surprising mistake', in that the link we suggest between violations of independence of irrelevant alternatives and agenda manipulation 'is a weak one at best.' Aldred points out that Arrow's independence condition is often confused with another independence condition and suggests that this confusion may

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[6] Amartya Sen, 'A Possibility Theorem on Majority Decisions', *Econometrica,* 34 (1966), 491-99; Christian Elsholtz and Christian List, 'A Simple Proof of Sen's Possibility Theorem on Majority Decisions', *Elemente der Mathematik*, forthcoming (2004).

[7] William H. Riker, *Liberalism against Populism* (San Francisco: W.H. Freeman, 1982), p. 101.

underlie our argument. We are aware of the difference between the two conditions.[8] One – Arrow's – states that the social preference over x and y should depend only on individual preferences over x and y and not on individual preferences over third alternatives. Another – often associated with Radner and Marschak – states that, if x is socially chosen from some set of alternatives X, then x should also be chosen from any subset of X that contains x.[9] The relation between the two conditions is subtle and non-trivial, and we agree that one should not confuse them.

While our technical definition of Arrow's independence condition and the Borda rule is correct, our informal exposition has indeed been ambiguous and thus perhaps subject to the common confusion Aldred describes. Nonetheless, we believe that with some clarification our main argument is robust. It is true that the pertinence of Radner and Marschak's condition to agenda manipulation is more immediate, but Arrow's condition is by no means unimportant. Decision procedures violating Arrow's condition – such as the Borda rule and other positional rules – are typically also vulnerable to some form of agenda manipulation, especially so-called cloning manipulation.[10] Furthermore, that vulnerability is related to the violation of Arrow's independence condition. To illustrate, consider the Borda rule and compare two situations, A and B, as shown in table 1. In both situations there are 15 individuals.

TABLE 1 ABOUT HERE

In situation A, there are four decision alternatives, x, y, z and w. The social preference ordering under the Borda rule is $zPxPyPw$.[11] The Borda winner is z. Now suppose an agenda setter (who dislikes z and likes x) introduces a new alternative v, where v is a 'clone' of x: It is preferred by all individuals to any alternative y which x is preferred to, but dispreferred to x itself. Individual preferences over all other alternatives remain fixed. So we are in situation B. Now the Borda ordering is $xPzPvPyPw$.[12] The Borda winner is x. The presence of alternative v reverses the social ordering over x and z, although v is a non-winning alternative and individual preferences over all other alternatives are unchanged: the Borda rule is cloning manipulable.[13]

To see that the Borda rule's cloning manipulability is related to its violation of Arrow's independence condition, consider situation A*, as shown in Table 2. Here a new alternative v has also been added to the alternatives in situation A, however v is not a clone of x, but dispreferred by everyone to all other alternatives. The individual preferences over x, y, z and w are the same as in situation A, and so are the social

[8] On their history, see Iain McLean, 'Independence of Irrelevant Alternatives before Arrow', *Mathematical Social Sciences,* 30 (1995), 107-126.

[9] Roy Radner and Jacob Marschak, 'Note on Some Proposed Decision Criteria', in R.M. Thrall, C. H. Coombs, and R. L. Davies, eds, *Decision Processes* (New York: Wiley, 1954), pp. 61-68.

[10] Cloning manipulation is distinct from agenda manipulation via strategically choosing the order in which votes are taken.

[11] In situation A, the Borda scores of the alternatives are as follows: $x : 1{\times}2 + 6{\times}3 + 8{\times}2 = 36$; $y : 1{\times}3 + 6{\times}0 + 8{\times}1 = 11$; $z : 1{\times}1 + 6{\times}2 + 8{\times}3 = 37$; $w : 1{\times}0 + 6{\times}1 + 8{\times}0 = 6$.

[12] In situation B, the Borda scores of the alternatives are as follows: $x : 1{\times}3 + 6{\times}4 + 8{\times}3 = 51$; $y : 1{\times}4 + 6{\times}0 + 8{\times}1 = 12$; $z : 1{\times}1 + 6{\times}2 + 8{\times}4 = 45$; $w : 1{\times}0 + 6{\times}1 + 8{\times}0 = 6$; $v : 1{\times}2 + 6{\times}3 + 8{\times}2 = 36$.

[13] For a technical account of cloning manipulability, see Jean-François Laslier, 'Aggregation of Preferences with a Variable set of Alternatives', *Social Choice and Welfare,* 17 (2000), 269-82.

preferences over *x*, *y*, *z* and *w* and the Borda winner.[14] The presence of alternative *v* – being at the bottom of everyone's ranking – makes no difference. The individual preferences over *x*, *y*, *z* and *w* in situation A* also coincide with those in situation B, and so a decision procedure satisfying Arrow's independence condition would have to generate the same social preferences over *x*, *y*, *z* and *w* in situations A* and B. The Borda rule, however, violates independence and generates a different social preference over *x* and *z* in situations A* and B. The agenda manipulator in effect exploits this violation of independence when introducing the clone *v* in situation B (or when persuading individuals that the alternative *v* at the bottom of everyone's ranking in situation A* is 'actually' a clone of alternative *x* and ought to be individually ranked just below *x* as in situation B).

<div align="center">TABLE 2 ABOUT HERE</div>

Our main argument concerning independence of irrelevant alternatives can now be summarized as follows:

(1) If Arrow's independence condition is relaxed, the Borda rule and other positional rules become available as decision procedures satisfying Arrow's other conditions.
(2) These decision procedures are typically vulnerable to certain forms of agenda manipulation (and are often criticized for this vulnerability).
(3) If the *logical* possibility of agenda manipulation is not *practically* exploited in deliberative settings – for instance because deliberation induces agreement on the set of alternatives – then that *logical* possibility is less of a *practical* threat in such settings, and the use of the Borda rule and related rules becomes more defensible.

A worry about agenda manipulation of the cloning type is just one reason why many social choice theorists have insisted on independence of irrelevant alternatives. Arrow's independence condition may also provide protection against certain forms of strategic manipulation of the Gibbard-Satterthwaite type. Here the arguments in our paper regarding a relaxation of strategy-proofness may apply.

We do not suggest that deliberation-induced agreement on the set of alternatives will solve all potential problems opened up by a relaxation of Arrow's independence condition. But we do suggest that such agreement may make one important such problem less threatening.

IV. THE TERMS OF RECONCILIATION

Aldred's most fundamental objection to our reconciliation is that it is 'not so much a reconciliation as a takeover' by social choice theory because our discussion is framed in terms of the challenges social choice theory makes to deliberative democracy, rather than *vice versa*. Aldred points to both 'radical' and 'more limited' challenges that deliberative democrats might make to social choice theory.

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[14] In situation A*, the Borda scores of the alternatives are as follows: *x* : $1 \times 3 + 6 \times 4 + 8 \times 3 = 51$; *y* : $1 \times 4 + 6 \times 1 + 8 \times 2 = 26$; *z* : $1 \times 2 + 6 \times 3 + 8 \times 4 = 52$; *w* : $1 \times 1 + 6 \times 2 + 8 \times 1 = 21$; *v* : $1 \times 0 + 6 \times 0 + 8 \times 0 = 0$. The introduction of alternative *v* does not affect the *differences* between the Borda scores of *x*, *y*, *z* and *w* as given in situation A. The scores of *x*, *y*, *z* and *w* in situation A* are simply equal to those in situation A plus 15 (i.e. plus 1 times the number of individuals).

The main reason for our strategy of beginning with the social-choice-theoretic challenge to deliberative democracy can be found in the different character of the two theories. Deliberative democracy is a normative theory based on ideals about how political interaction should proceed. Social choice theory is also normative, but more guardedly so. Its starting point is a set of analytics that reveal how difficult it is to achieve different normative criteria. To deploy the idealism of deliberative democracy against social choice theory is easy but unproductive, likely to lead only to dismissal of the social choice critique of democracy as irrelevant and misguided because it misses the essence of politics and the humans that engage it. (For example, in the way Pateman deploys a slightly different radical democratic idealism against social choice theory.[15]) This is where Aldred's 'radical' challenge would lead. Aldred is correct that we do not mention this radical challenge; the aim of our paper is to move beyond crude radical challenges.[16]

But what of Aldred's 'more limited' challenge? Aldred's characterization of deliberative democratic theory and what it might say in such a challenge is a bit dubious, and he does not cite a single deliberative democrat in its support (or, indeed, on any other topic in his paper). Most of the positions he attributes to deliberative democrats *en masse* are actually highly contested within the field. His first point – that deliberative democrats should not allow preference aggregation when there is a dispute over an aggregation procedure itself – is not very telling, because deliberation itself has no alternative solution to the problem of infinite regress. What Aldred's other points here have in common is that they use some of the weakest and most problematic aspects of deliberative theory. If some (unidentified) deliberative democrats actually do prefer 'open outputs' to a ranking of alternatives, that plays into the hands of critics who charge deliberative democrats with lacking a logically complete theory of democracy – because there is no account of how policy decisions get made.[17] To say as Aldred does that deliberative democrats have 'a concern with the content of preferences, rather than their structure' is fair enough. But deliberative democrats can be criticized for having too much concern with preference content; for example, Gutmann and Thompson are excessively prescriptive in saying what positions good deliberators should take on the substance of controversial policy issues.[18] At any rate we do not avoid the issue of preference content as Aldred alleges – see for example our discussion of generalizable interests, basic needs, and preferences involving a lack of respect for other deliberators. This discussion is in the context of preference structuration[19] – but that is exactly where Aldred believes it ought to belong, when he says we should not avoid 'probing the content of preferences and the reasons behind agreements … when evaluating single-peakedness'. Earlier we treated reflection on preferences 'in the knowledge that these preferences have to be justified to others' as a

[15] Carole Pateman, 'Social Choice or Democracy? A Comment on Coleman and Ferejohn', *Ethics*, 97 (1986), 39-46, p. 46.

[16] But see John S. Dryzek, *Democracy in Capitalist Times: Ideals, Limits, and Struggles* (Oxford: Oxford University Press, 1996), pp. 110-11 for a discussion in these terms.

[17] For example, Michael Saward, *The Terms of Democracy* (Cambridge: Polity, 1998), p. 64; Adam Przeworski, 'Deliberation and Ideological Domination', in Jon Elster, ed, *Deliberative Democracy* (New York: Cambridge University Press, 1998) pp. 141-2.

[18] Amy Gutmann and Dennis Thompson, *Democracy and Disagreement* (Cambridge, MA: Harvard University Press, 1996).

[19] DL, pp. 15-16.

defining feature of deliberation that we subsequently bring to bear.[20] Again, there is no avoidance of scrutiny of preference content. There is much to the theory of deliberative democracy (including its treatment of preference content) that we did not address in our paper, but Aldred has not established that any of these omissions really matter.[21]

Far from attempting a hostile takeover of deliberative democracy on behalf of social choice theory, we argue that social choice theory gives an additional set of reasons (not of course the only reasons) for being a deliberative democrat. In this sense, deliberative democracy assimilates social choice theory – the very opposite of the 'takeover' that Aldred alleges. But takeover of any sort was never the point, and we would be dismayed if any deliberative democrats followed Aldred in believing this to be the case.

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[20] DL, p. 9.

[21] One of us has addressed many of these issues at length elsewhere; see John S. Dryzek, *Discursive Democracy: Politics, Policy, and Political Science* (Cambridge: Cambridge University Press, 1990); John S. Dryzek, *Deliberative Democracy and Beyond: Liberals, Critics, Contestations* (Oxford: Oxford University Press, 2000). On the issue of why and how in deliberation people hold and change preferences, see John S. Dryzek and Simon Niemeyer, 'Pluralism and Consensus in Political Deliberation', paper presented at the Annual Meeting of the American Political Science Association, Philadelphia, 2003.

TABLE 1 *An Illustration of the Borda Rule's Cloning Manipulability*

Situation A				Situation B			
Number of individuals	1	6	8	Number of individuals	1	6	8
1st pref.	*y*	*x*	*z*	1st pref.	*y*	*x*	*Z*
2nd pref.	*x*	*z*	*x*	2nd pref.	*x*	*v*	*X*
3rd pref.	*z*	*w*	*y*	3rd pref.	*v*	*z*	*V*
4th pref.	*w*	*y*	*w*	4th pref.	*z*	*w*	*Y*
				5th pref.	*w*	*y*	*W*

TABLE 2 *The Borda Rule's Cloning Manipulability Continued*

Situation A*			
Number of individuals	1	6	8
1st pref.	*y*	*x*	*z*
2nd pref.	*x*	*z*	*x*
3rd pref.	*z*	*w*	*y*
4th pref.	*w*	*y*	*w*
5th pref.	*v*	*v*	*v*