Agendas and sincerity: a second response to Schwartz

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Abstract An Ordeshook-Schwartz agenda tree requires a voting theorist to assign a unique "ostensive alternative" to each node, but under some non-pairwise agendas there is no evident principle by which to do this. Therefore Ordeshook-Schwartz sincere voting is not clearly defined under all types of agendas. Farquharson-style agenda trees sidestep this problem and allow one or more definitions of sincere voting under every type of agenda.

The representation of voting agendas in Schwartz (2008) follows that set out in Ordeshook and Schwartz (1987)—hereafter OS—by associating a *single* "ostensive alternative" (to use the terminology of Groseclose and Krehbiel 1993) with each node in the agenda tree, in the manner of Figs. (1a) and (1d) in Miller (2010). It then follows naturally for OS to say that a sincere voter votes for his preferred ostensive alternative at the two successor nodes. Miller (1995 and elsewhere), following Farquharson (1969), associates a single alternative with each bottom node, in the manner of Fig. (1c), on the basis of which *sets* of alternatives are associated with nonbottom nodes, in the manner of Fig. (1b).

   In my first response to Schwartz, I did indeed "concede" the three points that he notes at the outset of his Reply (Schwartz 2010), *but with the following stipulations*. (1) As an analytical construction, an OS agenda tree does contain more information than a Farquharson-Miller (FM) tree, *but this additional information is imputed by the voting theorist and may not be evident to voters*. (2) The OS definition of sincere voting is "simpler and more direct" than FM's,[1] *but it is defined only for an OS agenda tree, which entails the problem just noted*. (3) Farquharson's "maximax" definition of sincerity (also adopted by Miller) is not essential to a broader the notion of sincere voting, so Miller has no (single) definition of

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[1] Moreover, OS sincere voting is easier to analyze than FM sincere voting, since the former depends only on the majority preference relation while the latter depends on the underling preference profile.

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sincere voting; *indeed, we should recognize that, under some parliamentary voting proce-
dures, there may be different types of sincere voting* (as we certainly recognize for Approval
and Cumulative Voting, for example).[2] Furthermore, Schwartz is correct in saying that I re-
strict my attention to (effectively) pre-set agendas known to all voters, as is required for the
standard analysis of strategic voting.

With respect to the agenda trees depicted in Fig. 1 in Miller (2010), our remarks have
been at cross-purposes, since our interpretations of them have differed. On my interpretation
(Miller 2010: 217), "all the agenda trees in Fig. 1 represent a situation in which a bill *b* has
been proposed along with an amendment *a* and a 'backup' amendment *c* to be considered
only if *a* is rejected." Let's call this Agenda 1. Farquharson represents Agenda 1 in the
manner of (c) and Miller (1995) in the manner of (b), though (b) contains no information
not implied by (c). I interpreted (a) and (d) as two different OS representations of the same
Agenda 1. The *representations* obviously differ but, I claimed, they differ only in a way that
does not show up in the parliamentary situation given by Agenda 1.

However, Schwartz's Reply makes clear that his intention was to present (a) and (d) as
representations of two different agendas: (a) representing Agenda 1 and (d) representing the
different Agenda 2 in which the roles of *b* and *c* are switched. (The fact that *b* and *c* are
switched in the top nodes may signal this, though Schwartz elsewhere says the labeling of
the top node is arbitrary.) On this interpretation, Schwartz correctly claims that my Ques-
tion 1 is substantively different in Agendas 1 and 2, since different bills (*b* and *c*) are up for
amendment, and voters certainly would know whether they are voting on Agenda 1 or 2.

However, Schwartz's objection is to the point, because in fact FM do represent both
Agenda 1 and Agenda 2 by the same tree. This implies that FM believe that Agenda 1 and
Agenda 2 are essentially the same and that voters with given preferences would vote the
same way in either case under any fixed behavioral assumption. *The question is whether
this implication is to be viewed as an analytic defect* (the OS view) *or an analytic insight*
(the FM view). There is no dispute about the validity of this implication if the behavioral
assumption is that voters are strategic. However, OS sincere voters vote differently in (a)
and (d), while those who vote sincerely in the Farquharson "maximax" manner (or, for that
matter, in the more prudent "minimax" manner) vote the same way. As I observed in my
first response, sincere voters who rank *a* between *c* and *b* are confronted with something of
a dilemma at the first node under Agenda 1, and I now observe that exactly the same voters
are confronted with exactly the same dilemma under Agenda 2.

Let's consider several voting agendas with just three alternatives *a*, *b*, and c, which more
emphatically indicate what I believe are problems in the OS approach. It may be helpful to
have a substantive example in mind, so let's use the DePew amendment example to which
Schwartz refers in his Reply. These are the alternatives:

a: Popular election of Senators with voting qualifications set by Congress
b: Popular election of Senators with voting qualifications set by states
c: Selection of Senators by state legislatures

One way choose among these alternatives is to use Plurality Voting. There is no difference
between OS and FM on how to represent the agenda or how to define sincere voting in this
case—here we can all agree with Schwartz's principle that a "sincere voter votes for his
most preferred of the alternatives available for voting."

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[2]The last line of the paragraph in Miller (2010) that continues onto p. 219 should say "'maximax' fashion,"
not "'minimax' fashion."

But in a parliamentary setting voting is binary and requires two separate votes. Alternative *c* would not be explicitly introduced as it represents the status quo. Let's suppose that a motion is introduced to provide for the popular election of Senators with voting qualifications set by states (i.e., alternative *b*), and then a (DePew) amendment to the motion is proposed to give Congress the power to set voting qualifications, giving alternative *a*. Figures 1(1a) and 1(1b) show the resulting FM and OS agenda trees under Anglo-American (or congressional) procedure. Because this agenda is *pairwise*, the FM and OS definitions of sincere voting are equivalent. On the initial question of accepting the amendment, OS say that a sincere voter votes for his preferred of the two *ostensive alternatives a* and *b*, while FM say that a sincere voter votes for his preferred of the two *challenged alternatives a* and *b*.

Now let's consider Euro-Latin procedure (or "Sequential Procedure" and Agenda Example 9 in Miller 1995), which is essentially the same as the previously discussed example in Fig. 1 of Miller (2010) but with the fourth alternative *q* removed. Let's suppose that the first question to be voted on is whether to have popular election of Senators with voting qualification set by Congress, i.e., whether to accept alternative *a*. If the "yeas" have it, *a* wins and that's the end of it; otherwise, the second question is whether to have popular election of Senators with voting qualifications set by states, i.e., whether to accept alternative *b*. If the "yeas" have it, *b* wins; otherwise, *c* wins by default. Figure 1(2a) shows the FM agenda tree, while Fig. 1(2b) shows (what I believe Schwartz would consider to be) the OS agenda. Because this agenda is not pairwise (all three alternative being challenged at the first vote), the FM and OS definitions of sincere voting conflict for some voters. On the initial question of accepting alternative *a*, FM say that a sincere voter must somehow choose between *a* and the set {*b*, *c*}. This leaves a sincere voter in something of a dilemma if *a* is his middle preference. Farquharson resolves this dilemma by defining sincerity in "maximax" terms, i.e., a sincere voter votes "nay" (i.e., for {*b*, *c*}) if either *b* or *c* is his first preference, and Miller (1995 and elsewhere) follows Farquharson in this respect. OS avoid this dilemma by stipulating that *c* is the ostensive alternative with which *a* is paired in the first vote. If pressed, I would probably also designate *c* as the ostensive alternative rather than *b*, but I'm not sure what *general principle* rationalizes this designation, and in my earlier response I suggested that a sincere voter might plausibly view the first vote either as a choice between *a* and *b* or between *a* and *c*.

Next let's consider another procedure for which the agenda tree has the same structure as that for Euro-Latin procedure but, reflecting the different way in which "questions" are posed, differs with respect to how alternatives are assigned to bottom nodes. (This is "Successive Procedure" and Agenda Example 8 in Miller 1995, and this is how "successive procedure" was originally interpreted in Farquharson 1966.) Here the first vote is on the "question of principle" of whether the Senators should be popularly elected. If the "nays" have it, *c* wins and that's the end of it; otherwise legislative selection is rejected in favor of popular election, and the mode of popular election is decided at the second vote. Figure 1(3a) shows the FM agenda tree, while Fig. 1(3b) attempts to show the OS agenda tree. But here it seems even less clear how to assign the ostensive alternative that sincere voters are to compare *c* with at the first vote.

Finally, let's consider an "issue-by-issue" agenda, such as Agenda Example 7 in Miller (1995). Members of a club must decide what kind of banquet to give and two questions have been raised:

Question 1: Shall the dress be formal or informal?
Question 2: Shall the cuisine be French or Mexican?
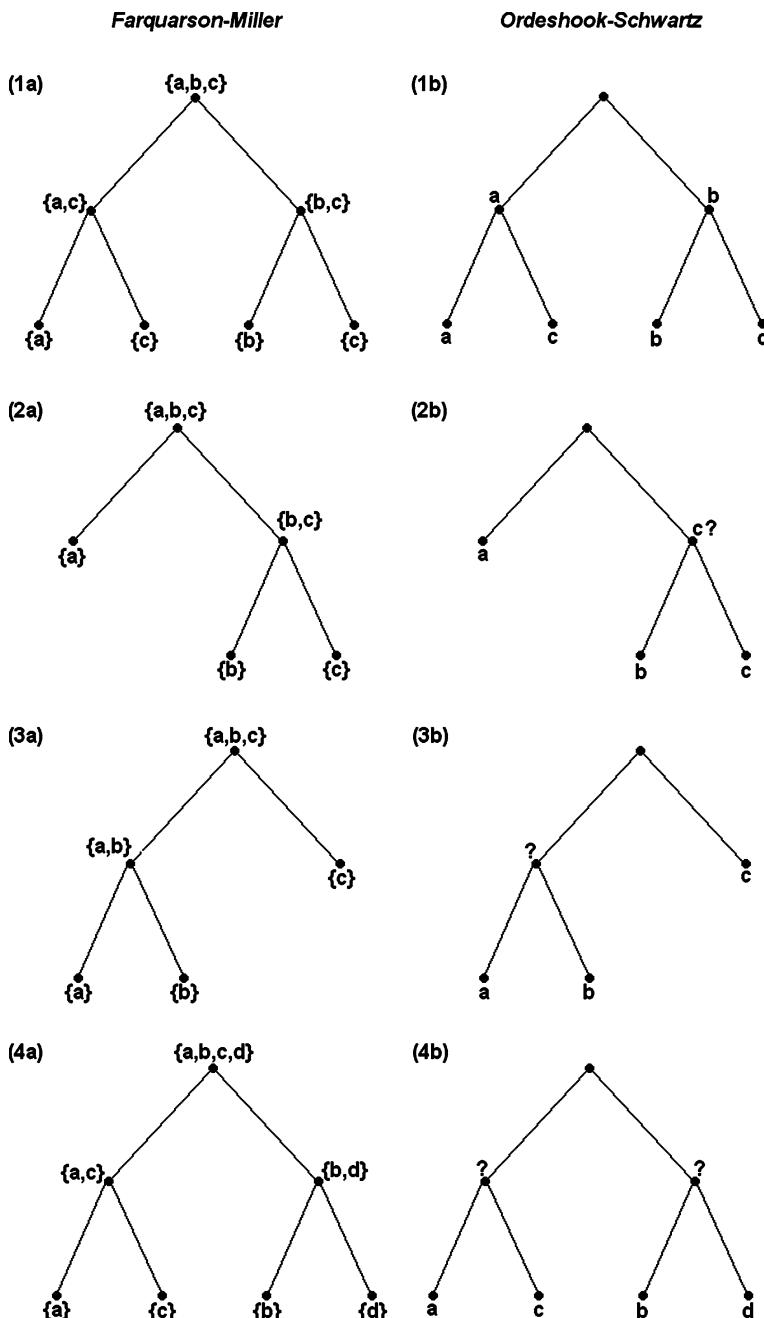
Fig. 1 Agenda tree

These two questions generate four alternatives:

a: formal dress with French cuisine;
b: informal dress with French cuisine;
c: formal dress with Mexican cuisine; and
d: informal dress with Mexican cuisine.

If the questions are voted on in numerical order, the FM agenda is Fig. 1(4a). (If the questions were voted on in reverse order, the tree structure would be the same but the assignment of alternatives to bottom nodes would change.) FM's "maximax" sincere voting is clearly defined (as is more prudential "minimax" voting). But, given that voters may have preferences that are non-separable by issues, I have no idea what the ostensive alternatives are at either intermediate node in Fig. 1(4b), so (it seems to me that) OS sincere voting in this case is not defined at all.

I conclude with two points. In my view, sincere voters vote *as if* they are entirely ignorant of the preferences of other voters. But this does not preclude a voter from voting sincerely (or in some other way that is neither sincere nor strategic) even if he knows the preferences of other voters, in order to please his constituents or conscience. Second, I want to highlight— but also qualify—the characterization of insincere voting that I previously relegated to a footnote: a "sincere" voter votes "as if he were a *dictator* in the social choice sense—or, more generally, as if he believes his vote will (somehow) be decisive at every division— and who therefore does not need to know anything about the preferences of other voters." I said that such a dictator is sincere in the FM sense, not the OS sense. This characterization identifies a unique voting strategy under any *partition* agenda (in which every surviving alternatives is challenged at every vote) like Figs. 1(2a), 1(3a), and 1(4a), and this is sincere voting in the FM sense. But under a non-partition amendment agenda like Fig. 1(1a), the dictator characterization may not identify a unique voting strategy, since some outcomes (in this case, c) can be reached by different voting paths, but it always includes sincere voting in the FM sense. And of course, under pairwise agendas, the FM and OS definitions of sincere voting are equivalent.

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