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No Testimonial Route to Consensus

ABSTRACT

The standard image of how consensus can be achieved is by pooling evidence and reducing if not eliminating disagreements. But rather than just pooling substantive evidence on a certain question, why not also take into account the formal, testimonial evidence provided by the fact that a majority of the group adopt a particular answer? Shouldn't we be reinforced by the discovery that we are on that majority side, and undermined by the discovery that we are not? Shouldn't this be so, in particular, when Condorcet's jury theorem applies? It turns out not. There are serious problems attending any strategy of majoritarian deference.

The standard image of how consensus can be achieved is by the pooling of evidence. You and I and others have different, if overlapping, bodies of information in some domain; differences of opinion between us in that domain are sourced in good part by our different sources of evidence; and so we may expect to be able to achieve a higher degree of agreement, even perhaps approach consensus, as we pool the evidence at our disposal and work from a common base.

The record on people's ability to achieve consensus by this standard route is not, alas, as bright as we might have hoped. People vary in how they process information and, as they deliberate with one another, they tend to bunch together into subgroups of like-minded individuals (Sunstein 2002). They may thereby reduce the diversity of views held in the group but still increase the distance between the views that remain.

This dim record may suggest a different approach to seeking consensus. Suppose that those of us in a certain group have pooled the information at our disposal in a certain domain, so that the differences remaining are due to our different ways of processing that pooled information. And suppose that we each have fairly reliable grounds for thinking well of one another as processors of such information; suppose indeed that the group is formed so as to ensure a high level of mutual confidence. In such circumstances, it may seem that there is a further strategy available to us in the search for consensus.

The strategy is not just to rest with the pooling of substantive evidence – evidence deriving from the facts that obtain in the relevant domain – but to go one better. Why shouldn't we each take into account, not just the substantive evidence available on the truth of any proposition, but also the formal, testimonial evidence provided by the fact that such and such a number of group-members accept it? Why, more

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particularly, shouldn't we give significant weight to the fact that a majority of the members of the group, perhaps even a certain super-majority, accept it? Why shouldn't we be reinforced by the discovery that we are on that majority side, and undermined by the discovery that we are not?

The strategy in view would have each member of the group defer to the majority on any issue that comes up between us, and thereby achieve a consensus on that question. It would privilege majority opinion and turn it into the unanimous view. And it would do this for a principled reason. Those in the minority, so the reason goes, should be moved by the fact that a majority of people for whom they have epistemic respect go a different way on the proposition at issue, and do so on the basis of shared, substantive evidence. Recognizing that the substantive evidence available leads different people in different directions, they should be moved by the bare testimonial evidence that a majority of others – others for whom they have epistemic respect – go a different way from them.

This strategy will be intuitively abhorrent to many, suggesting as it does that in appropriate circumstances we ought to defer routinely to the majority, abdicating our own construal of the substantive evidence available on some disputed question. It may seem to recommend not so much testimonial sensitivity as testimonial timidity, even servility. But still the strategy is worth considering, especially as it has the backing of Condorcet's jury theorem.

A CONDORCETIAN STRATEGY

The strategy at which I gesture in my opening remarks can be characterized more exactly with the help of some scene-setting assumptions. Here are the assumptions I shall adopt.

- We are each one amongst many people who face a yes-no question;
- we are all equally intelligent, equally informed and equally impartial;
- we have each formed an answer to the question independently of others;
- we divide into a majority and minority on the answer; and
- we are aware that those things are true.

The issue we must consider is whether, under such assumptions, the bare testimonial evidence that a majority of others take a different view on the question raised should affect what we currently believe on the basis of our own personal evidence. Should it trigger me into believing that not-p where I previously believed that p, or that p where I previously believed that not-p? More generally, should it do this for each of us in the minority, thereby leading us towards consensus?

The issue is not as general as it might be, given the assumptions in place. It supposes that the question is of a yes-no form, so that there is a clear majority and minority; that I am in conflict with a majority of others, not necessarily in conflict with all others, nor at variance with just one other, nor caught in a 50–50 divide. It presumes

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that I and others each form our views independently, adopting our own take on any common evidence. And it requires us to make a judgment between different categorical answers to the question raised; while the question raised might concern a probability – say, whether something is more likely than not – I am not allowed just to form a subjective degree of probability, or to suspend belief in response to the question, as other assumptions might permit (Elga, forthcoming). But the fact that the issue is conditioned in this way does not make it too special. It can still exemplify the general question as to whether there is sense in the testimonial strategy for the achievement of consensus (see too Rosen 2001; Christensen, forthcoming; Kelly 2005)

The main reason for regimenting the question around the assumptions given is that this connects it with Condorcet's jury theorem, in its classic form, and appears thereby to give it conclusive support (Estlund 1994; List and Pettit 2004). Let us suppose that in the case imagined each of us in the relevant group has the same independent, greater than even chance of being right: the same chance of tracking the facts and saying 'yes' if the correct answer is affirmative, 'no' if it is negative. In such a scenario, according to the classic version of the theorem, a majority will have a still greater chance of being right and the chance of the majority being right will approach 1, as the size of the group increases. Thus it is rational for each of us to defer to a majority of others, assuming that we each want our personal belief to have a higher rather than a lower chance of tracking the facts. And if we each take this individually rational line, we will have achieved a group consensus. Those in the original majority will stay there, those in the minority will move.

The Condorcet jury theorem should not be surprising. The scenario described is parallel to one where there are a number of independent, biased coins, each with a better than even chance of coming up heads. The chance of a majority of the coins coming up heads will be greater than the chance of an individual coin coming up heads, and this chance will approach 1 as the number of coins tossed increases. All that the jury theorem does is to spell out the parallel lesson for the judgmental case. The chance of my getting the answer right corresponds to the chance of an arbitrary coin coming up heads and the logic behind the theorem corresponds to the reasoning that is more familiar in the case of the coins.

IN LIMITED DEFENCE OF MAJORITARIAN SENSITIVITY

Can we justify testimonial deference of the kind recommended? Can each of us embrace it with a good epistemic conscience, confident that it will increase the chance of our getting the answer on any question in the relevant domain right? And can we collectively hope that by each embracing such a strategy we can together achieve an epistemically legitimate consensus in that domain?

Let me begin by saying that I think such testimonial deference is unimpeachable for any question that is more or less isolated from other questions on which I am committed, having no logical or other epistemically relevant connections with those commitments. An example might be provided by the question, which could arise

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after witnessing an accident, as to whether a car went through a traffic light on the green or the red. My view on that question, in all likelihood, connects only with the assumption that I am a reliable observer, and then only contingently on the absence of inattention or obstruction. The question, for all practical purposes, has the required degree of isolation.

Given this isolation of the question, I should certainly defer to a majority under assumptions like those taken for granted here. Suppose that nine of the ten people who saw the accident say that the car went through on the red, and that only I believe it went through on the green. And suppose that I regard them as good observers – observers equally good with me – and take their judgments to be independent of one another, not sourced in a common ruling. In that case I should have no hesitation, precisely for Condorcetian reasons, in giving up on my own judgment, taking my own perception or memory to be faulty.

In any situation of this kind, where everyone is positioned as I am positioned, it appears that there is a Condorcetian route to consensus. Let the appropriate assumptions be fulfilled, and each of us should move to the majority position. Each of us should move to that position, even if the majority in favor is not particularly large. There will still be a better chance of that majority being correct than of our individually being correct.

IN CRITICISM OF MAJORITARIAN SENSITIVITY

But while this limited result seems unimpeachable, it turns out that things are not at all so straightforward in the case, surely the more general one, in which the question at issue is connected with issues on which I, or any other member, is likely to have commitments. Suppose that each of us forms a judgment on that question, as part of updating a Quinean web of belief, and that we find ourselves differing from one another in the view we take. Should we each follow the Condorcetian line in this sort of case too, adjusting in favor of the majority position?

There is a good argument for thinking that with embedded beliefs like these it is inappropriate to defer to majority testimony in the way in which this may be appropriate with a non-embedded belief like that involving the car. I first spell out the argument in sketch form. Then I comment on some of the individual steps. And finally I consider how far deference to supermajoritarian testimony may serve us better.

Here in sketch outline is the argument.

- There are three salient strategies available to me if I revise an embedded belief on the simple basis of the testimony of a majority of others: that is, on the basis of forming no new belief other than the belief that that majority differs from me on the matter in question.
- *The local revision strategy*. Revise just the testimonially challenged belief and no other. *Problem*: this strategy will leave the revised belief disconnected from the rest of my beliefs; it will not cohere with others in the way the unrevised,

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embedded belief did so. The lesson is that if I revise on the basis of testimony, I should do so systematically, and this is what the other two strategies attempt.

- *The global revision strategy*. Take every belief that is testimonially challenged in the manner of the original belief by a majority of others in the group; revise each of those beliefs on a pure testimonial basis; and then allow the revisions to contribute equally to the minimal revision required in other beliefs. *Problem*: this strategy will expose me to the possibility of having to embrace an inconsistent set of beliefs.
- *The local-to-global revision strategy*. Revise the belief that was testimonially challenged in the first place – give it a privileged place – and then allow revision of that belief to dictate the minimal revisions required among connected beliefs until the coherence of my web of belief is restored. *Problem*: this strategy will expose me to a problem of path-dependence; I may be led to a different pattern of revision from the patterns to which I would have been led had I begun with other testimonially challenged beliefs.
- *Conclusion*. Since each of these strategies is problematic, there is reason to limit deference to majoritarian testimony in the case of embedded beliefs. The testimonial route to consensus is a rocky road.

AGAINST LOCAL REVISION

Not much needs to be said about the problem with the first strategy of local revision. It is fairly clear what is unattractive about forming a new belief that does not cohere well with my other beliefs, standing in direct contradiction to them, or at least in rational tension with them. The new belief will be in tension with how I continue to take the world, given that this is going to be determined by connected, collateral beliefs; it will not just be in tension with a perceptual appearance that I can discount and insulate from my beliefs. Thus the new belief will induce a sort of double vision, representing things to be a way that does not fit with how more generally they are taken to be.

AGAINST GLOBAL REVISION

The problem that bedevils global revision derives from the unsurprising but rarely noted fact that in any group it is possible for a majority of individually consistent, sincere believers to support each of a number of inconsistent propositions. Generalizing a result in law and economics (Kornhauser and Sager 1993), I have elsewhere described this as a discursive dilemma (Pettit 2001b; 2001a). Take three people, A, B and C, and consider how the majority judgments might go on three simple propositions, p, q, and p&q. A and B may support p, with C against; B and C may support q, with A against; and so, if they are individually rational, A and C will reject p&q, with only B in favour. A majority will support p, a majority q, and a majority not-p&q. A majority will support a semantically inconsistent set of propositions. And this will be so, despite the fact that each of the members of the group has a perfectly consistent set of beliefs.

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It would be crazy to take my testimonial cue from the majority in a case like this. And the possibility that the case will be like this under any scenario where global revision is employed shows how ill-supported the strategy is (see List 2006 on the probability of its being like this). Being responsive to majoritarian testimony within any group of people, even a group I regard as suitably intelligent, informed and impartial, will be a hazardous policy. Majorities are not persons and, not being responsive to the demands of consistency and the like, they may make for rotten advisors. It may sometimes be rational to live with an inconsistency, insulating it from an impact on other beliefs, but it would be miraculous if all the cases where global revision would lead to inconsistency were like this.

AGAINST LOCAL-TO-GLOBAL REVISION

Under the local-to-global strategy, I avoid this problem by letting the force of testimony impact only at one local point – only on the issue that happens to arise in the case on hand – and by revising in accordance with that single change, I let that locally generated revision propagate through my system of belief until coherence reigns. Imagine, for example, that the majority believes that p, that q and that not-p&q, as in the case mentioned earlier; that I disagree with the majority in holding that not-p and not-q, while agreeing that not-p&q; and that the case on which I am testimonially challenged – the case that happens to be prioritized – is the issue of whether or not p, rather than the issue of whether or not q. I will be required by the strategy to revise my belief that not-p, and then to let that revision force any other revisions it requires. In fact no further revisions are required, so that I will believe that p, that not-q, and that not-p&q.

This strategy will lead me to hold a pattern of beliefs on which I am in disagreement with the majority, not about whether p, but about whether q. The majority believes, inconsistently, that p, that q and that not-p&q, and I will differ from them in holding by p, not-q, and not-p&q. The problem that this reveals, however, is that if I had started by revising q rather than p, then I would have been led to a different pattern of beliefs: not-p, q, not-p&q. The strategy will produce one pattern of revised beliefs if applied at one point and a different pattern of revised beliefs if applied at another. It is sensitive to the arbitrary matter of which path I happen to follow in revising my beliefs (see List 2004 on path-dependence and inconsistency).

EXPLORING SUPERMAJORITARIAN DEFERENCE

This argument shows fairly decisively, I think, that deferring to a majority, even under the assumptions given, is not going to be a sensible epistemic strategy for any of us with deeply embedded beliefs and that it does not hold out the prospect of achieving a testimonially based consensus. Deferring to the majority may be acceptable as a policy with the perceptual belief in the car accident case but that is only because that particular perceptual belief is not deeply embedded.

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Are there more sensible testimonial strategies available? One candidate might be to discriminate amongst our beliefs between those for which we think the evidence is strong and those for which it is relatively weaker and to expose only the more weakly supported beliefs to majoritarian revision. But that is not guaranteed to work either. It may still be the case that the majority holds inconsistent views on any set of propositions that any of us exposes on this basis to majoritarian challenge. And so there will be the same sort of problem in implementing any of the strategies rehearsed with respect to those propositions.

There is another sort of approach that will do better, however. This is not to allow just any majoritarian challenge to reverse a belief but to allow only a certain sort of supermajoritarian challenge to do so. This would amount to a policy of global supermajoritarian revision.

In order to see why this approach need not involve the same problems as the majoritarian counterpart, imagine that I am prepared to defer only to a supermajority of 70%, and to every such supermajority. And suppose that, as before, I am confronted by a situation in which a majority of others hold that p, that q, and that not-p&q, where I hold that not-p, not-q and not-p&q. Suppose in particular that 70% hold by p and that 70% hold by q, giving me a reason to defer to the group on those issues. Will such supermajoritarian deference raise a problem? No, as it happens, it won't. I will be led to adopt the majority view that p, and the majority view that q, since each proposition commands the requisite supermajority of 70%. But I will also be allowed to revise my belief that not-p&q, thereby ensuring that my beliefs are consistent. I will not be forced, inconsistently, to hold by the majority view that not-p&q, since this will not be supported by a majority of 70%.

In order to see why not-p&q cannot have a majority of 70% in support, consider the following. If there is 70% support in the group for p and 70% support for q, then there has to be an overlap between the two majorities of at least 40% of the group. That 40% will be joined by one subgroup of 30% to support p, and by a disjoint subgroup of 40% to support q. But if the overlap involves 40% of the group, so that 40% will be disposed to judge that p&q, then the majority that supports not-p&q cannot be larger than 60%. Thus there will be no pressure to adopt that view and, as I would do under global revision, adopt an inconsistent belief-set.

This shows that supermajoritarian deference is less hazardous than majoritarian but it does not imply that supermajoritarian deference is absolutely free of problems.[1] For any number of issues there will be a supermajoritarian threshold beyond which the danger of inconsistency does not arise, as our example illustrates. But equally, for any number of issues, the danger of inconsistency will remain so long as the supermajority required falls below that threshold.

Thus, in the sort of example just given, there will be a problem if the supermajority required is 60% and if just 60% of the group believe that p, just 60% that q, and if those supermajorities have the minimal overlap of 20%; if there are ten people in the group, numbers 1 to 6 believe that p, numbers 5 to 10 believe that q, and only numbers 5 and 6 believe that p&q. I will have to revise my belief that not-p, accepting that p, and that

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not-q, accepting that q. What about my belief that not-p&q? Here I will be forced to keep it, under deference to a supermajority of 60%. For given that just 60% vote for p, and just 60% for q, with minimal overlap, there will be support of only 20% for p&q and support of 80% for not-p&q. Thus, under global supermajoritarian deference, I will be forced to keep my belief on that issue, and to embrace the inconsistent triad: p, q, not-p&q (on the general pattern here see List 2004).

A COMMENT ON SUPERMAJORITARIAN DEFERENCE

This concludes the main argument of the paper but it may be worth commenting further, and with reference to some technical results, on the claim about the supermajoritarian case. Recent impossibility results on judgment-aggregation show, not just that taking a majority vote on each of a set of interconnected issues may lead to inconsistency, but that similar trouble looms even if this policy is softened. Employing any voting procedure that treats members of a group equally, and that lets each issue be determined by member judgments, may generate an inconsistent set of judgments; and this, whether the procedure is majoritarian or not (List and Pettit 2002; Pauly and Van Hees, forthcoming). And varying this approach by varying the procedure employed from issue to issue – employing a majoritarian procedure with some issues, for example, and other procedures with other issues – is no good either; it too can lead to inconsistency (Dietrich and List, forthcoming). Shouldn't these results make trouble for the supermajoritarian policy of deference on a par with the trouble made for majoritarian?

No, they need not. When I go along with the majority vote on a set of interconnected issues, then in effect I let the group determine each of my judgments over those issues, where we can think of the group judgment as that which the majority supports; I abstract from the possibility of a group that is evenly divided. Where the majority supports a different view, I adopt theirs; and where the majority supports the same view, I stay put, which is equivalent to adopting theirs. Thus, adopting a policy of majoritarian deference is akin to letting the majority determine all of my views, or all of my views prior to whatever revisions I may seek in the name of restoring coherence. Since majority voting can generate an inconsistent set of output-judgments from consistent input-sets, therefore, it should be no surprise that deference to a majority can have the same effect.

But things are different with supermajoritarian deference. The impossibility theorems show that if a group supports a set of judgments on the basis of any voting procedure, majoritarian or otherwise, then it may support inconsistent judgments. But deferring to a supermajority, unlike deferring to a majority, is not tantamount to adopting the output of such a voting procedure. When I defer to a supermajority, I revise any judgments on issues where a supermajority of the group takes a different view from me and I stay put on other questions. Staying put on other questions, however, is not equivalent in this case to adopting the judgments of the group. The group may believe that p under the procedure but I will stick with the belief that not-p in any case

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where there is not a supermajority of the group behind p. Not all my judgments will be generated, then, as by the voting procedure that we imagine the group using, and so they need not be subject to quite the same threat of inconsistency.

CONCLUSION

The upshot is clear. With beliefs that are more or less deeply embedded in my credal web it would be hazardous to espouse a policy of testimonial deference to a majority, if not to a supermajority. The policy of majoritarian deference may work perfectly well with beliefs like the perceptual belief that the car went through on the green, which are relatively disconnected from the web of collateral commitments. But it is not likely to work satisfactorily with embedded beliefs of the more general run. In such cases, whether I like it or not, I am on my own. I should not be prepared to shift position, just because a majority of those I regard as equally intelligent, informed and impartial take a different view. And what is true for me is true for you and others. There is no reliable route in sight here that might lead us, on grounds of testimonial sensitivity, towards group consensus.

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NOTE

[1] I was prompted by a number of exchanges, mainly with Christian List and Wlodek Rabinowicz, to add this comment, which does not appear in Pettit 2006. See (List forthcoming) for a full discussion of the supermajoritarian case.

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