Journal of Ethics and Social Philosophy
vol. 28, no. 3 · october 2024
https://doi.org/10.26556/jesp.v28i3.3691

RESCUE CASES, THE MAJORITY RULE, AND THE GREATEST NUMBER

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In a recent paper, Tim Henning argues that the conclusion that we should save the greatest number in rescue cases can be established on procedural grounds without making use of the aggregation of interests. He first argues that we ought to respect the affected person's equal claims to have a say in the rescue decision and that this can be achieved only by the majority rule, which consists in giving each affected person an equal vote. Then he argues for the second claim that if everyone votes in their self-interest, then the greatest number will be saved. I present a class of cases in which the second claim fails. This establishes that even if self-interested voting is assumed, the majority rule does not always lead to the greatest number being saved.

1. Majority without Numbers

The claim that I will dispute in this note is that if we use the majority rule in rescue cases, then "in cases where each votes in their own self-interest, respect for their equal right to decide, or their autonomy, will lead us to save the greater number."[1] This section presents a rescue case in which this claim fails. The second section presents a variant of this case (which, other than the one discussed in this section, does not involve any probabilistic element) and discusses potential ways to weaken the claim that use of the majority rule leads to saving the greatest number.

Following Henning, I understand the majority rule as "a decision procedure that selects an option only if it receives at least as many votes from a relevant electorate of affected persons as any other option on the table" (758).[2] For simplicity, I will exclusively consider rescue cases in which two or more boats are about to sink, and the rescuer can save the passengers of at most one boat. An example might help to understand Henning's claim:

1 Henning, "Numbers without Aggregation," 755 (hereafter cited parenthetically).

2 See Novak, "Majority Rule," for a general discussion of the majority rule.

> *Base Case*: Let there be boats B_1 and B_2. Every boat is about to sink, and those on the boats will die if you don't rescue them. You can rescue the passengers of at most one boat. There are two persons on B_1, and there is one person on B_2.

Assume for the sake of argument that it is established that we should let majority rule determine which option we choose. The options are rescuing boat B_1 and rescuing boat B_2. For any passenger, to vote in their self-interest is to vote for the boat on which they are being rescued. Consequently, if everyone votes in their self-interest, then B_1 will be rescued. Rescuing B_1 is tantamount to saving the greatest number, namely, two persons instead of only one. The base case is in accordance with Henning's claim.

However, Henning's claim is false in the following case:

> *First Problem Case:* Let there be boats B_1, B_2, and B_3. Every boat is about to sink, and those on the boats will die if you don't rescue them. You can rescue the passengers of at most one boat. There are three persons on B_1, and there are two persons on each of B_2 and B_3. You can either go to B_1 and rescue it or steer your rescue boat into the fog, which results in a probabilistic process that gives each of B_2 and B_3 a 50 percent chance of being the boat you reach and rescue.

I assume that only options that can be ensured to obtain by you can be voted for. Of course, the passengers of B_2 hope that you will steer into the fog and that the probabilistic process leads to you rescuing B_2. However, there is nothing you (or anyone else) can do to ensure that the probabilistic process will yield a certain outcome. It seems absurd to allow people to cast votes for options that are such that no one can bring the option about. For this reason, I assume that in this case, the available options between which the passengers should vote are rescuing B_1 and steering the boat into the fog.

I will also make the assumption that in ordinary rescue cases, for an affected person to vote in their self-interest is for them to vote for the option that maximizes the chance that they are rescued. I take examples of extraordinary rescue cases to be cases where the passengers of some boats are meaningfully related to the passengers of other boats (e.g., their children or spouses), cases where some passengers have no interest in continuing to live, or cases where some options involve being rescued for extremely high costs (like the death of close relatives). Henning is explicit that in such cases, the majority rule might not lead to the greatest number being saved, so it is dialectically safe to set them to one side.[3]

3 See Henning's case of Unanimous Choice and the discussion of his claim that "it is a *justified default assumption* that people want us to save the group to which they belong" (767).

With these assumptions in place, we can argue as follows. By the first assumption, you rescuing B_1 and you steering into the fog are the two options that can be voted for.[4] For the four passengers that are on one of B_2 and B_3, the option of you steering the boat into the fog maximizes their chance of survival (for it gives each of them a 50 percent chance of survival while the only other option available gives each of them no chance of survival). By the second assumption, if every one of the four passengers that are on one of B_2 and B_3 votes in their self-interest, every one of them votes for you steering the boat into the fog. The four passengers that are on one of B_2 and B_3 have a majority. The option the majority will vote for if everyone votes in their self-interest is such that there is an alternative option that leads to a greater number being saved. Therefore, in the First Problem Case, it is not the case that if everyone votes in their self-interest, then the greatest number will be saved.

One potential response, which I owe to an anonymous referee, is to discount the votes of those on B_2 and B_3. The persons on B_2 and B_3 might be seen as having a weaker claim than those on B_1, for your decision to steer into the fog would only give them a 50 percent chance of survival, while your decision to rescue B_1 would guarantee the survival of its passengers. While section 9 of Henning's paper only discusses discounting the votes of those who face lesser harms, some might hold that a lesser chance to avoid an equally severe harm should also lead to a discount. I am unsure whether discounting in the given case is plausible, for it seems that the plausibility of discounting is underwritten by the thought that those who have less to lose should have less of a say. This feature gets lost if we extend it to cases where everyone's life is at stake and having a lesser chance of being saved is what leads to a discount. In any case, the next section will present a further problem case in which the discounting response is not available.

2. Discussion

The First Problem Case might look like a counterexample that can be taken care of by insisting on the discounting response or by a slight weakening of the claim under discussion. One option for a weakening is to restrict the claim that if everyone votes in their self-interest, then the greatest number will be saved. This claim could be restricted to cases in which every affected person can vote for an option that guarantees that they will be rescued. This, one might

4 I ignore the options that consist in holding lotteries between the two basic options. Clearly, holding a nontrivial lottery between the two basic options is not maximizing the chance of survival for those on boats B_2 and B_3. Given that they together already have a majority, we can assume that they do not vote for such a lottery if they are self-interested voters.

hope, takes care of the probabilistic element that creates problems in the First Problem Case.

It should be noted that this weakening would already undermine Henning's argumentation to a considerable extent, unless the weakening could be independently motivated (i.e., motivated without overtly or tacitly relying on the claim that the greatest number should be saved). Furthermore, it will not do, as the following case shows:

> *Second Problem Case:* Let there be boats B_1, B_2, and B_3. Every boat is about to sink, and those on the boats will die if you don't rescue them. You can rescue the passengers of at most one boat. There are three persons on B_1, and there are two persons on each of B_2 and B_3. The passengers can't communicate, but they are able to cast votes, and they know about the options available to you and that you will get the result and use the majority rule to decide what to do.

I claim that, given that their aim is to maximize their chances of surviving, it is instrumentally rational for the passengers on B_2 and B_3 to vote in favor of you holding a lottery that gives each of the passengers of B_2 and B_3 a 50 percent chance to be rescued. To see why I hold that this voting behavior is rational, take the perspective of the passengers of B_2. (The situation of those on B_3 is exactly analogous.) Casting a vote for B_2 being rescued (without any lottery) is irrational for them, for they cannot expect that there will be a majority for this. Given that they cannot communicate with the passengers of B_1, it is impossible to form an alliance with them. They have no reason to expect that the passengers of B_1 will vote for anything that differentiates between the passengers of B_2 and B_3. The setup treats B_2 and B_3 exactly alike. Therefore, no solution that creates any asymmetry between them is plausible to find a majority (without communication between the boats). The only options that treat B_2 and B_3 perfectly alike while giving each of their passengers a chance to survive is to hold a lottery that gives each of the passengers of B_2 and B_3 an equal chance to be rescued. Given that the passengers of B_2 and B_3 together have a majority, they have no reason to care about the chances of those who are not in a situation that is symmetrical to their own. So the passengers of B_2 should cast votes for a lottery that gives each of the passengers of B_2 and B_3 a 50 percent chance to be rescued, hoping that their counterparts on B_3 have similar thought processes.

Why did I stipulate that the passengers can't communicate with those on other boats? *Prima facie* one might think that the assumed voting behavior becomes more realistic if the passengers of B_2 and B_3 can share their thoughts. However, if they can also communicate with those on B_1, then the three passengers of B_1 will also try to make offers. The resulting situation is unstable insofar as the passengers of any two boats have an absolute majority (a majority of more than half of the electorate), and the passengers of no boat have an absolute majority on their own. Whatever the ensuing discussions would result in, in real-life cases, it is far from clear that the result would lead to those on B_1 being rescued.[5]

Revisiting the discounting response shows that it does not work in the second problem case: in this case, every person has the option to vote for a procedure that guarantees their survival. Discounting the passengers' votes only if they do not exercise this option amounts to letting the strengths of their votes depend on what they are voting for. This seems to be an implausible response that is hard to square with the idea that in majority decisions, the affected persons can autonomously decide on how to use their votes.

Of course, one could further restrict the claim that if everyone votes in their self-interest, then the greatest number will be saved. One might ban voting for lotteries. However, Henning himself explicitly claims that you ought to respect if affected persons vote for lotteries, even if you take doing so a "tragic mistake" (761). Another option would be to ban voting for lotteries *for strategic reasons* (i.e., to secure a majority).

Taking this further weakening into account, we arrive at the following claim. If a rescue case (1) involves no probabilistic element, (2) every affected person votes for the option they would vote for if they could dictatorially decide the outcome, and (3) everyone votes in their self-interest, then the majority rule guarantees that the greatest number will be saved.

I did not present any reasons to doubt this weaker claim. Restriction 1 takes care of probabilistic setups like the First Problem Case, and restriction 2 rules out strategic alliances like in the Second Problem Case. It might after all be the principle Henning has in mind.[6] When making his argument explicit, he uses the following premise:

P4. If each affected person votes for the option in which she herself is saved, and if we let majority rule determine the option we realize,

5 The passengers on B_1 might have a slightly more comfortable position, for they have a relative majority if no two boats are such that their passengers manage to form an alliance and agree to vote for the same option. Still, it remains the case that there is a possible alliance against them that has an absolute majority.

6 Henning's dialectics against lottery voting (i.e., randomly drawing one of the cast votes) in sec. 8 of his paper speaks against the suspicion that he assumes 2. There he argues that we should allow voting for probability distributions. Then he shows that voting for probability distributions would in some cases of lottery voting give strategic voters the power to dictatorially influence the overall probability distribution (given the reduction of compound lotteries).

then we will realize an option that saves at least as many people as any other option. (759)

This premise is applicable only to cases where each affected person has the option to vote for themself being saved (without any probabilistic element, so we might suppose). The further explication of Henning's argument consists in concluding from P4 and the intermediate conclusion that "in rescue cases we should let majority rule determine which option we realize" (759) the following final conclusion:

C2. Thus, if each affected person favors the option in which she herself is saved and we follow the morally required procedure, then we will realize an option that saves as many people as any other option. (759)

The slight change in formulation from "votes for" to "favors" seems to indicate that Henning is either unaware of the possibility that affected persons rationally do not vote for the option they favor (to secure a majority) or that he wishes to tacitly preclude it.[7] However, it seems worthwhile to point out that the class of cases in which the majority rule leads to the greatest number being saved is severely restricted. The cases discussed in this note show that the proponent of the majority rule sometimes has to decide between ignoring majority votes and not saving the greatest number. The connection between numbers and majorities is hence not as close as one might have hoped.

One potential reaction is to discuss whether the restrictions needed to secure a tight relation between the majority rule and saving the greatest numbers can be independently motivated. A closer look at the ways in which the majority rule can be philosophically justified might help. Two prominent philosophical ideas in this respect are that the majority rule is justified because it encodes equal respect to the members of the electorate and that it is justified because it fosters the autonomy of the affected persons.[8] One might, for example, try to argue for a theory of autonomy that supports the majority rule only in the restricted class of cases in which it leads to the greatest number being saved. Whether this project can be successfully carried out is a question that will be left for another occasion.

A more steadfast reaction is to maintain that the majority rule tells us what we ought to do in rescue cases and to accept that we hence ought to save the

7 Note that the argument is formally invalid if "favors" and "votes for" are not treated here as synonymous.

8 The former idea can be found in Waldron, *The Dignity of Legislation*. The latter idea is alluded to in sec. 4 of Henning's paper and can also be found in Kelsen, "On the Essence and Value of Democracy."

greatest number only in a restricted class of cases. It should be noted that the Second Problem Case can be modified (by raising the number of boats with few passengers that are in pairwise symmetrical situations and raising the number of people on the remaining boat) to make the majority rule lead to drastic cases of failures to rescue the greatest number. A potential defense of the steadfast response that goes beyond a general defense of the majority rule might consist in arguing that the features that lead to a disconnect between the number rule and the majority rule (like, e.g., options for strategic voting) are morally relevant for independent reasons.[9]

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9 I wish to thank two anonymous reviewers for their comments, which led to significant improvements of this paper. Work on this paper was supported by the Swiss National Science Foundation, grant number P500PH_214177.