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What Can We Learn from the Diversity Trumps Ability Theorem?

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The Diversity Trumps Ability theorem suggests that, under certain conditions, more diverse groups outperform groups of more individually competent members. Despite initial excitement about the theorem's application to democratic decision-making, critics have largely dismissed it as irrelevant to real-world democracies. I argue that this dismissal is unwarranted. After informally reconstructing the theorem, I explain that while it fails to literally apply in realistic cases, we can extract an important "baton-passing" mechanism from it that both employs a wider range of diversity and activates in more contexts than the theorem itself suggests. Most notably, it applies not only in problem-solving contexts where we share values, but also in bargaining contexts where we don't. And it can be given a dynamic interpretation that helps explain iterative improvement over time. Diversity doesn't really trump ability, but understanding when diversity facilitates baton-passing—and when it doesn't—can illuminate both democratic successes and democratic failures.

What Can We Learn from the Diversity Trumps Ability Theorem?

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Back in the 1980s, democratic theorists got excited about the Condorcet Jury Theorem.[1] They rediscovered an old proof showing that, under certain conditions, the majority is more likely to be correct than any individual. And even better: the majority's odds of being correct approaches 100% as the group size grows.[2] Could this provide an epistemic vindication of democratic decision-making? Could it explain why Rousseau may have been right to claim that, when I am outvoted by the majority, this "proves nothing more than that I made a mistake"?[3] Could it explain why the people, rather than experts, should rule?

After this initial excitement, enthusiasm waned.[4] The Condorcet Jury Theorem is an application of the "law of large numbers": if we have many independent weighted coins, each with a greater than 50% chance of landing heads, then if we flip enough coins, the chance the majority lands heads approaches 100%. And the theorem assumes that voters operate basically like weighted coins: there are two options, each individual has a better than random chance of being correct about which is best, their beliefs are independent in the sense that their errors are uncorrelated, and everyone votes for what they sincerely believe is best. The trouble is that voters aren't like this. For, even setting aside the restriction to two options, which later extensions of the theorem proved unnecessary, its other conditions are very demanding.[5] This is easy to see when we consider the possibility of *systematic* errors or biases: these may lead voters to make judgments with a less-than-random chance of being correct, as well as to make highly correlated errors. Furthermore, individuals may vote strategically, or for their own perceived interest, rather than for what they genuinely believe is best. These and other standard concerns led many to dismiss the Condorcet Jury Theorem as relying on unrealistic assumptions, and so as being irrelevant to real-world democracy.

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[1] Grofman and Feld 1988; Estlund et al. 1989.

[2] Condorcet 1785.

[3] Rousseau 2018 [1762], sec. 4.2.8.

[4] See Schwartzberg 2015.

[5] For the extension beyond the two-option case see: List and Goodin 2001; Goodin and Spiekermann 2018, pp. 26–31.

Over time, however, a more moderate position emerged.[6] Although the Condorcet Jury Theorem, in its original form, doesn't literally apply in democracy, it suggests an important insight. For what drives the theorem, it turns out, is the mechanism of *error cancelation*. When errors are uncorrelated—because they arise either due to "noise" (random errors around an otherwise truth-tracking process) or to systematic biases on the part of some counteracting systematic biases on the part of others—they can cancel out. The same basic mechanism drives other "wisdom of crowds" phenomena, where the mechanism is even more transparent: if you ask a large number of people to guess the weight of a cow, or the number of jellybeans in a jar, overestimations and underestimations tend to cancel out, making the average judgment of the crowd highly accurate.[7] It is a mistake to think that the Condorcet Jury Theorem always vindicates majoritarian rule, or that other wisdom of crowds phenomena always vindicate opinion aggregation. Under some conditions, errors cancel out; under others, they don't. Still, the theorem points us toward an important mechanism that democracy plausibly harnesses at least some of the time, and which is worthy of further study.

History has a way of repeating itself. Recently, some democratic theorists have gotten excited about another theorem: the Diversity Trumps Ability theorem (also known as the "Hong-Page Theorem").[8] This is a newer proof, which shows that, under certain conditions, more diverse groups are guaranteed to outperform groups composed of more individually competent members.[9] And, some have thought, maybe this theorem can provide an epistemic vindication of democracy, succeeding where the Condorcet Jury Theorem failed. For democracies involve deliberation and decision-making by large, diverse groups. And if the Diversity Trumps Ability theorem can be trusted, then democracy's ability to harness diversity may lead to effective decisions at the collective level.

This time, however, the pushback came swiftly. Perhaps wary of formal theorems after their experience with the Condorcet Jury Theorem, democratic theorists have subjected the Diversity Trumps Ability theorem to an onslaught of criticism, arguing that it at best applies in very narrow conditions—conditions not at all characteristic of actual democracies. For example, the theorem makes unrealistic assumptions that stack the deck in favor of diversity and against competence.[10] It assumes a narrow conception

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[6] See Goodin and Spiekermann 2018.

[7] Surowiecki 2004; Page 2007, chs. 7–8.

[8] Landemore 2012; 2014; 2021.

[9] Hong and Page 2004; see also Page 2007, ch. 6.

[10] Brennan 2021, pp. 251–71; 2023; Gunn 2014; Herzog 2024; Quirk 2014; Romaniega 2025; Thompson 2014.

of diversity, where individuals are "cognitively" diverse yet share the same values.[11] It assumes an overly static conception of democratic decision-making.[12] And in a reversal of the Condorcet Jury Theorem, it doesn't apply when there are only two options.[13]

In some sense, these critics are right. Much like the Condorcet Jury Theorem, The Diversity Trumps Ability theorem is unlikely to literally apply in any realistic cases of interest. However, in their rush to point out the theorem's failure, critics have overlooked the *insight* of the theorem, or the mechanism that drives it. Although the Condorcet Jury Theorem fails to literally apply, surviving this failure is an important insight about the mechanism of error cancelation. But what, if anything, survives the failure of the Diversity Trumps Ability theorem to literally apply? What mechanism drives it, and what can we learn from it about democratic decision-making? This question has been surprisingly neglected in the literature.[14] Here, I begin to answer it.

Specifically, I have three goals. The first is to explain, simply and in plain English, what the theorem says. This is important to do, since the theorem has been widely misinterpreted, as if by a game of broken telephone: most have focused on Landemore's very rough gloss of Page's very rough gloss of Hong and Page's formal proof, and much has been lost in translation.[15] Although I won't spell out all the formal details here, I will provide an informal statement of the theorem's conditions and of how the proof works. Those interested in the formalism may either examine Hong and Page's original proof or Weymark's more accessible presentation.[16]

My second goal is to explain why even though the theorem—literally interpreted— implies little about real-world decision-making, we can extract an important

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[11] Ancell 2016; Brennan 2016, ch. 7; 2001, ch.9; 2023; Muirhead 2014; Müller 2023; Gaus 2016. ch. 3; Stich 2014.

[12] Anderson 2006.

[13] Weymark 2015.

[14] However, there are few important precursors to my analysis. First, Gaus (2016, pp. 111–114) provides a brief but illuminating discussion of the Diversity Trumps Ability theorem, from which I have borrowed the terminology of "baton-passing." Second, Benson (2021; 2024b, ch. 7) and Goodin and Spiekermann (2018, pp. 111–120) each provide more general models of how diversity can aid democratic decision-making, which are meant to capture some of the spirit of the Diversity Trumps Ability theorem but not its details. Third, there has been a flurry of recent formal modeling work building on the agent-based model that Hong and Page 2004 provide as an accompaniment to their theorem (Genta 2024; Grim et al. 2019; Hankins et al. 2023; Holman et al. 2018; Sakai 2020). Although I am not primarily concerned with these agent-based models here, I briefly address them in Section IV.

[15] Landemore 2012, pp. 102–103; Page 2007, pp. 158–162; Hong and Page 2004.

[16] Hong and Page 2004; Weymark 2015.

mechanism from it. This will be quick work with the theorem in view, as it basically falls out of its proper understanding. In short, I will explain that while the part of the proof that dooms the competent group to inferior performance is not especially interesting, the part that leads the diverse group to do well is more significant, since it relies on a *baton-passing* mechanism whereby members of more diverse groups are better able to build on each other's ideas to come up with new and better solutions than any could find on their own. I will also explain the conditions under which the mechanism operates, and how the mechanism can be driven by any type of diversity that allows individuals to find different sorts of improvements over the same starting point—and not merely by the sort of "cognitive diversity" typically associated with it.

My third goal is to show that this mechanism applies far wider than the assumptions of the theorem might seem to suggest, and even than its proponents have claimed. Most notably, it applies not only in shared problem-solving contexts where we all agree (more or less) in our values, but also in bargaining contexts where we don't. Moreover, the mechanism can be given a dynamic interpretation, where it helps explain iterative improvement over time, rather than merely a static interpretation that applies only to deliberative contexts prior to the implementation of a decision.

In the end, I don't make any grand claims about the Diversity Trumps Ability theorem, or about the baton-passing mechanism I extract from it. I don't claim it shows, for example, that democracy is the best way to make decisions, or even that the mechanism fully captures the epistemic benefits of diversity. Instead, I aim only to explain this mechanism and its potential relevance for democracy, making it seem plausible and so worthy of further study. I therefore conclude by briefly reflecting on the implications and limitations of my discussion, noting that a proper understanding of the theorem may help to explain not only why democratic decision-making sometimes goes well, but also why it sometimes doesn't.

I. THE DIVERSITY TRUMPS ABILITY THEOREM

A. The Setup

The basic setup of the Diversity Trumps Ability theorem is that individuals face a "search" context: there is a problem, and individuals try to find the best possible solution.[17] For example, they may be aiming to design the most fuel-efficient engine or the most just tax policy. Crucially, we don't assume that individuals have a list of solutions at hand, from which their task is to select the best. Rather, they search

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[17] Hong and Page 2004; see also Weymark 2015.

through the space of possible solutions, and search isn't always comprehensive— sometimes there may be an option an individual overlooks, even though they would regard it as best if they found it.

We also assume search is *path-dependent*, in the following sense: each individual begins at some "starting point" and navigates the search space by applying a "search rule," such that their "stopping point" is a function of *both* their starting point *and* their search rule. For example, starting with the industry standard fuel engine or the current best prototype, an individual might search by trying to swap out one engine part at a time; or starting with their jurisdiction's current tax policy, they might look at tax policies of neighboring jurisdictions. Search might then halt because individuals have reached an engine design that cannot be improved by swapping out a single part (even though a better engine could be achieved through swapping out multiple parts), or a jurisdiction with a more just tax policy than any of its neighbors (even though other possible tax policies would be even better).

These simple search rules are merely illustrations: we don't assume anything about the search rules individuals employ, but only that individuals are *minimally competent* at employing their search rules in the sense that each stops their search at a "local optimum" where their search rule can find no further improvements. In other words, search is reasonably thorough and at least not counter-productive: no individual ends their search prematurely (when their own search rule can find further improvements), or at a worse point than they began.

For short, we can refer to this idea of minimally competent yet path-dependent search as:

> *Minimal competence*: Each individual begins search at some starting point and stops at a local optimum where their search rule can find no further improvements.[18]

A further assumption of the theorem—which we will come back to at some length later—is that individuals all share values, in the following sense:

> *Evaluative homogeneity*: Whenever one individual ranks one option as better than another, all other individuals agree.[19]

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[18] Minimal competence corresponds to what Hong and Page (2004, p. 16387) call "Assumption 0."

[19] Hong and Page (2004, p. 16387) do not state evaluative homogeneity as one of the four explicit conditions of their theorem, but instead mention it in passing as a background assumption.

Evaluative homogeneity doesn't imply that all individuals will reach the same solution, stopping their search at the same point, since, again, different individuals find different options. However, it does imply that if I stop my search at an option that I think is better than where you stop yours, you will agree that my stopping point is better once I bring it to your attention.

A final assumption concerns the background population of individuals involved in the search:

> *Background randomness:* Search rules and starting points are distributed randomly among individuals in the background population, according to independent probability distributions that each assign some positive probability to each possible alternative.[20]

So, individuals might take any possible option as their starting point, regardless of their search rule, and they may each be assigned any possible search rule.

B. The Result

The Diversity Trumps Ability theorem employs further assumptions about group decision-making in order to derive the conclusion that, if we randomly select a group of individuals from the background population, this "diverse group" will perform at least as well as an equally sized "competent group" composed of the most competent individuals drawn from the same background population. This is because, under these conditions, the diverse group is *guaranteed* to find the "global optimum" or best possible solution, but the competent group is not. We can therefore split the further conditions in two, examining first those generating the guarantee for the diverse group, and then those showing that the competent group enjoys no similar guarantee.

The two additional conditions needed for the pro-diversity side of the theorem are:

> *Background diversity*: For each globally suboptimal starting point, there is someone in the background population with a search rule that can find an improvement.[21]

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[20] Background randomness combines two assumptions made by Hong and Page: first, that starting points are distributed independently of individuals' search rules, according to a (different) probability distribution with full support; and second, that search rules are distributed according to a probability distribution that also has full support. They mention the first assumption in passing (Hong and Page 2004, p. 16387) and include the second in the statement of their result (Hong and Page 2004, p. 16388).

[21] Background diversity is a slightly strengthened version of what Hong and Page (2004, p. 16387) call "Assumption 1 (Diversity)," which states only that, for each globally suboptimal

> *Baton-passing*: If some group member can find an improvement over another group member's stopping point, then the group can find that improvement.[22]

Background diversity states that, in the background population from which we draw both groups, search rules are sufficiently diverse that it is always possible for individuals to build on each other's solutions. If one individual gets stuck at some local optimum where they can find no further improvements, but this point is not also the global optimum (because there are other, better options that their search rule can't find), then there is always someone else who can find an improvement. Baton-passing says that individuals in a group will always build on each other's work, if their search rules permit this. The intuitive idea is that if one individual's search gets stuck at a local optimum where their search rule can't find any further improvements, but another group member has a search rule that could improve on this local optimum, then the

starting point, there is someone in the background population with a search rule that can find a *different* option than that starting point. Combined with minimal competence, Hong and Page's version of the condition implies that, from any suboptimal starting point, there is someone in the background population who can find a different and *at least as good* option, but not necessarily (as in my version) that they can find a *better* option (given the possibility of ties, where two options are equally good). This discrepancy technically renders Hong and Page's proof invalid, as Thompson (2014) has enthusiastically pointed out, but the critique strikes me as overstated, since validity is easily restored simply by substituting their version of the condition for my slightly stronger one (see Romaniega 2025, p. 38). This seems to be what Hong and Page had in mind anyway, given that my version of the condition matches their repeated informal glosses on it, both in the original article and in Page's subsequent publications (Hong and Page 2004, p. 16387; Page 2007, pp. 160–161; Page 2015, p. 9). With this change made, there is no need to also add the assumption, as Thompson (2014) suggests we must, that our mapping between options and values is "one-to-one" in the sense that no two options ever tie in their value. For extended responses to Thompson's critique, see Kuehn (2017) and Singer (2019); and for another critique of Hong and Page's alleged "misuse of mathematics" along similar lines to Thompson, see Romaniega (2025).

[22] As before, Hong and Page (2004, p. 16388) do not state baton-passing as one of the formal conditions of their theorem, but instead mention it in passing as a background assumption. Note that, while I here assume a sequential interpretation of this condition—where, as the name "baton-passing" suggests, group members search until they get stuck, before passing the baton to other members—Hong and Page only offer this as one possible interpretation of the condition, which technically leaves open how groups employ their members' search rules. There is nothing in the formalism, for example, ruling out a group simultaneously using all its members' search rules at once. However, since in practice it is hard to imagine how group search could proceed without sequential elements—group members must, at the very least, take the time to communicate their ideas to each other—I will always speak as if search is sequential in this way, though I do not thereby mean to rule out any of the wide variety of dynamics that might underlie group search in the real world.

group can find that improvement. I call this "baton-passing" since it involves each group member passing the baton to others, in something like the manner of a relay race: if I get stuck, I pass the baton to another group member, who passes the baton when they get stuck, and so on.[23]

Together, our conditions imply that if a group is composed of the entire background population, it is guaranteed to find the global optimum: by background diversity, there is always some individual with a search rule that can find an improvement when another individual gets stuck; and by baton-passing, if any individual can find the improvement, the group can find it too. So, from any starting point, the group can pass the baton all the way to the global optimum. This trivially implies:

> *Diversity Guarantees Success*: If we create a diverse group by randomly drawing *G* individuals from the background population of *B* individuals, then for some *G* and some *B*, the diverse group is guaranteed to find the global optimum.

This is trivial because, as I have noted, it at least holds when G=B: when the group is composed of the entire background population. Indeed, it more generally holds whenever *G* is large enough relative to B that it includes *all search rules* in the background population, since this is all that matters to group performance. In other words, diversity guarantees success whenever we take a large enough sample of a background population that its full diversity of search rules is represented in the group.

We now turn to the two additional conditions needed for the anti-ability side of the theorem:

> *Minimal difficulty*: No search rule can find the global optimum from every starting point.[24]

> *Uniqueness*: There is a uniquely most competent search rule.[25]

Minimal difficulty implies that the problem is difficult enough that no individual can always find the best solution, given that starting points are randomly distributed. Uniqueness says that there is a single most competent search rule in the population,

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[23] As previously noted (fn. 14), I borrow the "baton-passing" terminology from Gaus (2016, pp. 111–114).

[24] Minimal difficulty corresponds to what Hong and Page (2004, p. 16387) call "Assumption 1 (Difficulty)."

[25] Uniqueness corresponds to what Hong and Page (2004, p. 16388) call "Assumption 3 (Uniqueness)."

where we define competence in terms of the expected value of the stopping point an individual employing that search rule will reach (again, given the distribution of starting points).

Our conditions now trivially imply:

Ability Doesn't Guarantee Success: If we create a competent group by drawing the G most competent individuals from the background population of B individuals, then for some G and some B, the competent group is not guaranteed to find the global optimum.

This time, the result follows trivially because it clearly holds in the case when $G=1$: when there is only one individual in the competent group. For then, by minimal difficulty, the competent individual cannot always find the global optimum. And more generally, this will hold in any case where G is small enough relative to B that—by uniqueness—all members of the competent group share a search rule. For it will then remain the case that no member of the group is guaranteed to find the global optimum on their own. Furthermore, the group won't be able to make use of any baton-passing dynamics, since all share the same search rule. So the group won't be guaranteed to find the global optimum either.

Our conditions therefore trivially imply that (1) if the group size is large enough relative to the background population, the diverse group is guaranteed to find the global optimum, and (2) if the group size is small enough relative to the background population, the competent group lacks this same guarantee. And it turns out that it is mathematically possible (though, despite what some have claimed, no longer trivial) to prove that the scenarios described in (1) and (2) sometimes hold *at the same time*.[26] This yields the Diversity Trumps Ability theorem, which follows from all our stated conditions:

Diversity Trumps Ability: There is some G and some B such that a diverse group of G individuals randomly drawn from the background population of B individuals is guaranteed to find at least as good a solution as a group composed of the G most competent members.[27]

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[26] For the charge of triviality, see Brennan (2021, pp. 46–68; 2023). See also: Thompson 2014; Romaniega 2025.

[27] Hong and Page's (2004, p. 16388) own statement of their theorem makes it conditional on an assumption about how search rules are distributed, but (as noted in fn. 20) I have moved this assumption into my statement of background randomness.

So, diversity trumps ability, in a specific sense: for some group size and some background population size, the diverse group is guaranteed to perform at least as well as the competent group, because the diverse group is guaranteed to find the best solution and the competent group is not.

II. FROM THEOREM TO MECHANISM

At this point, readers are no doubt wondering how this is at all relevant to real-world decision-making, let alone to democracy. And I share this concern: there are several reasons to worry about the relevance of the Diversity Trumps Ability theorem. In this section, I first develop a straightforward version of this concern, and then argue that despite the theorem's lack of realistic application, it highlights an important mechanism that more plausibly applies, and which makes use of a wider range of diversity than one might expect. In the following section, I build on this discussion to explain why the mechanism applies more broadly than the theorem suggests, by responding to concerns about the theorem's assumption of evaluative homogeneity and its presumed "static" nature.

A. Two Worries

The first reason to worry about the theorem (which has been oddly overlooked in the existing literature) is that the result isn't as general as its name suggests: the theorem says that there is *some* background population size and *some* group size, such that a randomly selected group of individuals is guaranteed, in virtue of its greater diversity, to outperform a group composed only of the most competent individuals. But this doesn't imply that diverse groups always do better than groups composed of more individually competent members, or that increasing a group's diversity improves its performance, or anything of the sort. Instead, diversity "trumps" ability only in the sense that this trumping relation holds for at least one group size and one background population size. As we have seen, this will occur when both (1) G is large enough relative to B to get the result that diversity guarantees success, and (2) G is small enough relative to B to get the result that ability doesn't guarantee success. This goldilocks result might not obtain in any realistic case.

A second, closely related worry is that the theorem stacks the deck in favor of diversity and against competence.[28] The sense in which diversity trumps ability is that

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[28] Compare: Brennan 2021, pp. 251–71; 2023; Gunn 2014; Herzog 2024; Quirk 2014; Romaniega 2025; Thompson 2014.

the diverse group is *guaranteed* to find the best solution, but the competent group is not. Diversity Guarantees Success is achieved through making favorable assumptions about diversity in the background population (and so in a large enough group), and about how well groups harness it—there is always someone who can find an improvement others overlook, and groups find every improvement any member can find. Even more troublingly, the trick behind Ability Doesn't Guarantee Success is that everyone in the competent group uses an identical search rule, such that the group performs no better than any individual.[29] In other words, since the competent group is composed of clones who may differ only in their starting point, it simply finds the best solution that any of its members can find on their own—and since the theorem assumes that no individual is guaranteed to find the best solution on their own, it follows that neither is the competent group.

In effect, then, the theorem only tells us this: if a group's members are sufficiently diverse in precisely the sense that they collectively have access to all the search rules needed to find the best solution, and if the group is perfectly able to harness this diversity by making use of all these search rules, then the diverse group is guaranteed to find the best solution, and so will do at least as well as any *individual*, given the further assumption that no individual is guaranteed to find the best solution.

B. Extracting the Mechanism

These worries undermine any direct application of the Diversity Trumps Ability theorem to democratic decision-making: its conclusion is narrow and its assumptions imbalanced. However, even though the theorem doesn't really show that diversity *trumps* ability, it does suggest an interesting mechanism by which diversity sometimes improves collective decision-making, *overcoming* individual inability. To see this, let's set aside the part of the theorem focusing on the competent group, since we have seen that this relies on the unsatisfying trick of reducing the competent group's performance to the performance of a single individual, and instead zoom in on the part explaining why the diverse group performs so well. For that matter, let's also set aside the business about random draws, and state the conditions like this:

> *Minimal competence*: Each individual begins search at some starting point and stops at a local optimum where their search rule can find no further improvements.

> *Group diversity*: For each globally suboptimal starting point, there is someone in the group with a search rule that can find an improvement.

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[29] Romaniega 2025; Thompson 2014.

Baton-passing: If some group member can find an improvement over another group member's stopping point, then the group can find that improvement.

Minimal competence and baton-passing are the same as above, but we have swapped out background diversity for group diversity. Before, we specified the background population as sufficiently diverse that there is always someone in it ready to grab the baton when someone else get stuck, and then ensured this also held for the diverse group by drawing enough individuals from the background population. Appealing to group diversity skips this step: whereas before it was implied by background diversity plus a large enough diverse group, now we state it outright.

Together, these three conditions imply a new "theorem":

Diversity Overcomes Inability: A group satisfying minimal competence, group diversity, and baton-passing is guaranteed to find the global optimum—no matter how individually incompetent its members otherwise are.[30]

Unlike the Diversity Trumps Ability theorem, this "theorem" is completely trivial (thus, the scare quotes). But trivial results can be illuminating. And although the conditions of Diversity Overcomes Inability remain highly demanding and the theorem unlikely to literally apply in real democratic contexts, it does help us to isolate the mechanism underlying the Diversity Trumps Ability theorem.

Here's what I have in mind. In reality, we shouldn't expect diverse groups *always* to find the best outcomes. Indeed, a theorem suggesting as much should give us pause, especially in the present context: who in their right mind would claim that democracies *always* find the best solutions? Rather, I propose we understand Diversity Overcomes Inability as pointing us toward a particular mechanism by which diversity provides a bonus:

The baton-passing mechanism

Diversity (more or less) *enhances* a group's ability to find better options when:

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[30] Note that this "theorem" relies on weaker conditions than the Diversity Trumps Ability theorem proper, since it does not require background randomness, minimal difficulty, or uniqueness. It also, strictly speaking, does not require evaluative homogeneity, so long as we interpret the term "improvement" in each of its conditions as referring to the same evaluative standard. Admittedly, this interpretation might seem to presuppose something at least in the vicinity of evaluative homogeneity. I discuss this and related complications raised by evaluative homogeneity in the next section.

(1) *Minimal competence*: Individuals can (more or less often) find improvements, stopping their search at a better place than they start it.

(2) *Group diversity*: Individuals differ (to a greater or lesser degree) in their ability to find improvements from the same starting point.

(3) *Baton-passing*: Individuals are (more or less often) willing and able to take others' stopping points as starting points for their own search.

This mechanism is what drives the Diversity Overcomes Inability theorem, and so the part of the Diversity Trumps Ability theorem that guarantees the diverse group's success. In the limit case, where individuals are competent enough, the group is diverse enough, and baton-passing dynamics are favorable enough, we are back to the theorem. But as we relax these assumptions, we lose the guarantee, but not—crucially—the tendency for diversity to *enhance* search. In a homogenous group, when one person gets stuck, others are likely to get stuck as well; but in a diverse group, there may be someone who can take the baton and run with it. This is an important insight into how diversity can improve collective decision-making, even if we shouldn't expect it to guarantee optimal results.

C. What Kind of Diversity?

Before going on to explore this mechanism's application, it is worth saying something about the sort of diversity that drives it, as I have largely set this aside until now. One complaint about the Diversity Trumps Ability theorem is that it employs "diversity" in an unusually narrow way that doesn't, for example, obviously correspond to demographic diversity.[31] Now, on the standard interpretation, this is true: the relevant sort of diversity is interpreted specifically as "cognitive diversity." What drives differences in people's ability to find different improvements is assumed to be differences in their *heuristics* (how they navigate the search space) and *perspectives* (how they see the search space).[32] To return to our earlier example, one heuristic might search by beginning with one country's tax policy—say, the current US tax policy—and then looking at tax policies of neighboring countries. Another heuristic might instead look at neighboring *policies* in the sense of policies that differ only slightly. Likewise, when it comes to different perspectives, even two people with this latter heuristic might find different solutions if they have different perspectives on how to arrange policies in

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[31] Brennan 2021, pp. 251–71; 2023; Quirk 2014; see also Page 2007, ch. 13.

[32] Hong and Page 2004; see also Page 2007, chs. 1–2.

search space. For example, one may see "neighboring policies" as those involving small changes such as marginally changed tax rates, whereas another might see neighbors as those involving alterations achievable with the lowest procedural barriers.

However, this standard interpretation isn't forced on us. Indeed, I have intentionally spoken more generically of "search rules" throughout, since what drives our baton-passing mechanism is simply that diverse individuals can build on each other's work, finding improvements where others get stuck. Accordingly, *anything at all* that can help individuals find different improvements will qualify as the sort of diversity that drives the mechanism. This might involve cognitive diversity (diversity in perspectives and heuristics) but it could also depend on diverse evidence and life experiences.[33] For that matter, individuals might find different improvements from the same starting point because they have different values: if you and I are each able to find the same change to our tax code, but only one of us sees this change as an improvement, then only one of us will stop our search there, suggesting it to other group members.

Notably, then, insofar as members of different demographic groups tend to differ not only in their perspectives and heuristics but also in their life experiences, values, and so on, demographic diversity will also help drive the epistemic benefits of diversity.[34] There is no reason to limit the mechanism to cognitive diversity; we can instead pick out the relevant sort of diversity functionally, as referring to any type of diversity that helps people search in different ways, such that, beginning from the same starting point, they might end their search somewhere else.

Now, there may seem to be a tension here, since I earlier noted that the Diversity Trumps Ability theorem assumes evaluative homogeneity, and I have just said that its underlying mechanism can be driven by evaluative diversity. This leads us to our next topic: extending the mechanism beyond its ordinary confines, including to cases of evaluative disagreement.

III. EXTENDING THE MECHANISM

A. Problem Solving

It may help to begin by considering how the baton-passing mechanism works in democratic contexts where we *do* agree in our values, at least enough that we can see ourselves as engaged in a shared problem-solving activity. A good example is Landemore's much-discussed Court Street Bridge case:

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[33] Peter 2023, p. 85.

[34] Lepoutre 2020; Young 2002.

> The issue... was the recurrence of muggings on the Court Street Bridge... The first round of deliberations led to the posting of a police car after 6:00 p.m... [H]owever... muggings would simply occur when the police car was not there...
>
> After another round of deliberation, somebody suggested installing lights on the bridge... This... struck everyone as far superior to the previous solutions, and it quickly garnered a consensus. Unfortunately, however, a technician from city hall then explained that... it [was] impossible to use electric lights to light the bridge. As this solution seemed about to be ruled out, someone else asked if this impossibility applied to solar lamps; it did not... The city hall accountant, however, pointed out that there was a budget constraint....
>
> Finally, another participant asked whether the city could not ask the federal government for some stimulus money. In the end, the city purchased and installed three solar lamps... paid by federal money... Since then... not a single mugging event has been reported.[35]

In this case, we see our baton-passing mechanism at work. There is an initial proposed solution (posting a police car); then, somebody else suggests a different solution (installing lights); before someone else suggests an improvement (installing solar lights); and a fourth suggests an even better version (installing solar lights with federal money). Different people, with different "search rules"—cops, ordinary citizens, technicians, and accountants—come together to solve a shared problem, in the end producing a better solution than any could find on their own.

This typifies the sort of share problem-solving contexts where baton-passing most obviously occurs. But it is admittedly a rather narrow sort of case. It is all very well that diverse groups can get together and solve problems when they agree on a concrete goal like "reducing mugging" (and where tradeoffs with other goals are slight) such that new solutions can "garner consensus" and "str[ike] everyone as far superior." But democracy is characterized by evaluative or moral disagreement, which might seem to undermine this mechanism's broader applicability, especially at scale.[36]

However, as I have suggested, this critique is too quick. While the Diversity Trumps Ability *theorem* does assume evaluative homogeneity, the baton-passing mechanism can survive without it.

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[35] Landemore 2012, pp. 100–101.

[36] Ancell 2016; Brennan 2016, ch. 7; 2021, pp. 251–71; 2023; Müller 2023; Muirhead 2014; Gaus 2016, ch. 3; Stich 2014.

B. Bargaining

As soon as we relax the assumption of evaluative homogeneity, we face a question: what do we even mean by an improvement under conditions of disagreement?[37] This isn't the place to settle deep questions about what to consider an improvement in democratic contexts, but I will assume that we are concerned with one of two things: *objective* improvements (improvements according to an external criterion, for example, the correct theory of justice) or *intersubjective* improvements (improvements from all—or at least most—parties' perspectives). Here, I mainly focus on *intersubjective* improvements, and how the mechanism can sometimes lead to them, though it is worth noting that intersubjective improvements always correspond to objective improvements on the assumption that, whenever we find an intersubjective improvement, at least one person who regards it as an improvement is objectively correct. In contrast, let us call something a *subjective* improvement if it is an improvement only by some particular individual's lights—that is, according to whatever criterion they employ as they apply it.

We now face two further issues about whether we should expect baton-passing to lead to intersubjective improvements under conditions of evaluative disagreement. The first arises because the mechanism is only remotely plausible if we interpret minimal competence (individuals are able to find *some* improvements) and group diversity (individuals find *different* improvements) as referring to *subjective* improvements: the basic idea is that individuals search for better options, stopping search when they can't find any further improvements, so this is only realistic if we interpret individuals as finding improvements *by their own lights.* But there might seem little reason to think that the different subjective improvements individuals find will chain together into intersubjectively better options—instead, they might ultimately lead us to a solution that most see as worse, or even send us around in cycles, if one individual sees *x* as better than *y*, another sees *y* as better than *z*, and a third sees *z* as better than *x*. The second concern is that, on the standard interpretation, baton-passing only occurs because people share values—indeed, Landemore glosses one of the conditions of the theorem as requiring that "participants think very differently, even though the best solution must be obvious to all of them when they are made to think of it."[38] When I stop my search at what I see as an improvement, you agree it is an improvement, and that is why you take it as a starting point for your own search. Without agreement, then, perhaps the baton can't get passing at all.[39]

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[37] Stich 2014; see also Muirhead 2014; Schwartzberg 2015.

[38] Landemore 2012, p. 102.

[39] Ancell 2016; Benson 2021; 2024, ch.7; Brennan 2011, ch. 9; 2023; Müller 2023; Gunn 2014; Gaus 2016, ch. 3; Spiekermann 2024; see also Goodin and Spiekermann 2018, pp. 119–120.

Thankfully, both concerns can be overcome. Beginning with the first, rather than embracing evaluative homogeneity, we just need the weaker claim of:

Evaluative complementarity: Chains of subjective improvements correlate (more or less well) with intersubjective improvements.

In other words, we don't need everyone to share values; we just need people's values to correlate with each other. Or, even weaker, we need *chains* of subjective improvements to correlate with intersubjective improvements, in the sense that, when individuals chain together different subjective improvements via baton-passing, we relatively often end up at a place that is intersubjectively better than we started (even if each link in the chain doesn't represent an intersubjective improvement alone). This might occur, most simply, in the shared problem-solving contexts just mentioned where we do in fact share or at least have a strong correlation between our values. But there may also be cases where, even if we differ greatly in our values, evaluative complementarity holds since there are Pareto gains to be found (that is, gains that do better by some people's lights and worse by no one's). In particular, we might be in a *bargaining context*, where even though we disagree vehemently about which outcomes are better or worse, we can nevertheless find a range of options that we all see as better than no agreement, or than the current best offer on the table.

This brings us to the second issue: why should baton-passing occur if we don't share values, and so don't see one another's stopping points as improvements? Well, in a bargain, individuals have different values or interests, yet share an interest in finding some solution to coordinate on rather than none. Often, this shared interest in reaching some agreement makes people willing to treat others' proposals seriously—taking their stopping points as starting points for their own search—even if they see those proposals as worse than other options under consideration, such that they wouldn't also go along with implementing those proposals without further modification. This suggests, more generally, that we can specify the third condition of our mechanism as follows:

Baton-passing: Individuals are (more or less often) willing and able to take others' stopping points as starting points for their own search, because they at least see others' starting points as worth taking seriously and trying to build on.

So, the precondition for baton-passing is not that we share values, or that we see others' proposals as improvements or even as satisfactory, but merely that we are *willing to engage* with each other's ideas in the sense that we are willing to work with them and try to build on them.

It has been widely assumed that Diversity Trumps Ability-type mechanisms only apply in shared problem-solving contexts. This has been emphasized by critics of the theorem.[40] But it has also been accepted by its defenders, whose main response has been to claim that we share far more values than one might think.[41] So, my extension of the mechanism to bargaining contexts is, as far as I am aware, novel, and it may be helpful to consider another example and to work through it in some detail.

Consider, then, one of the most famous bargains of all time: the Belfast/Good Friday Agreement. This was an agreement negotiated between people who varied greatly in their values: unionists (who were mainly Protestant) identified as British and wanted Northern Ireland to remain part of the UK, while nationalists (who were mainly Catholic) identified as Irish and wanted Northern Ireland to become part of Ireland. And the groups were certainly not on good terms: the agreement put an end to a violent period known as The Troubles, with thousands of casualties on each side. And yet, by getting together a diverse group of people—radicals and moderates from each side, representing eight different political parties, along with members of the UK and Irish governments and mediators from the United States, Canada, and Finland—a bargain was found where none had seemed possible.[42]

The negotiations were immensely complex, but even a brief, simplified sketch will let us draw out some of the baton-passing elements. Initially, each side seemed to have irreconcilable demands: to remain part of the UK, or to join with Ireland? Yet previous, unsuccessful negotiations had led to a more widely acceptable "principle of consent"—Northern Ireland would remain part of the UK, yet retain the right to leave if the majority so wished—which was able to serve as a starting point of negotiations, and which each side was able to build on. The unionists, who were in the majority, wanted the creation of a Northern Ireland Assembly that would operate by majority rule. This, by itself, was unacceptable to the nationalists: they would not accept a bargain that included it. But they nevertheless saw it as something they could work with (they accepted the baton), and proposed what they saw as an improvement: the Northern Ireland Assembly would operate according to certain principles of power-sharing rather than majority rule. From the unionist perspective, this was a step backward relative to their own proposal, but it was workable (they, too, accepted the baton), and the ultimate constitution of the Northern Ireland Assembly was a hybrid of sorts, which "combined the [unionist] UUP's concept of proportionality with the

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[40] Brennan 2016, ch. 7; 2021, pp. 251–71; 2023; Gaus 2016, ch. 3; Moore 2014; see also Schwartzberg 2015.

[41] Landemore 2012, chs. 7–8; 2014.

[42] Hennessey 2001; Mitchell 2001.

[nationalist] SDLP's concept of executive power-sharing and a minority veto."[43] In addition, nationalists wanted strong North-South cross-border institutions with executive power, strengthening ties between Northern Ireland and Ireland. The basic idea of such institutions was, again, something unionists could work with and build on (the baton passed), but they could not accept the proposal as it stood, since they saw imbuing such parties with their own executive power as unacceptable. So instead, unionists proposed that the North-South institutions be purely consultative, lest they otherwise be used to undermine the Assembly. Eventually, negotiations reached an innovative compromise: although the North-South institutions would be consultative, deriving all authority from the Northern Ireland Assembly, certain guarantees were provided about the institutions' scope, and the two bodies were designed to be "mutually inter-dependent," such that "one cannot successfully function without the other."[44]

And so the baton passed back and forth, with each side proposing changes that the other side often saw as worse, but which nevertheless led them to still new ideas, eventually reaching innovative solutions. For example, when talks on the delicate issue of police reform between the UK government and Sinn Féin (the more radical nationalist party) seemed at an impasse, the SDLP (the more moderate nationalist party) suggested a mutually acceptable compromise: the creation of an independent commission on policing.[45] Sinn Féin more generally pushed for the creation of "the 'Equality Agenda' involving extensive rights legislation and safeguards, commissions on policing and criminal justice, a commitment to demilitarisation and… the extraction of a two-year limit on prisoner releases."[46] Further improvements to the agreement concerning equality and human rights arose due to the inclusion of the Northern Ireland Women's Coalition, who successfully championed other provisions, for example, one ensuring "the right of women to full and equal political participation."[47]

Eventually, then, a long process of baton-passing culminated in a complex agreement that all sides were able to accept—and one that it is extremely unlikely anyone was capable of finding on their own. This appears a clear case where diversity—of perspectives, experiences, evidence, values, and so on—enhanced the group's ability to find a massive and mutually agreeable improvement over the status quo where none had seemed possible, despite the group experiencing nothing like evaluative

[43] Hennessey 2001, p. 175.

[44] Ibid., p. 178.

[45] Ibid., p. 152.

[46] Ibid., pp. 170–171.

[47] Fearon and McWilliams 1998.

homogeneity. Notably, beyond permitting evaluative disagreement, the baton-passing dynamic at work in the negotiations didn't even require that participants "get along," which some have seen as a weaker precondition for diversity's epistemic benefits.[48] It just required a willingness to work with each other due to a shared interest in reaching some bargain rather than none.

That said, it is important not to overstate the significance of the baton-passing mechanism in bargaining contexts. The mechanism does not, by itself, tell us anything about *which* option, of the various options under consideration, bargainers will ultimately settle on, as this depends on a range of factors including each party's interests, non-agreement points, risk tolerances, and so on, which are better captured by more traditional (game-theoretic) models of bargaining. But while formal theorists standardly model bargains as occurring over a fixed menu of options, real-life bargains often begin without any such list: parties, rather, must search through the space of possible solutions in order to populate this menu. And it is here—at the point where we are coming up with a menu of options to bargain over, not the point where we are selecting from that menu—that baton-passing can have its effect. This effect can be especially dramatic in cases, like the Good Friday Agreement, where it initially seems like the set of options representing Pareto improvements over non-agreement is empty, such that no bargain seems possible until some new innovative option is discovered. But the mechanism will be less significant in more routinized bargains— for example, in certain employment contexts—where the menu of options we might end up at is already well-known, such that the question is only which of these options both sides will ultimately agree to.

Zooming out from our example and summing up this discussion, then, if we drop the background assumption of evaluative homogeneity and explicitly distinguish between subjective and intersubjective improvements, we can re-articulate our mechanism as follows:

The baton-passing mechanism (without evaluative homogeneity)

Diversity (more or less) enhances a group's ability to find *intersubjective* improvements when*:*

(1) *Minimal competence*: Individuals can (more or less often) find *subjective* improvements, stopping their search at a better place (by their own lights) than they start it.

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48 Hannon 2020, p. 605.

(2) *Group diversity*: Individuals differ (to a greater or lesser degree) in their ability to find *subjective* improvements from the same starting point.

(3) *Baton-passing*: Individuals are (more or less often) willing and able to take others' stopping points as starting points for their own search, because they at least see others' starting points as worth taking seriously and trying to build on.

(4) *Evaluative complementarity*: Chains of subjective improvements correlate (more or less well) with intersubjective improvements, because individuals are either in a *shared problem-solving context* (where they share a significant range of values) or a *bargaining context* (where they have a shared interest in finding Pareto improvements).

C. Iterative Improvement

I now turn to a final extension of the baton-passing mechanism. In an early discussion of the Diversity Trumps Ability theorem's application to democracy, Anderson criticizes it for being too static.[49] Anderson also celebrates the role of diversity in driving effective democratic decision-making. But the role diversity plays for her is that, in democracy, a diverse range of individuals can make their voices heard, and so can identify and bring to public consciousness problems of society—as Dewey puts it, "The man who wears the shoe knows best that it pinches and where it pinches."[50] So, on Anderson's approach, democracy's epistemic powers come from its ability to gather feedback from a diverse range of citizens, and so to improve iteratively over time through an experimental process. As changes to society are implemented, effects ripple through the system, and these effects are felt by different people in different places. In more centralized systems, those feeling these effects have no way of reporting this and making it known—there are no meaningful feedback loops. But in a democracy, when changes we implement to solve one problem create new problems, those experiencing these problems can make their voices heard. Democracy thus is especially good at harnessing diversity to find new problems, and in keeping feedback channels open so that it can continue to find and solve new problems, as they arise, in an iterated process.

Can the Diversity Trumps Ability theorem, or the mechanism we have been exploring, capture this function? I believe it can. The baton-passing mechanism is all about harnessing diverse individuals' abilities to find improvements where others can't, beginning from the same starting point. When we take the status quo as our

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[49] Anderson 2006.

[50] Dewey 1927, p. 207.

"starting point," it can therefore be reinterpreted as concerning diverse individuals' abilities to find different sorts of improvements *over the status quo*, and indeed, over a changing status quo. So, while Anderson criticizes the theorem for assuming a static picture of democratic decision-making—as applying only to the point before a decision is made, and not to gathering feedback afterward—this assumption can be discarded, as we can interpret the baton-passing mechanism as concerning diverse groups' abilities to find new problems with the status quo and to come up with better ways of improving it over time. Indeed, the mechanism predicts that diverse groups should be better at finding new problems that result from old solutions, and at continuing to build on them over time, in just the way Anderson discusses. In this sense, baton-passing can occur dynamically, as new ideas aren't only proposed but also implemented, and then further improvements to those ideas are proposed and implemented in turn.

Take Anderson's own example, which is meant to illustrate the superiority of her Deweyan model to that suggested by the Diversity Trumps Ability theorem.[51] In Anderson's telling, several community forest groups were established in India and Nepal in response to forest degradation. These groups have been successful at preserving forests and improving incomes. However, due to the gendered division of labor, they have also imposed serious costs on women since many community forest groups have prohibited collecting any fuel or fodder from village forests, forcing women (who make such collections) to walk further to obtain these items, taking up their time, exposing them to abuse, and leading them to use alternative fuel sources that produce more pollution. In addition, men are assigned to enforce these bans, but they are ineffective, having never made these collections themselves. Women thus have justified complaints, and many proposed solutions, such as allowing for a sustainable degree of foraging from local forests and employing women as guards. However, these suggestions tend not to be taken up, because there are formal and informal barriers to women's participation. More fully democratic institutions would include these women—and, indeed, in some villages where women have managed to participate in community forest groups, they have implemented subsequent, successful reforms.

This is an excellent example of how more inclusive democratic bodies can have epistemic advantages. But it is no challenge to the baton-passing mechanism we have been discussing, since it is also an excellent example of that mechanism. In this case, certain members (the men largely making up the community forest groups) are able to find improvements over the status quo on their own, but then get stuck. From here, they would, in a more fully democratic system, pass the baton to other members (women

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[51] Anderson 2006, pp. 17–21.

in the villages), who can appreciate problems with these improvements, and propose further improvements. And, just as our mechanism suggests, this only works when (1) individuals can find some improvements, (2) different individuals can find different improvements, and (3) baton-passing occurs because individuals are both able and willing to try to build on each other's improvements, in such a way that (4) different proposed improvements chain together to yield something that is an improvement overall. Of course, in cases where women are excluded from decision-making the baton cannot pass; but that is exactly what our mechanism predicts.

The crucial difference between the static and the dynamic interpretation of the mechanism, then, is that on the static interpretation baton-passing just involves coming up with increasingly better *ideas* for improvements prior to the point of their implementation, but on the dynamic interpretation it involves actually *implementing* these increasingly better ideas over time. And this points us toward a key limitation of the mechanism. It might seem obvious that, if a group comes up with improvements, it will implement them. And this is indeed obvious if we assume evaluative homogeneity, since groups can generally be expected to implement something they unanimously agree is best. However, since we have extended our interpretation to allow for disagreement, whether diverse groups will implement the better solutions they find is less clear. For example, suppose community forest groups employ a simple majoritarian rule, that men outnumber women among the enfranchised population, and that men reject the women's proposed improvements. Then, the women's proposed improvements (which, let us assume, are also *objective* improvements) will not be implemented. And this might seem to render the baton-passing mechanism rather toothless. Sure, diverse groups, including evaluatively diverse groups, can find better solutions. But this matters little if they won't implement them.

Thankfully, this objection is too quick. For we have seen that there are two major contexts in which the baton-passing mechanism applies: shared problem-solving and bargaining. In the former, people share a significant range of values, and are engaged in a joint effort to solve a problem: they can often agree about what is best, or at least on one option being better than the status quo, even if they don't agree in all cases. Majoritarian (or supermajoritarian) decision-making may thus work reasonably well when selecting between the better options that more diverse groups find. In the latter, bargaining contexts, the mechanism can lead individuals to find options that are Pareto superior to the status quo—options that all see as better than non-agreement, even if they disagree about their ranking. And groups will generally select options they view as Pareto superior even though, as we have seen above, the mechanism doesn't suggest anything about which option parties will pick on the Pareto frontier. So, while the

baton-passing mechanism only suggests that diverse groups are better at *finding* better options and not necessarily at *implementing* them, in the very cases where it arises, groups will also tend to select the better options they find.

Still, it is important to keep in mind that the baton-passing mechanism strictly speaking concerns only how diversity can improve a group's ability to *find better options to choose from*, and says nothing about how groups *choose from a fixed menu of options*. In fact, at least in principle, there may sometimes be tradeoffs here, where making a group more diverse in a way that better drives baton-passing and so the construction of a better menu also makes the group worse at picking the best option from that menu.[52] Incidentally, this is why, unlike the Condorcet Jury Theorem (which, conversely, concerns how groups pick from a fixed menu of options but not how they populate that menu) it is no surprise that the Diversity Trumps Ability theorem fails to apply in cases where there are only two options.[53] If there are only two options to choose from, then there isn't much to search for and baton-passing cannot occur.[54]

IV. CONCLUSION

Real life has no guarantees, and it is likely impossible to show that diversity genuinely *trumps* ability, or even is guaranteed to *overcome* inability, in any realistic case. Nevertheless, theorems can yield insights, and we did find an important mechanism underlying the Diversity Trumps Ability theorem that suggests how diversity can provide a bonus: when groups are more diverse, they are better able to build on each other's solutions, and so to find solutions that a more homogenous group would miss. We also saw that a wide range of diversity (beyond just cognitive diversity) can drive this mechanism, and that it can operate even in contexts of evaluative disagreement, so long as people are willing and able to see others' proposed solutions as worthy starting points for their own searches. So, the baton-passing mechanism can apply not only in shared problem-solving contexts but also in bargaining contexts. Finally, we have just seen that the theorem can be given a dynamic interpretation, as concerning iterative improvements over time, though only in conditions where groups can be expected to implement the better solutions they find.

This baton-passing mechanism is, of course, rather abstract, and it would take careful empirical research to determine when and to what extent it activates in democracy. A few anecdotes aren't enough. Crucially, however, such research cannot

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[52] Goodin and Spiekermann 2018, p. 120; Spiekermann 2024.

[53] Weymark 2015.

[54] Compare Goodin and Spikermann 2018, p. 8, fn.12.

just take the form of surveying populations and finding (as one characteristically does) that citizens tend to make significant and systematic errors when it comes to their political knowledge.[55] For the baton-passing mechanism is about more diverse groups' abilities to *build on each other's work when coming up with new improvements*, and this correlates very little with standard tests of political competence or knowledge.[56] Nor have the various attempts to study Diversity Trumps Ability-type mechanisms through computational agent-based models proved decisive. For the general upshot of these modeling exercises is that the bold claim that diverse groups outperform more individually competent groups isn't robust, since all depends on the details of how the model is set up.[57] This is consistent with the general tenor of our discussion, and is what we should expect if the Diversity Trumps Ability theorem highlights a genuine mechanism, but one which isn't always active or powerful enough to fully trump ability or overcome inability.

For present purposes, however, we can pass over these details, as my goal has only been to unearth the mechanism underlying the Diversity Trumps Ability theorem, so that we can determine if it seems plausible and worthy of further study. And it does indeed seem plausible that there are many democratic contexts where this mechanism is relevant. Better democratic performance may be driven not only by small-group deliberations among diverse individuals—in elected bodies, multi-party negotiations, or citizens' assemblies, for example—but also, at the macro-scale, by diverse civil society actors—by nonprofits, thinktanks, parties, media organizations, social movements, and so on—who see the world differently and have different ideas about how to improve things. Democracy, given its ability to seek input from such a wide range of individuals, has an advantage tapping into this diversity. And both shared problem-solving and bargaining are paradigmatic forms of democratic decision-making.

At the same time, the mechanism we have identified may also help to explain certain democratic failures. For example, why is polarization such a threat to democratic performance? Our mechanism suggests four reasons, corresponding to each of its conditions. First, polarization may reduce individual *competence*, making people unable to find improvements over the proposals made by members on their "side," given their blinkered way of seeing the world. Second, it may reduce the number of distinct perspectives, and so the extent of *group diversity*.[58] Third, it may reduce the

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[55] Contra Brennan 2016, ch. 7; 2021, pp. 17–46 and 251–71; 2023; Somin 2014.

[56] Compare Landemore 2012, ch. 7; 2014; 2021, pp. 165–80.

[57] See Genta 2024; Grim et al. 2019; Hankins et al. 2023; Holman et al. 2018; Sakai 2020.

[58] Benson 2024a.

willingness of individuals to take others' ideas seriously, and so to try to build on them—undermining *baton-passing.* And fourth, and more subtly, it may undermine *evaluative complementarity* by making it harder for the subjective improvements individuals find to chain together into intersubjective (or objective) improvements. Often, positive chains get going due to the presence of moderate perspectives, who can appreciate and build on proposed improvements from more radical voices on both sides of the aisle, coming up with new ideas that radicals may be willing to build on in turn. Insofar as polarization pushes us to the extremes, it may reduce the incidence or influence of such intermediaries, and so the tendency of baton-passing to lead us in a better direction by merging good suggestions from competing camps.

These last couple paragraphs are intended only as suggestive illustrations of how the baton-passing mechanism may be part of the story of why democracies do well in some cases, and its failure part of the story of why it does less well in others. Regardless of how persuasive one finds these illustrations, I hope I have convinced the reader that the mechanism is worth exploring further and that the Diversity Trumps Ability theorem therefore yields important insights despite failing to literally apply. In addition, I hope that this article can serve as an object lesson in how to engage with formal results as they arise in political philosophy and social science. The right response toward a theorem such as the Diversity Trumps Ability theorem (or, for that matter, the Condorcet Jury Theorem) is neither to credulously accept it as literally applying in the real world, nor to skeptically reject it as irrelevant since it fails to do so. Rather, it is to try to uncover the mechanism that drives the theorem, the conditions under which it operates, and how widely these conditions might hold.

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COMPETING INTERESTS

The author declares that he has no competing interests.

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