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Selim Berker

Alford Professor of Natural Religion,
Moral Philosophy, and Civil Polity
Harvard University

"How Your Vote Determines a Winner:
On the Metaphysics of Voting"
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How Your Vote Determines a Winner: On the Metaphysics of Voting

Selim Berker
Harvard University
sberker@fas.harvard.edu

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1. A Common Line of Reasoning

"What's the point of voting? If the election is decided by more than one vote, then your vote plays no role in determining a winner: the winner would have been the same had you voted the other way, or not voted at all. And when the electorate is large, the chance of the election's being decided by one vote is vanishingly small. So given the costs of going through the process of casting a vote, whether in person or via mail, you shouldn't bother voting."[1]

This depressingly familiar line of reasoning addresses a normative question: "Should I vote?" But it approaches that normative question by first assuming an answer to a certain metaphysical question, namely: "When does my vote play a role in determining the winner of an election (or other voting procedure)?" It is this subsidiary metaphysical question that shall be our main focus, for I think that question has been entirely misconceived. And when we bring the proper way of understanding the question into view, we can see that the standard line of reasoning answers that question in a confused manner: its appeal to what would have happened had we voted differently or not at all is beside the point. One's vote can help determine the winner even when counterfactually varying how and whether one votes has no effect on the outcome. Indeed, there is a certain sense in which one's vote plays just as much a role in determining an election's winner when the election is decided by one vote as when it is decided by many. And even when the margin of victory is a single vote, neither your vote nor any other vote decides the matter: there is no such thing as a "decisive" or "pivotal" vote in a majority-rules election with multiple voters. These points about how votes determine electoral winners in turn have bearing on the ethics of bothering to vote in the first place.

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[1] The locus classicus for an argument of this form is Downs 1957. However, at this point the reasoning has detached from its original source and drifted into the general intellectual stratosphere; for example, my fifteen-year-old son recently offered it up to me as a reason not to vote in Massachusetts, and I am confident he has never read Downs' book. The literature that engages with Downs-style reasoning is too large to cite in its entirety, but some notable contributions include Tullock 1967; Riker and Ordeshook 1968; Ferejohn and Fiorina 1974; Meehl 1977; Brennan and Lomasky 1993; Goldman 1999; Dowding 2005; Edlin, Gelman, and Kaplan 2007; Tuck 2007; Guerrero 2010; Brennan 2011; Mackie 2014; Brennan and Sayre-McCord 2015; Maskivker 2019; and Barnett 2020, among many, many others.

2. Electoral Determination: Grounding, Not Causation

To simplify our discussion, let us start by considering a majority-rules voting procedure with two options. (Eventually we shall discharge this assumption.) A number of people each have the opportunity to cast a single vote for one of two options, where those options might be two candidates for a position, or two policies to be enacted, or two verdicts in a trial, or simply two ways to spend the afternoon together as a family. If one option has a majority of votes in its favor, it is the winner. If there is a tie among the votes, there is—at least as far as this procedure is concerned—no winner.

Now suppose these people each either cast a vote or decide to abstain from voting, and one option is the winner. When is it the case that one of those votes (or abstentions from voting) determines, or plays a role in determining, that winner? Put differently, when does a given vote make it the case, or help make it the case, that a given option is the winner? When is a given vote responsible, or in part responsible, for that option's being the winner? When is some option the winner because, or in part because, a certain vote was cast in a certain way? This is our metaphysical question, asked in a number of (what I shall assume are) equivalent ways. Before we can answer that question, though, we need to ask a meta-question: what sort of determination (or makes-the-case, or is-responsible-for, or—in the converse direction—obtains-because-of) relation is at issue when we ask our metaphysical question?

As far as I can tell, it is universally assumed in the absurdly voluminous voting literature that the type of determination at issue is causation: when one or several votes determine a winner, it or they make that option the winner by *causing* it to be the winner, by being *causally responsible* for that outcome—or so, at least, most authors seem to assume.[2] But I think we should not be so quick to simply take on board such an assumption simply because it is widely made. Metaphysics—the branch of philosophy devoted to studying what there is, in the most general sense possible—is currently undergoing a revolution. At the heart of this revolution is a focus on determination and dependence relations other than causation. In particular, a number of authors have been stressing the importance, for metaphysics in particular and for philosophy in general, of theorizing in terms of a form of non-causal determination (or constitutive explanation) that has come to be known as *grounding*.[3] This

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[2]   For instance, all of the works cited in the previous footnote assume a causal relation between votes and electoral outcomes.
[3]   Particularly influential here have been Fine 2001, 2012a; Schaffer 2009; and Rosen 2010. For overview of the eruption of work on grounding that has ensued, see Raven 2020.

is the relation—I shall assume it is a relation—that is at issue when we say that Xanthippe is a widow because Socrates died, or that Socrates' death made it the case that Xanthippe is a widow, or that Socrates' death is responsible for Xanthippe's being a widow. These are perfectly familiar determination claims that we all would accept, but they cannot be construed as causal claims. There is no causal law underlying the relation between Socrates' death and Xanthippe's widowhood that we can empirically investigate, no mechanism at work when the former has bearing on the latter, no distinctive necrotic particles that somehow exert a special kind of force on corresponding widowhood particles. Similarly, when we say that someone is in the room because I am in the room, or that an act was wrong because it gratuitously endangered the lives of many people, or that some legal statute is no longer binding because a given judge made a given ruling, we are not using 'because' in a causal sense, but rather are using it to express a grounding claim: the fact that someone is in the room is grounded in the fact that I am in the room, the fact that the act was wrong is grounded in the fact that the act gratuitously endangered the lives of many people, the fact that the statute is no longer binding is grounded in the fact that such-and-such judge made such-and-such a ruling on such-and-such an occasion.[4]

Now, widespread attention to the distinction between uses of 'because', 'makes the case', 'is responsible for', and similar expressions to pick out causation and uses of those words to pick out grounding is a relatively recent phenomenon in philosophy. Moreover, attention to that distinction has not yet spread to other disciplines. So when authors in the voting literature have assumed that some votes' determining a winner is a matter of the former causing the latter, it is likely they have not considered the alternative hypothesis that such a determination relation is instead grounding. And regardless of what *they* have assumed, *we* need not be bound by their assumptions. So let us ask: is the determination relation at issue when some people's votes on some matter determine a winner a matter of causation, or grounding, or perhaps some other relation entirely?

It will help to switch temporarily to an easier and less politically fraught case. Suppose a number of people are in a room, and over half those people are right-handed. Then the facts about which people are in the room and whether each is right-handed together determine the fact that a majority of people in the room are right-handed. Is this determination relation causation, grounding, or neither? It should be patently obvious,

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[4]   Here and elsewhere, I assume the relata of the grounding relation are facts, but nothing rests on this assumption. If you are suspicious of an ontology of facts, feel free to translate every claim I make of the form "The fact that p is grounded in the fact that q" into an equivalent claim of the form "p because q," which makes no reference to facts.

I take it, that we are dealing with a paradigm case of grounding here. Presence-in-a-room and handedness facts do not exert causal influence on facts about whether there is a majority of a certain sort. Instead, those facts about who is in the room and their handedness *make it the case* that a majority of people in the room are right-handed, in exactly the same manner in which a given person's being in the room *makes it the case* that there is someone in the room—by grounding that fact, not causing it. After all, there is no time lag between the obtaining of the (determining) facts about who is in the room and what hand they use and the obtaining of the (determined) fact about whether a majority of people in the room are right-handed. And, at least in paradigm cases, causation is a diachronic process in which causes temporally precede their effects, whereas grounding can be either synchronic or diachronic.[5] Moreover, although philosophers are as divided about the nature of causation as they are about any other central topic in philosophy, many accounts of causation in some way tie causation to laws of nature, or underlying mechanisms, or the transferal of conserved quantities—none of which appear to be present when the presence-in-the-room and handedness facts make it the case that a majority of people in the room are right-handed.

But if the facts about who is present in a room and whether they are right-handed ground (rather than cause) the fact that a majority of people in that room are right-handed, surely the facts about who voted and which way they voted ground (rather than cause) the fact that a majority of the votes cast were for a given option. As we are focusing on a majority-rules voting procedure, the fact that a majority of votes cast were for a given option in turn grounds the fact the option in question was the winner. And since—as I shall assume—grounding is a transitive relation,[6] it follows that the facts about who voted and which way they voted ground the fact that such-and-such option is the winner. So the determination relation at issue when we ask our metaphysical question about when a given vote helps determine a winner is grounding.

Or maybe not. Perhaps although the determination relation at issue isn't causation, it also isn't grounding. Philosophers love to make distinctions, and some authors in the ever-increasing grounding literature

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[5] Some authors in the grounding literature hold that grounding is always a synchronic relation between items obtaining at the same time, but this is a mistake: some grounding relations are diachronic. For instance, the fact that I made a promise today might ground the fact that I have reason tomorrow to pick you up at the airport, and the facts about how speakers used some word in the past might in part ground the fact that the word right now has a given meaning. (The first of these examples is mine, the second I take from Rosen 2017, 280.)

[6] Even if there are rare exceptions to the transitivity of grounding, in which fact *f* partially grounds fact *g*, fact *g* partially grounds fact *h*, but fact *f* does not partially ground fact *h*, the case at hand is not plausibly such an exception.

make a distinction between grounding and metaphysical explanation,[7] or between grounding and non-causal dependence,[8] or between grounding and rational determination,[9] or between why-grounding (the type on which we have been focusing) and how-grounding,[10] or . . . the list goes on. Might the relation between the facts about how people voted and the fact that one option is a winner be one of these other non-causal relations that have been distinguished from grounding?

I myself am skeptical of nearly all of these distinctions. As I understanding the notion, talk of grounding is just another way of referring to the relation at issue when we say that there is someone is in the room because I am in the room, rather than a way of referring to an additional relation that stands in some mysterious "backing" relation to that explanatory relation between my being in the room and there being someone in the room, as authors who distinguish grounding from metaphysical explanation usually hold. So I reject the first of these would-be distinctions.[11] More generally, I hold that insofar as these other relations count as genuine forms of non-causal determination, there are going to be various entailment relations between instances of these other relations and instances of grounding that put significant theoretical pressure on us to take these other relations to be either identical to or definitionally linked to grounding.[12]

And anyway, it doesn't much matter for my purposes whether the relation between the voting facts and the winner fact is grounding or instead some other grounding-like relation (or connective): any sort of non-causal glue that counts as a type of determination (or explanation, or constitution) will serve my purposes. All the other candidates for varieties of non-causal determination that might be distinguished from grounding share the relevant characteristics of grounding on which my central proposal shall rest. So fans of one of these other proposals can feel free to do a find and replace on all future occurrences of the word 'grounding' and related expressions, swapping in locutions picking out their own preferred form of non-causal glue. However,

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[7]   See Audi 2012, Schaffer 2012, and Thompson 2016, among others.

[8]   See Wygoda Cohen 2021.

[9]   See Greenberg 2004.

[10]   See Litland 2013 and Richardson 2020.

[11]   Thus, in Michael Raven's (2015, 326) now widespread terminology, I count as a "unionist" who identifies grounding and metaphysical explanation, rather than a "separatist" who distinguishes them.

[12]   See Berker 2018 for this general form of argument. Such a definitional link could involve the other relation being defined in terms of grounding, or grounding being defined in terms of it, or both being defined in terms of a third determination relation. Examples of the entailment relations that motivate such a definitional link include a mixed asymmetry principle on which fact f's (in part) grounding fact g entails that g doesn't (in part) non-causally determine f in one of these other ways; why would the two relations dodge each other in this way unless there is some sort of deep connection between them?

I shall continue to formulate our discussion as if the relevant determination relation at issue were grounding, both because I think that is the correct relation in the case at hand, and because formulating things in terms of grounding will allow me to state the main features of my approach in a streamlined manner.

3. The Irrelevance of Counterfactuals

Recall the metaphysical question that is our primary focus: when does your vote play a role in determining the winner of some voting process? We have just established that the determination relation at issue is grounding (or a close cousin of grounding; hereafter I drop that qualification). That conclusion is enough to show that the standard way of answering this question, via an appeal to which option would be the winner if you had not voted the way you did, is badly mistaken.

There are many controversies about the nature of grounding. One thing, however, is almost universally agreed upon by everyone who works on the topic: counterfactual reasoning is a terrible way to test whether a grounding claim holds. It is just not true that

(*) $[p]$ grounds $[q]$ if and only if the following counterfactual holds: if it weren't the case that p, then it wouldn't be the case that q.

(Here and elsewhere, I follow standard conventions in using '$[p]$' as shorthand for 'the fact that p'.) There are numerous counterexamples to this biconditional, in both directions. Suppose you and I are in a room together. The fact that I am in the room grounds the fact that there is someone in the room. And yet it is not the case that if I weren't in the room, then there wouldn't be someone in the room, because—we can suppose—you would still be in the room if I weren't there. So the left-to-right direction of (*) fails. Suppose a form of utilitarianism on which an act is morally required iff it maximizes happiness is true, and suppose I perform an act that both maximizes happiness and is morally required. Then the following counterfactual holds: if my act hadn't been morally required, it wouldn't have maximized happiness. But we don't want to say that the fact that my act is morally required grounds the fact that it maximizes happiness—that my act maximizes happiness because it is morally required. (Instead, we want to say the reverse: my act is morally required because it maximizes happiness.) So the right-to-left direction of (*) also fails.[13]

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[13] Similar problems arise for a slightly more complicated biconditional linking grounding to counterfactual covariation, namely:

However, the standard approach to our metaphysical question answers that question precisely by invoking the left-to-right direction of our bogus biconditional (*). We are asked to imagine a case in which you have cast a vote and one option wins by a margin greater than one. First the following counterfactual is established: if you hadn't voted as you did, then that option would still be the winner. So it's not the case that if you hadn't vote as you did, then that option would not be the winner. From this it is taken to follow that the fact you voted as you did didn't determine, or help determine, the fact that the such-and-such option is the winner. However, once we appreciate that the form of determination at issue is grounding, we can see that this last inference is completely fallacious. When two of us are in a room together, counterfactually varying whether or not I am in the room does not have an impact on whether or not there is someone in the room, and yet it is still the case that my being in the room grounds the fact that there is someone in the room. So even if, when a voting procedure is decided by a margin of greater than one, counterfactually varying whether and how I voted does not have an impact on which option is the winner, it still might be the case that the fact that I voted as I did plays a role in grounding the fact that a given option is the winner. Counterfactuals are too crude a tool to track non-causal forms of determination such as grounding.

4. Interlude: Two Observations about Grounding

If we can't use counterfactual reasoning to figure out the situations in which your vote helps make it the case that one option is the winner, how do we approach that question? Before addressing this issue head-on, it will help to make some observations about the nature of grounding that will prove useful in what follows.

With any determination relation, we can draw a crucial distinction between *joint determination* and *overdetermination*—which, when the determination relation at issue is grounding, takes the form of a distinction between *joint grounding* and *overgrounding*.[14] When several facts together make something the case, we have an

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(**)   [p] grounds [q] if and only if (a) if it weren't the case that p, then it wouldn't be the case that q; and (b) it's not the case that if it weren't the case that q, then it wouldn't be the case that p.

Now we are no longer saddled with the result that my act maximizes happiness because it is morally required, but only at the cost of losing the result that my act is morally required because it maximizes happiness, since (b) fails in both directions. Moreover, tacking on condition (b) does not help with our counterexample to the biconditional's left-to-right direction, for that problem arises due to (a)'s failing to obtain in a case we want to deem an instance of grounding.

14   I prefer the term 'overgrounding' to the more common term 'overdetermined grounding' because the latter, when read literally, implies that it is the obtaining of a grounding relation between grounds and grounded that is overdetermined, whereas what we want to be overdetermined is the grounded fact itself. (I have similar reservations about the term 'overdetermined causation'.)

instance of joint grounding. For example, the fact that Socrates is dead, the fact that Xanthippe was married to Socrates when he died, the fact that Xanthippe has not remarried since then, and the fact that Xanthippe is a woman jointly ground the fact that Xanthippe is a widow: these four facts need to work together to make it the case that Xanthippe is a widow. As it is put, each of these four facts *partially grounds* the fact that Xanthippe is a widow, and together they *fully ground* that fact. By contrast, when several facts each on their own fully make something the case, and do so independently of one another, we have an instance of overgrounding (or metaphysical overdetermination, as it is often called).[15] For example, the fact that I am in the room and the fact that you are in the room overground the fact that there is someone in the room: each on its own, via a separate path of metaphysical determination, makes it the case that there is at least one person in the room. As the examples I have been providing make clear, cases of over- and joint grounding are rife, and there is a clear intuitive difference between the grounding structure in each case. We can even have cases involving both over- and joint grounding—cases of *over-joint-determination*, to give it a name. For example, consider the fact that there is someone right-handed in the room: it might be jointly grounded in the fact that I am in the room and that I am right-handed, while also being independently jointly grounded in the fact that my son is in the room and that he is right-handed.

Now suppose two facts together make something the case. It is not plausible that each of these two facts is "one-half responsible" for making that thing the case. Joint grounding is not a matter of each partial ground contributing a metaphysical push in a given direction that together add up to a given metaphysical effect. Although such a force-vector model might be apt in (at least some, perhaps not all) cases of causal determination, it is a bizarre and unnatural picture to hold with regard to non-causal forms of determination such as grounding. More generally, I put forward

Observation 1: When *n* facts jointly ground the fact that *p*, we do not split up the grounding contribution

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[15]   I include the 'independently'-clause in my characterization of overgrounding because it takes more than there being two distinct facts, *f* and *g*, that each fully ground fact *h* for *h* to be overgrounded. Suppose that, in addition, *f* fully grounds *g*, and it is only because *f* fully grounds *g* and *g* fully grounds *h* that *f* fully grounds *h*; transitive structures of this sort do not involve overdetermination. Instead, what we need for overgrounding is two full grounds that do their grounding work *independently* of each other: via two distinct paths from grounds to grounded. (However, some care is required in specifying the relevant sort of distinctness among grounding paths: see my MS for details. Bliss 2023 is another article-length discussion of metaphysical overdetermination, but she only discusses in passing what I consider to be the most plausible general approach to defining metaphysical overdetermination (16). For our purposes we shall not need a precise characterization of the conditions that make for metaphysical overdetermination as long as we grant that such a phenomenon exists, as surely it does: consider uncontroversial cases such as the fact that someone is in the room.)

made by each of those facts; in particular, it is not the case that each of the n facts is $1/n$th responsible for making it the case that p.

This observation can be supported by our strong intuitions about how grounding works in particular cases. For instance, we are incredibly reluctant to say that Socrates' being dead is one-fourth responsible for Xanthippe's being a widow. But there are also serious technical problems that would result if one were to deny the observation, due to the transitivity of grounding. We are supposing that Xanthippe's being a widow is jointly grounded in four facts: that Socrates is dead, that Xanthippe was married to Socrates when he died, that Xanthippe has not remarried since then, and that Xanthippe is a woman. Let us suppose that Xanthippe's having been married to Socrates when he died is itself jointly grounded in two facts: that Socrates and Xanthippe took part in such-and-such marriage ceremony on such-and-such occasion and that they never divorced afterwards. It follows from grounding's transitivity that Xanthippe's being a widow is also jointly grounded in five facts: that Socrates is dead, that Socrates and Xanthippe took part in such-and-such marriage ceremony on such-and-such occasion, that they never divorced afterwards, that Xanthippe has not remarried since Socrates' death, and that Xanthippe is a woman.[16] So if we reject our first observation, we are saddled with the absurd result that Socrates' being dead is both one-fourth and one-fifth responsible for Xanthippe's being a widow. In cases of joint grounding, we do not divvy up metaphysical responsibility for what is grounded in this artificial manner; instead, the joint grounds all together make something the case without each making an individual contribution toward that metaphysical effect.

Something similar holds in the case of overgrounding: here as well we should not divide up metaphysical responsibility for the overdetermined fact among its independent grounds. Suppose I am alone in a room. My being in the room is fully responsible for the fact that someone is in the room. If you walk into the room, it is now overdetermined that someone is in the room. But it would be ridiculous to say that my being in the room has now become only "half responsible" for the fact that someone is in the room, whereas before it was fully responsible for that fact: your presence in the room has in no way diminished the degree to

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[16] This result follows from the principle Gideon Rosen (2010, 116) calls 'strong transitivity' and Kit Fine (2012b, 22) calls 'Cut' (short for 'Cumulative Transitivity'), on which if facts ff ground fact g, and g together with facts gg ground fact h, then ff together with gg ground h. (I myself think a correct formulation of these principles requires us to add, as a third conjunct in the antecedent, that g is not among gg.) Note that we don't need such a transitivity principle to hold without exception in order to generate the problematic result, provided it holds in the particular case at hand, as surely it does.

which my presence in the room grounds the fact that someone is in the room. More generally, we can make

> *Observation 2*: When n facts (or pluralities of facts) overground the fact that p, we do not split up the grounding contribution made by each of those facts (or pluralities of facts); in particular, it is not the case that each of the n facts (or pluralities of facts) is $1/n$th responsible for making it the case that p.

I have formulated Observations 1 and 2 in terms of a denial of certain ways of cardinally ranking one fact's metaphysically responsibility for another because I find doing so makes the point particularly vivid. However, parallel points also hold with regard to ordinal rankings. A merely comparative version of Observation 1 is extremely plausible: when m facts jointly ground the fact that p, n facts joints ground the fact that q, and $m < n$, it is not thereby the case that each of those m facts is "more responsible" for making it the case that p than each of the n facts is for making it the case that q. (The fact that Socrates and Xanthippe took part in such-and-such marriage ceremony on such-and-such occasion is not "more responsible" for making it the case that Socrates and Xanthippe were married when he died than that latter fact is for making it the case that Xanthippe is a widow.) And a merely comparative version of Observation 2 is equally plausible: when m facts (or pluralities of facts) overground the fact that p, n facts (or pluralities of facts) overground the fact that q, and $m < n$, it is not thereby the case that each of those m facts (or pluralities of facts) is "more responsible" for making it the case that p than each of the n facts (or pluralities of facts) is for making it the case that q. (The fact that I am in the room is not "more responsible" for making it the case that there is someone in the room when I am in the room with one person than it is when I am in the room with two people.) Taken together, Observations 1 and 2 and their ordinal variants should, I think, make us suspicious of the very idea that metaphysical responsibility comes in degrees or is gradable. But I don't need as strong a claim as that in what follows: even if it does make sense to assign degrees of metaphysical responsibility or to make comparative judgments along that dimension, we should not do so in the ways denied by Observations 1 and 2 and their merely comparative cousins.

5. The Grounding Structure of Voting Procedures

With these observations in hand, let us return to the issue of how and when individual votes play a role in determining the winner of an election or other voting procedure. I start by considering a simple case designed to bring out the essential components of my proposal. Then I extend the proposal to more complex cases.

5.1. The Basic Proposal

Suppose five people—call them C_1, C_2, C_3, C_4, and C_5—are on a committee that must decide, via a majority vote from which abstention is not allowed, whether or not to pass some measure. Four of them—C_1, C_2, C_3, and C_4—vote 'Yes', and one—C_5—votes 'No'. So the measure has passed. What made this the case? The fact that a majority of the committee members voted 'Yes'. And what made that the case? The fact that at least three committee members voted 'Yes'. And what made that the case? Here, plausibly, we have a case of over-joint-determination. There are four collections of facts that fully ground the fact that at least three committee members voted 'Yes', and do so independently of each other, namely:

(i)   [C_1 voted 'Yes'], [C_2 voted 'Yes'], [C_3 voted 'Yes'];

(ii)   [C_1 voted 'Yes'], [C_2 voted 'Yes'], [C_4 voted 'Yes'];

(iii)   [C_1 voted 'Yes'], [C_3 voted 'Yes'], [C_4 voted 'Yes'];

(iv)   [C_2 voted 'Yes'], [C_3 voted 'Yes'], [C_4 voted 'Yes'].

So if you are C_1, your 'Yes' vote—or, more precisely, the fact that you voted 'Yes'—was an indispensable part of three of four independent full grounds for the fact at least three committee members voted 'Yes' (and hence, by the transitivity of grounding, an indispensable part of three of four independent grounds for the fact that the measure passed). Moreover, in accordance with our first observation, your vote is not "one-third responsible" for the grounding contribution made by each of the three full grounds (for the fact that at least three committee members voted 'Yes') of which it is a part. When three facts team up to make something the case, we do not divide their contributions by three. Nor, by our second observation, is each of the three full grounds that includes your vote "one-fourth responsible" for at least three committee members having voted 'Yes'. Overdetermination does not attenuate metaphysical responsibility. Collections of facts (ii), (iii), and (iv) no more diminish collection of facts (i)'s responsibility for its being the case that at least three committee members voted 'Yes' than your presence in the room diminishes my presence in the room's responsibility for its being the case that there is someone in the room. Your vote did indeed help determine a winner—three times over. But only with the assistance of other votes, and with the assistance of different votes in each of these three instances—on its own it was idle.

Notice, moreover, that your vote helped determine a winning verdict about whether the measure is passed even though it fails the counterfactual test employed by our common line of reasoning about the efficacy of individual votes. If you hadn't voted 'Yes', the measure still would have passed, because the 'Yes' votes by C_2, C_3, and C_4 would still have been enough to secure a majority. However, it is precisely in cases involving overdetermination where counterfactual tests for metaphysical determination yield false negatives, in which the test is failed and yet genuine determination occurs. When the two of us are in a room together for independent reasons, the counterfactual test spits out a negative verdict, since if I hadn't been in the room, there would still be someone in the room, but it is nevertheless the case that my being in the room grounds the fact that there is someone in the room. So given my suggestion that the voting case we have been considering involves metaphysical overdetermination, we should not be surprised that counterfactuals are an ineffective tool for tracking the determination relations at issue.

When initially sketching my proposal in the case at hand, I was a little coy about the overall grounding structure, in two ways. First, I claimed that the fact that a majority of the committee members voted 'Yes' made it the case that the measure passed, but I didn't specify whether that grounding relation is full or partial. Clearly, though, we have partial grounding here: it is not the fact that a majority of the committee members have voted 'Yes' on its own which fully grounds the fact that the measure passed, but rather that fact together with the fact that every committee member has voted. Suppose the committee decides that votes are to be cast by writing 'Y' or 'N' on a piece of paper. Four committee members quickly scribble down their votes—three 'Y's and one 'N'—but the final committee member is hemming and hawing, unsure which way to go. I put forward that the measure has not yet passed, even though a majority of the committee members have cast a 'Yes' vote. If a passing comet were to incinerate the entire committee before the fifth member came to a decision, the measure would never have passed. So in cases in which the measure does pass, we need an extra partial ground at this stage in the grounding hierarchy, namely the fact that all the votes are in. Second, we also need an additional partial ground at the next stage in the hierarchy. If we revert back to our original case, in which the measure passes by a 4–1 margin, it is not the fact that at least three committee members voted 'Yes' which, on its own,
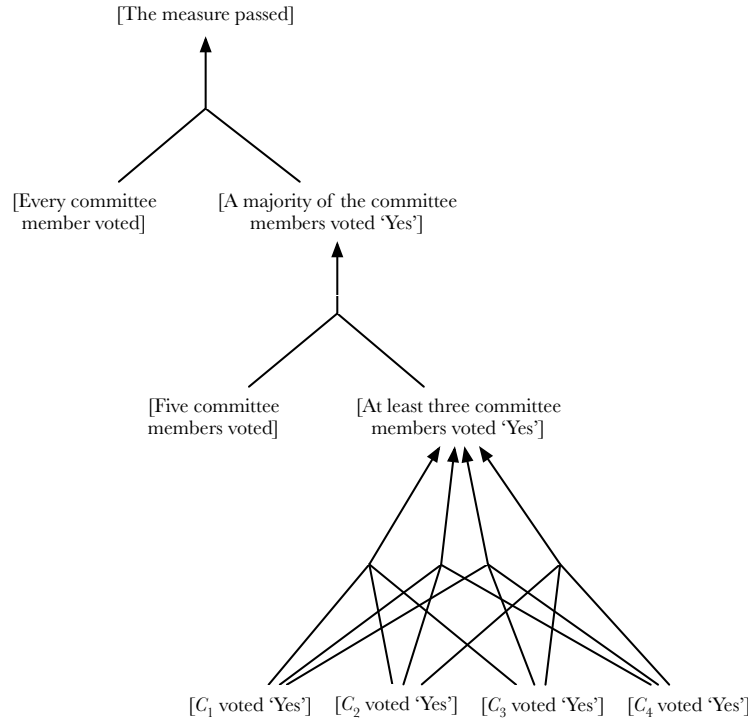
Figure 1

makes it the case that a majority of the committee members voted 'Yes', but rather that fact together with the fact that, in total, five committee members voted.

When we put these last two points together, the result grounding structure for our 4–1 voting case is as given in Figure 1. Arrows represent full grounding relations, with an arrow pointing toward the fact grounded and away from the fact(s) that do the grounding.[17]

It will be useful to compare the grounding structure being posited in our simple voting case to the grounding structure that arises in a parallel case. Suppose five people—call them $P_1, P_2, P_3, P_4,$ and P_5—are alone in a room, and four of them—$P_1, P_2, P_3,$ and P_4—are right-handed, whereas one—P_5—is left-handed. So a majority of the people in the room are right-handed, and it is plausible that this fact is fully grounded in two facts, taken together: the fact that there are five people in the room and the fact that at least three people in the room are right-handed. That latter fact, in turn, is plausibly over-joint-grounded, with there being four different collections of three facts that independently fully ground it, namely the various ways of choosing three out of

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17   To avoid clutter, I do not draw additional grounding relations arising from applications of transitivity principles. For example, in addition to the grounding relations depicted in Figure 1, it is also the case that [C_1 voted 'Yes'], [C_2 voted 'Yes'], [C_3 voted 'Yes'], and [Five committee members voted] together fully ground [A majority of the committee members voted 'Yes'].
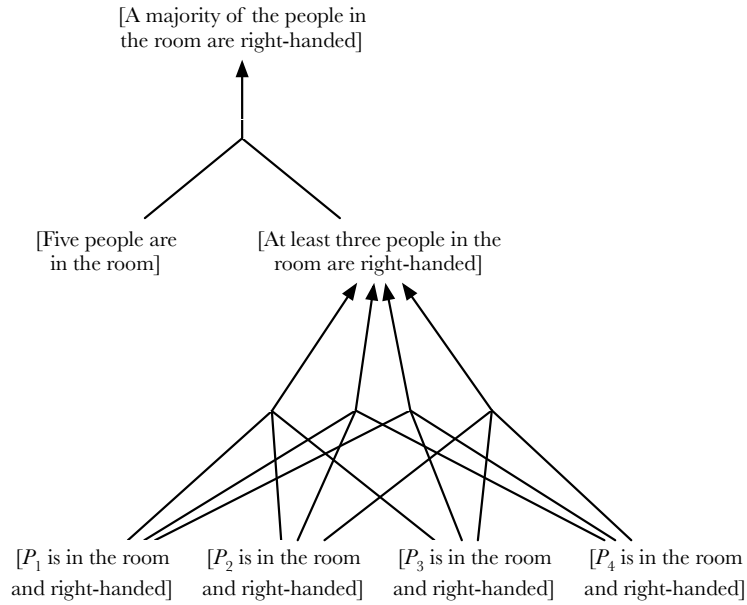
Figure 2

the four following facts: [P_1 is in the room and right-handed], [P_2 is in the room and right-handed], [P_3 is in the room and right-handed], and [P_4 is in the room and right-handed]. Figure 2 depicts the grounding structure I am claiming for this parallel case. The heart of my proposal involves stressing the analogy between these two cases. Just as it would be absolutely insane to insist that [P_1 is in the room and right-handed] plays no role in making it the case that a majority of people in the room are right-handed, so too is it absolutely insane to insist that [C_1 voted 'Yes'] plays no role in making it the case that the measure passed. And just as [P_1 is in the room and right-handed] only plays a role in determining the fact that a majority of people in the room are right-handed by teaming up with other facts to make this happen, so too does [C_1 voted 'Yes'] only play a role determining the fact that the measure passed by teaming up with other facts to make this happen. Finally, just as its being overdetermined that a majority of people in the room are right-handed does not undermine that ability of [P_1 is in the room and right-handed] to help determine this fact, so too does its being overdetermined that the measure passed not undermine the ability of [C_1 voted 'Yes'] to help determine this fact. Instances of over-joint-determination are a humdrum feature of ordinary life that also happen to be present whenever a vote is decided by more votes than needed.

5.2. Scaling Up

The proposal I am making here can easily be scaled up, in terms of both the number of votes cast and the

margin of victory. Suppose now that our committee has 1,000 members (university committees really are getting out of control), and 560 vote 'Yes', while 440 vote 'No'. The measure passed in part because every committee member has voted and in part because a majority of the committee members voted 'Yes'. And a majority of the committee members voted 'Yes' in part because 1,000 committee members voted and in part because at least 501 of the committee members voted 'Yes'. Finally, it is massively overdetermined that at least 501 of the committee members voted 'Yes'. Altogether, there are 560 choose 501 $= \frac{560!}{501!\,59!} \approx 4.22 \times 10^{80}$ combinations of 501 from among the 560 'Yes' votes that each constitute an independent full ground for the fact that at least 501 committee members voted 'Yes'—an astronomically large number that falls within current estimates for the number of atoms in the universe. (As we continue to scale up, this number quickly gets too large to calculate using readily accessible technology.) Moreover, if you are one of the 'Yes' voters, then your vote is a member of 559 choose 500 $= \frac{559!}{500!\,59!} \approx 3.78 \times 10^{80}$ of these independent full grounds, because that is the number of combinations of 500 from among the other 559 'Yes' votes that we can group together with your vote to make up a 501-member collection of 'Yes' votes. Hence the percentage of full grounds featuring your vote is (559 choose 500)/(560 choose 501) $= \left(\frac{559!}{500!\,59!}\right) / \left(\frac{560!}{501!\,59!}\right) = 501/560 \approx 89.5\%$. But again, by our second observation, this does not mean that the various full grounds featuring your vote were approximately 89.5% responsible for at least 501 committee members having voted 'Yes'. We do not split up the responsibility for that fact among each of its independent full grounds. Every combination of 501 from among the 560 'Yes' votes is fully responsible for making it the case that at least 501 committee members voted affirmatively, which in turn (together with another fact) makes it the case that a majority voted affirmatively, which in turn (together with another fact) makes it the case that the measure passed.

More generally, if *m* votes are needed for a majority in a majority-rules voting procedure (involving two options, with no possibility of abstention) and the winner in fact receives *n* votes, each vote for the winning option will be a part of ((*n* − 1) choose (*m* − 1))/(*n* choose *m*) = *m/n* of the independent grounds for the fact that the winning option is the winner. Since *n* is at least *m* (when the margin for victory is at its smallest, and hence every vote for the winner was needed to get a majority) and at most 2*m* − 1 (when the margin for victory is at its largest because everyone voted for the winning option, and an odd number of total votes were cast), *m/n*

can vary from 100% inclusive on the upper end (when $n = m$) to 50% exclusive on the lower end (when $n = 2m - 1$, and m approaches infinity). As the margin for victory increases, a given winning vote is featured among a lower percentage of the full grounds for the voting outcome, but never less than half of them. And as the margin for victory decreases, a given winning vote is featured among a larger percentage of the full grounds for the voting outcome, where in the limiting case that percentage reaches 100% because there is only one independent full ground for the fact that a given option has won, as every vote for the winner was needed to secure a majority.

5.3. Scaling Down

It is worth pausing to explore how the proposal I am making here works in that last case; in other words, it is worth pausing to explore how the proposal works when we scale down the margin for victory so that the number of votes cast for the winning option is the same as the number needed for a majority. It is in this case, and this case alone, that we fail to have metaphysical overdetermination. However, we still have joint determination, and how joint determination works in such a case has not been properly appreciated.

Suppose that, instead of a 4–1 margin, the measure being considered by our five-person committee passes by a 3–2 margin: C_1, C_2, and C_3 voted 'Yes', whereas C_4 and C_5 voted 'No'. The first two layers of our grounding structure remain the same: [The measure passed] is grounded in [Every committee member voted] and [A majority of the committee members voted 'Yes'], taken together; and [A majority of the committee members voted 'Yes'] is grounded in [Five committee members voted] and [At least three committee members voted], taken together. However, that last fact now has only one independent full ground at the next layer: the collection of facts [C_1 voted 'Yes'], [C_2 voted 'Yes'], and [C_3 voted 'Yes']. So the overall grounding structure is as depicted in Figure 3.

Advocates of the common line of reasoning are obsessed with this sort of case, because they believe such cases are the only way for C_1's vote to have an effect on the outcome of the voting process. I have already argued that this last thought is mistaken, because overdetermination does not obviate influence. But the way in which both advocates and opponents of the common line of reasoning usually describe cases like our one featuring a 3–2 margin reveals another mistaken thought. It is standard to refer to a case of this sort as one in
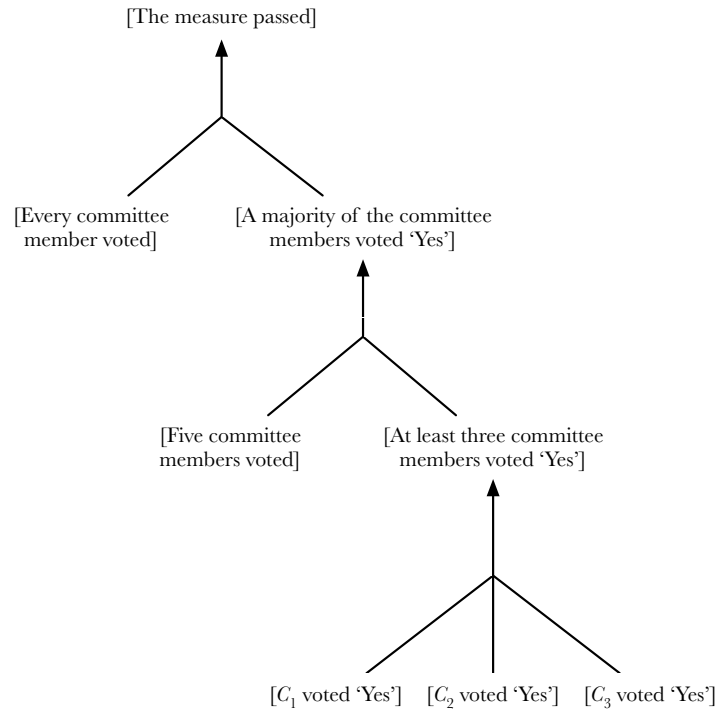
[The measure passed]

[Every committee member voted]   [A majority of the committee members voted 'Yes']

[Five committee members voted]   [At least three committee members voted 'Yes']

[C_1 voted 'Yes']   [C_2 voted 'Yes']   [C_3 voted 'Yes']

Figure 3

which C_1's vote is "decisive" or "pivotal." But such terminology is badly confused. C_1's vote did not decide the outcome, for it only determined that outcome with the help of two other 'Yes' votes. Nor was C_1's 'Yes' vote the pivot upon which the overall vote swung: it played no more privileged a role than C_2's and C_3's 'Yes' votes did. Together, these three votes jointly determined the winning option, and no one vote on its own was decisive or pivotal in securing that outcome.

Some who use the terminology of "decisive" or "pivotal" votes explicitly tell us that if one vote is decisive or pivotal, then every other vote for the winning option is also decisive or pivotal.[18] But this is no way of rescuing that terminology. Being decisive or pivotal are comparative notions; they single out certain factors as being more important or crucial than others. We can't have nothing but pivots without anything rotating on those pivots, and—unless we are dealing with a case of overdetermination—it can't be that every one of several factors which led to some outcome was itself decisive in getting us there. "Why did we win the game? Well, the first play was decisive, and the second play was also decisive, and come to think of it the third play was decisive as well"—these are not the words of someone who understands what 'decisive' means. If every

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[18]   See, for example, Mackie 2014, 23, and Brennan and Sayre-McCord 2015, 36.

vote for a given option was needed to secure a majority, then no individual vote was decisive—instead, it was all of them together which decided the matter.

5.4. Potential Complications

So far I have been working with a fairly natural account of what makes it the case that a majority of the committee members voted 'Yes', namely one on which—in our original scenario—that fact is made the case by [There are five committee members] and [At least three committee members voted 'Yes'], taken together. And I have been working with a fairly natural account of what makes it the case that at least three committee members voted 'Yes', namely one on which that fact is made the case by, for example, [C_1 voted 'Yes'], [C_2 voted 'Yes'], and [C_3 voted 'Yes'], taken together. But in both instances there is room to doubt the account I have been assuming and to replace it with a more complicated proposal. For instance, maybe instead [A majority of the committee members voted 'Yes'] is fully grounded in [The number of committee members who voted 'Yes' is greater than the number committee members who voted 'No']. And maybe instead [At least three committee members voted 'Yes'] is fully grounded in [C_1 is a committee member and voted 'Yes'], [C_2 is a committee member and voted 'Yes'], and [C_3 is a committee member and voted 'Yes']. Or, to complicate things even further, perhaps we need to include among those full grounds facts specifying the distinctness of each of these committee members, so that really [At least three committee members voted 'Yes'] is fully grounded in [C_1 is a committee member and voted 'Yes'], [C_2 is a committee member and voted 'Yes'], [C_3 is a committee member and voted 'Yes'], [$C_1 \neq C_2$], [$C_1 \neq C_3$], and [$C_2 \neq C_3$]. And yet more variants beyond these are possible.

In the end, it doesn't much matter for my purposes which of these accounts is correct: each leads to a version of my proposal in which its basic features are preserved. So I can leave it to the metaphysicians to tell us the best account of what grounds majority facts and (if this is relevant) at-least-some-number facts. Tell me the story about what makes it the case that, say, a majority of the people in some room are right-handed. Then I hold that a parallel story can be told about what makes it the case that a majority of votes cast by our committee were in the affirmative. And whatever this story winds up being, I hold that it will allow the fact that C_1 voted 'Yes' to play a role in determining the fact that a majority of the committee members voted 'Yes' even

when there were more 'Yes' votes than needed for a majority.[19] In what follows, I will continue to assume the accounts I have been assuming about the grounds of majority and at-least-a-certain-number facts, just to have a specific proposal to work with as we proceed.

5.5. Other Voting Procedures

Let us now extend our proposal to voting procedures other than a majority-rules decision between two options with no possibility of abstention. Doing so requires changing one or both of the two facts that most immediately ground the fact that some option is a winner in our hierarchy. In the case we have been considering, these two facts are [Every committee member voted] and [A majority of the committee members voted 'Yes']. Call these *the completion condition* and *the winning condition*, respectively, since the first is what must be in place for the voting procedure to have been brought to a close—for all the votes to be in, as it were—and the second is what must be in place for one option to be a winner. Different voting procedures are individuated by their differing completion and winning conditions, and the rest of the grounding structure will depend on what it takes to make those conditions obtain.[20]

For example, suppose we allow abstentions in the majority-rules voting procedure our five-person committee follows when deciding whether or not to pass the measure. Then we need to change the completion condition and slightly tweak the winning condition. How we change things will depend on the procedure the committee in fact follows, whether explicitly or implicitly. Suppose committee members must either vote 'Yes', vote 'No', or officially register their abstention from the vote by some means. Then the completion condition will be [Every committee member has either cast a vote or registered an abstention], and the winning condition when the 'Yes'-option wins will be [A majority of the votes cast were 'Yes']. The grounds of this latter fact will then be largely as they were in our original case. Alternatively, it could be that committee members are given a deadline, and if they do not cast a vote by this deadline, they count as having abstained from the vote. The

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[19]   I also hold that the correct story will result in its being overdetermined that a majority of the committee members voted 'Yes' when there were more 'Yes' votes than needed for a majority, but for my ultimate purposes it doesn't matter if that particular feature of the account is preserved. If individual votes for a winning option always jointly determine the fact that the winning option has won without over-jointly-determining that fact, then so be it, for we have still found a way for individual votes to be metaphysically efficacious regardless of the margin of victory.

[20]   Although for the most part we shall consider voting procedures with a single completion condition and a single winning condition, I do not mean to rule out the possibility of a procedure in which several conditions must be satisfied either for the voting procedure to be completed or for a given option to count as a winner once the procedure is completed. I also do not mean to rule out the possibility of voting procedures that lack completion conditions altogether and only feature winning conditions.

completion condition will then be the fact that the deadline has passed, and the winning condition will once again be the fact that a majority of the cast votes were for a given option.

If we move away from majority-rules procedures, more radical changes in the winning condition will be called for. For example, suppose our five-person committee uses *the unanimity rule* to decide whether to pass the measure: it passes if and only if all vote 'Yes'. Then the winning condition for the measure to pass is [Every committee member voted 'Yes']. This fact will in turn be grounded in the usual way that universal generalizations are grounded (plausibly: in the individual facts about how each committee member voted together with a "totality fact" about who all the members of the committee are).[21] Or suppose our five-person committee instead uses *the single-vote rule*: the measure passes if and only if at least one committee member votes 'Yes'. Then the winning condition for the measure to pass is [At least one committee member voted 'Yes'], which I take to be the same fact as the existential generalization [Some committee member voted 'Yes']. This fact will in turn be grounded in the usual way in which existential generalizations are grounded; for instance, if C_1, C_2, and C_3 voted 'Yes', and C_4 and C_5 voted 'No', then [Some committee member voted 'Yes'] is presumably fully grounded in [C_1 voted 'Yes'], and also independently fully grounded in [C_2 voted 'Yes'], and also independently fully grounded in [C_3 voted 'Yes']. Indeed, votes conducted using the single-vote rule present a particularly strong case for my suggestion that voting outcomes are usually metaphysically overdetermined, given that it is widely agreed that [Some committee member voted 'Yes'] is metaphysically overdetermined when multiple committee members have voted affirmatively.[22]

Other voting procedures will involve more complex winning conditions, resulting in more intricate grounding structures when those winning conditions do obtain. If a candidate wins a national election by having a majority of votes in the electoral college, and a candidate gets a certain number of votes in the electoral college by getting a plurality of the votes cast by the residents of a given state (or part of a state), our overall grounding hierarchy will feature voting structures nested within voting structures: state-level voting procedures with their own completion and winning conditions produce outcomes that in turn help determine the obtaining of the completion and winning conditions for the national vote.

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[21]   See Rosen 2010, 118–21, and Fine 2012a, 60–62.

[22]   Votes utilizing the single-vote rule also further reinforce my earlier claim that the determination relation between votes and electoral outcomes is grounding, not causation, since no one thinks [C_1 voted 'Yes'] causes [Some committee member voted 'Yes'].

Another feature of the proposal worth noting is its non-extensional character: what matters is *what makes it the case* that a given completion or winning condition obtains, not merely *whether or not* those conditions obtain. Thus, on this proposal, we might have two voting procedures which are extensionally equivalent, in that given the same voting inputs, they always yield the same outputs concerning which option wins, and yet nevertheless those two voting procedures differ with regard to their verdicts about whether a given vote played a role in determining a winner on a given occasion. But this is as it should be. Grounding is not purely an extensional matter: two facts that necessarily co-obtain can have different grounds,[23] so we should expect that two extensionally equivalent voting procedures might result in distinct verdicts about the determination relation between individual votes and outcomes of the voting procedure, once we understand that determination relation to be grounding. And this feature matches our intuitions about particular cases. Suppose two people are voting whether or not to pass some measure. Contrast the following two voting procedures. On the first, what it takes for the measure to pass is either person voting 'Yes' (the single-vote rule). On the second, what it takes for the measure to pass is either the first person voting 'Yes', or the first person voting 'No' and the second person voting 'Yes'. These two voting procedures are extensionally equivalent. And yet, intuitively, they differ with regard to their determination verdicts: if both people vote 'Yes', the second person's vote plays no role in making it the case that the measure passes on the second but not the first procedure.

One final comment on the proposal. So far I have left open what it takes for a person to qualify as having voting for some option. What makes it the case that a given person has voted in a given way—call these *the voting conditions*—will vary from voting procedure to voting procedure, and they will lead to additional structure in our grounding hierarchy below the facts about how each person voted. Exactly what these conditions will be is a complex question in social metaphysics that we need not settle here. For instance, in our example in which the members of our five-person committee vote by each scribbling down 'Y' or 'N' on a piece of paper, perhaps [C_1 voted 'Yes'] is grounded in [C_1 wrote 'Y' on a piece of paper], or perhaps it is grounded in [C_1 wrote 'Y' on a piece of paper with the intention of thereby voting on whether to pass the measure],[24] or

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[23] For example, consider the fact that some action is morally required and the fact that it maximizes happiness, when we assume the truth of the relevant version of utilitarianism: the first fact is grounded in the second but not vice versa, so they have different grounds despite necessarily co-obtaining.

[24] If C_1 forgot all about the vote and just happened to start writing down 'Yellowstone National Park' but was interrupted after the first letter, has C_1 voted?

perhaps we have to further specify the circumstances in or time at which the writing occurred, or perhaps we need to include additional partial grounds adverting to C_1's being a committee member or C_1's having the authority to vote on this issue. And matters only get more complicated when we consider less stylized examples in which an actual vote takes place.

5.6. Two Objections

On the approach I favor, multiple votes work in tandem to make it the case that a given option is a winner, where we understand that making-it-the-case relation to be grounding, and where we do not evenly divide up the contribution made by each vote or by each full ground of which a vote is part. Each of these elements might be thought to make my proposal vulnerable to its own distinctive objection. First, it might be objected that by focusing on grounding I make it too easy for something to help determine the winner of a voting procedure; for example, even votes *against* a winning option might in part ground the fact that this option has won, by in part grounding the fact that a certain number of votes were cast or by in part grounding the fact that the voting procedure has been completed. Second, it might be objected that by eschewing quantitative ways of divvying up responsibility for an electoral outcome, I am forced to say that every vote is equally responsible for an outcome, even in voting procedures in which some votes are given more weight than others.

Let us start with the first objection. Here is a way of sharpening the concern. Suppose our five-person committee is once again voting on whether to pass a measure, they must cast a vote by a certain deadline or else they count as having abstained from the vote, and the measure passes iff a majority of the votes that have been cast are 'Yes'. Two committee members—C_1 and C_2—vote 'Yes', one—C_3—votes 'No', and two—C_4 and C_5—abstain. The measure passes, and on my approach this is made the case in part by the fact that three votes were cast and in part by the fact that at least two of the cast votes were 'Yes'. But it is in part because C_3 cast a vote that three votes were cast. So C_3's having voted in part makes it the case that the measure passed, even though C_3 voted against the measure. By contrast, C_4's having abstained does not even in part make it the case that the measure passed, because it partially grounds neither the completion condition (that the deadline for casting a vote has passed) nor the winning condition (that a majority of the cast votes were 'Yes'). But how could C_3 be more responsible for the measure's passing than C_4, when C_3 voted against it whereas C_4 abstained?

This objection should not worry us, because an exactly parallel objection can be formulated for

quotidian cases in which the majority of people or objects with one property have another property. Suppose there are exactly three people—P_1, P_2, and P_3—in a room, two of them—P_1 and P_2—are right-handed, and one—P_3—is left-handed. If, as we have been assuming, what makes it the case that a majority of the people in the room are right-handed is the fact that there are three people in the room and the fact that at least two of the people in the room are right-handed, taken together, then we can run an exactly parallel objection. P_3's presence in the room in part makes it the case that there are exactly three people in the room, so by transitivity P_3's presence in the room in part makes it the case that a majority of the people in the room are right-handed, even though P_3 is left-handed. But isn't it despite, not because of, P_3's presence in the room that at least half the people in the room use their right hand?

There are two ways to resolve this puzzle, and either solution can be straightforwardly ported over to our analogous case involving a majority-rules vote. One solution is to deny that [P_3 is in the room] partially grounds [A majority of the people in the room are right-handed], perhaps because grounding is not transitive in such situations, perhaps because [There are exactly three people in the room] is an enabling condition for the grounding relation between [At least two people in the room are right-handed] and [A majority of the people in the room are right-handed] without itself being a partial ground of that last fact, or perhaps for some other reason. But whatever the story is in this case, a parallel story can be told about why [C_3 cast a vote] does not partially ground [A majority of the cast votes were 'Yes'], and hence does not partially ground [The measure passed]. A second solution is to accept that [P_3 is in the room] does partially ground [A majority of the people in the room are right-handed] while explaining away our reluctance to accept that verdict. To say that [P_3 is in the room] partially grounds [A majority of the people in the room are right-handed] is not to say that the former fact contributes a metaphysical force vector which pushes reality toward its being the case that the latter fact obtains; rather, it is to say that [P_3 is in the room] is part of a collection of facts which all together make it the case that more than half the people in the room are right-handed. Moreover, it is the presence in the room of P_3 qua person, not qua left-handed person, that plays this explanatory role in combination with the other relevant facts. Similarly, one might insist, it is the fact of C_3's having cast some vote or other, not C_3's having cast a 'No' vote in particular, that partially makes it the case that the measure has passed, when it teams up with various other facts. I leave it to my readers to choose which of these responses they prefer. But some

such solution must be in the offing, lest we be unable to tell a satisfying story about why majority facts in general obtain.

Turn now to the second objection. Suppose one person's vote counts for twice as much as another person's vote in the tally used to determine a winner; shouldn't we then say that if both voted for the winning option, the first person was twice as responsible for this outcome as the second person? And doesn't my refusal to split up responsibility for an outcome make it impossible to secure this result? For example, suppose there is a six-person committee, one member of which is its chair. Each committee member votes whether to pass a measure, with no possibility of abstention. The chair's vote counts for two points, and everyone else's vote counts for one point. There are seven points to go around, so it takes four points for the measure to pass. The chair—C_1—and four other committee members—C_2, C_3, C_4, and C_5—vote 'Yes', while the final committee member—C_6—votes 'No'. So the measure has passed. Surely, it might be claimed, C_1's vote is twice as responsible for this outcome as C_2's vote is. And clearly, it might be insisted, my proposal is forced to say that these two votes are equally responsible in securing that outcome.

I deny both claims. First, we need to distinguish the claim that [C_1 voted 'Yes'] is twice as responsible as [C_2 voted 'Yes'] *for the number of points that 'Yes' has in its favor* from the claim that [C_1 voted 'Yes'] is twice as responsible as [C_2 voted 'Yes'] *for its being the case that 'Yes' has at least four points in its favor*. The former I grant; the latter I reject. How many points 'Yes' has in its favor is a gradable notion that is determined by adding up the contributions made by each favorable vote, so comparing the contributions made by one vote to the independent contributions made by another vote is a straightforward affair. Whether 'Yes' has at least four points in its favor is a non-gradable, on–off notion, and it itself is not directly determined by adding up independent contributions—although it indirectly depends on a tally so determined, *together* with the fact that this tally is above a certain level. Responsibility for the tally is not the same as responsibility for the tally's being above that level. Second, it doesn't follow on my proposal that we can draw no distinctions with regard to metaphysical responsibility when it comes to C_1's and C_2's votes. There are seven independent full grounds for ['Yes' has at least four points in its favor], and [C_1 voted 'Yes'] is a member of six of these, whereas [C_2 voted 'Yes'] is a member of only four:

(i)   [C_1 voted 'Yes'], [C_2 voted 'Yes'], [C_3 voted 'Yes'];

(ii) $[C_1$ voted 'Yes'$]$, $[C_2$ voted 'Yes'$]$, $[C_4$ voted 'Yes'$]$;

(iii) $[C_1$ voted 'Yes'$]$, $[C_2$ voted 'Yes'$]$, $[C_5$ voted 'Yes'$]$;

(iv) $[C_1$ voted 'Yes'$]$, $[C_3$ voted 'Yes'$]$, $[C_4$ voted 'Yes'$]$;

(v) $[C_1$ voted 'Yes'$]$, $[C_3$ voted 'Yes'$]$, $[C_5$ voted 'Yes'$]$;

(vi) $[C_1$ voted 'Yes'$]$, $[C_4$ voted 'Yes'$]$, $[C_5$ voted 'Yes'$]$;

(vii) $[C_2$ voted 'Yes'$]$, $[C_3$ voted 'Yes'$]$, $[C_4$ voted 'Yes'$]$, $[C_5$ voted 'Yes'$]$.

In light of our second observation about grounding, I don't quite want to say that $[C_1$ voted 'Yes'$]$ is $6/4 = 1.5$ times as responsible for ['Yes' has at least four points in its favor] as $[C_2$ voted 'Yes'$]$ is. But I do think $[C_1$ voted 'Yes'$]$'s presence among a greater percentage of the independent full grounds for ['Yes' has at least four points in its favor] can explain our inclination to ascribe to it a greater share of the metaphysical responsibility for that fact.

6. Comparison with Similar Proposals

I have now sketched the basic contours of my proposal about how we should answer our metaphysical question "When does my vote play a role in determining the winner of an election (or other voting procedure)?" The proposal I have put forward bears some similarities to two prominent proposals in the literature, one due to Alvin Goldman, the other to Richard Tuck.[25] Although, to my mind, Goldman's and Tuck's proposals are quite different from each other, at least when it comes to answering our metaphysical question, they are often discussed together, and I am happy for my proposal to be seen as within the same general family of views as theirs. However, there are important differences between my approach and the Goldman–Tuck approach, so it is worth drawing attention to some of those differences.

  My proposal is closest to Goldman's. Goldman starts by making the standard assumption that the determination relation in question when individual votes determine a winning option in some voting procedure is causation. He then endorses J. L. Mackie's INUS analysis of causation, on which a cause is typically an <u>i</u>nsufficient but <u>n</u>ecessary part of an event that is <u>u</u>nnecessary but minimally <u>s</u>ufficient for the effect (where an event is minimally sufficient for an effect when it is sufficient for that effect and contains no smaller event that

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25   See Goldman 1999 and Tuck 2008, ch. 2.

is also sufficient for the effect).[26] Or, rather, Goldman endorses a slight tweak of Mackie's analysis, as Mackie himself builds in an extra condition that rules out cases in which several events that are minimally sufficient for the effect obtain, one of which contains the cause in question, another of which doesn't. But, as Goldman observes, such a condition entails that there is no such thing as causal overdetermination, which Goldman takes to be implausible, so he thinks we are better off dropping this extra condition from Mackie's analysis. And, indeed, Goldman argues that precisely what we have in voting scenarios not decided by a margin of a single vote is causal overdetermination, where the notion of causation is understood in accordance with Mackie's (tweaked) INUS analysis. So in our original scenario involving the five-person committee in which four vote 'Yes' and one votes 'No', Goldman would insist that C_1's 'Yes' vote counts as a partial cause of the measure's passing because it is part of a number of larger events that are each minimally sufficient for the measure's passing. One such larger event is the complex event made up of C_1's voting 'Yes', C_2's voting 'Yes', and C_3's voting 'Yes', another is the complex event made up of C_1's voting 'Yes', C_2's voting 'Yes', and C_4's voting 'Yes', and a third is the complex event made up of C_1's voting 'Yes', C_3's voting 'Yes', and C_4's voting 'Yes'.

Thus Goldman's proposal is quite close to mine. Or rather, since Goldman published his article a quarter of a century ago, perhaps we should say that my proposal is quite close to his. We both take individual votes to overdetermine the winner of an election or other voting process when not every vote is needed to secure the victory. And we both identify largely the same combinations of votes that overdetermine who the winner is, although for Goldman these combinations are fusions of events (or "conditions," as following Mackie he often characterizes the relata of the causation relation), whereas for me these combinations are pluralities of facts about how individual people voted. However, there are two significant differences. First, Goldman takes the determination relation at issue to be causation, whereas I have been insisting that it is grounding. Second, Goldman assumes Mackie's INUS analysis of causation, whereas I do not.

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[26]   See Mackie 1965 and 1973. Mackie's INUS analysis of causation is similar to the NESS (Necessary Element of a Sufficient Set) test for causation in the law developed by H. L. A. Hart and Tony Honoré (1959) and further refined by Richard Wright (1985).
     I include the 'typically'-qualifier in my summary of Mackie's proposal because Mackie also allows for cases in which we drop either the insufficiency requirement or the unnecessariness requirement or both, so really Mackie is proposing an NS analysis on which a cause is a <u>n</u>ecessary part of an event that is minimally <u>s</u>ufficient for the effect. Mackie includes the 'minimally'-qualifier before 'sufficient' because otherwise every event would be a cause of every event with at least one cause: if cause c causes effect e due to c's being a necessary part of an event—call it d—that is sufficient for e, and c^* is any arbitrary event, then the fusion of d and c^* is also sufficient for e, and so c^* is also a necessary part of an event that is sufficient for e, and hence would also count as a cause of e if we didn't tack on the 'minimally'-qualifier. (Goldman himself often forgets the 'minimally'-qualifier when characterizing Mackie's analysis, but it is a mistake to drop it, so I have silently reinserted that qualifier during my summary of Goldman use of Mackie's analysis.)

These differences matter. For one thing, Mackie's INUS analysis of causation is a completely hopeless proposal that has few advocates these days. Among other problems, the proposal is wildly extensionally inadequate. Suppose (i) event c is sufficient for both event d and event e via (what independently of any particularly analysis of causation we would deem to be) separate causal processes, (ii) c is also necessary for d, (iii) c is not necessary for e, and (iv) d is a complex event made up in part of event d^*. Then d^* is an insufficient but necessary part of d (by (iv)), and d is unnecessary but sufficient for e (by (i), (ii), and (iii)). So d^* is a cause of e on Mackie's analysis, whereas intuitively they should count as having a common cause. This is an intolerable verdict, which is not easily removed by tinkering with the details of Mackie's analysis, for instance by adding in an extra clause requiring a cause to temporally precede its effect (since in our example d might well happen earlier than e).[27] So it is problematic to motivate an account of how determination works in voting contexts by appealing to a moribund theory of causation.

For another thing, I have argued that Goldman and others are simply wrong to assume that the determination relation between votes and electoral outcomes is causation. When we take that relation to be grounding, I think an account on which voting involves overdetermination becomes all but inevitable. Few would resist the suggestion that it is overdetermined that the majority of people in some room are right-handed (the analogue of the majority rule), or that at least one person in that room is right-handed (the analogue of the single-vote rule). Overgrounding is a boringly commonplace phenomenon that arises in cases which are exactly parallel to voting scenarios, provided we see voting scenarios as involving a grounding relation between votes and outcomes. True cases of overcausation, by contrast, are relatively rare: most ordinary cases that at first seem to involve overcausation often turn out, on closer inspection, either to feature one causal process that preempts the other before it can run its full course, or to turn on issues of vagueness that make it indeterminate which of two events in fact caused a given effect (though it is not indeterminate that one or the other caused it), or both. For example, I doubt that most real-world executions by firing squad in fact involve overcausation,

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[27] Another sort of problematic case for Mackie's INUS analysis involves necessarily co-obtaining events that intuitively have different causal powers. Suppose Socrates' drinking the hemlock causes his death. It follows from Mackie's analysis that the following event is also a cause of Socrates' death: the set {Socrates}'s being such that its sole member drank the hemlock. (Proof left to the reader.) But we cannot so easily establish that abstract objects have causal powers. And if we could, we would need to accept widespread causal overdetermination due to every concrete object's having an abstract doppelgänger (in fact, many abstract doppelgängers) with exactly the same causal powers.

when we look with sufficient granularity at the causal processes that actually led to the prisoner's death (a condition the initial onset of which is a vague matter). Overcausation is kind of spooky, and it worries us when a theory posits too much of it: witness the heated debates about whether dualism in the philosophy of mind commits its proponents to every effect with a mental cause being overdetermined because it also has a physical cause. Overgrounding, by contrast, is just a fact of life. It is overdetermined that there is at least one word on this page, and overdetermination of that sort is not something which troubles us.

So I view Goldman as having hit up largely the correct account of how votes determine electoral outcomes, but as having gotten to that conclusion in the wrong way. He was mistaken to assume that such determination is causation, and he was mistaken to assume that causation can be given an INUS analysis. We do better to motivate our proposal without appealing to dubious assumptions of either sort.

There is a third difference between my proposal and Goldman's that is also worth mentioning. Although my proposal and Goldman's largely agree about the circumstances in which an individual vote plays a role in determining a winner, there are a few edge cases where our proposals differ extensionally, due to Mackie's requirement that a cause be a necessary part of an event that is *minimally* sufficient for some effect— i.e. an event that is sufficient for that effect and does not contain a smaller event also sufficient for the effect.[28] And in these edge cases in which our proposals yield differing verdicts, I believe my proposal's verdicts are to be preferred. For example, consider a variant of our five-person committee example in which one member of the committee is its chair, and what it is takes for the measure to pass is this: either the chair votes 'Yes', or at least two committee members vote 'Yes'. Now suppose the chair—C_1—and one other committee member— C_2—vote 'Yes', while the remaining committee members—C_3, C_4, and C_5—vote 'No'. On Goldman's proposal, C_2's vote is not responsible for the measure's passing, because although C_1's vote and C_2's vote are together sufficient for the measure's passing, they are not minimally sufficient, given that C_1's vote on its own is enough for the measure to pass. So Goldman would see this as a case in which it is not overdetermined that the measure passes. On my proposal, by contrast, this is indeed a case of overdetermination: both C_1's vote on its own (without the help of any other votes) and C_1's and C_2's votes together make it the case that the winning condition

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[28] Thus Mackie's analysis suffers from the ailment Fine has dubbed "minimalitis" (2017, 564), which arises whenever we attempt to mimic a genuine form of dependence or determination by appealing to entailment relations between minimal sets.

is met for the 'Yes' option, so C_2's vote does in part make it the case that the measure passes. And that, I would say, is the verdict we want.[29]

Richard Tuck has put forward a proposal that bears some surface similarities to Goldman's but, when we dig deeper, can be seen to be quite different. Like Goldman, he frames the issue in terms of whether votes can possess "causal efficacy" or be "casually responsible" for an electoral outcome even when there are more votes for the winner than needed.[30] And like Goldman, he appeals to a theory of causation on which causes are necessary parts of a sufficient condition for some effect in order to defend the causal efficacy of individual votes in such cases.[31] However, Tuck does not take voting cases to involve causal overdetermination. His model is a roll-call vote, in which the eligible voters cast their votes one by one in a specified order, and once one option has more votes than any other option could have were every eligible voter given an opportunity to cast a vote, that option is declared the winner and the voting procedure stops. In such a case, it is clear that each vote for the winning option is partly responsible for its being the winner, even though that vote might not have been needed for that result because later votes would instead have secured a victory for the winning option had the vote in question been cast differently, thereby resulting in the roll call continuing longer than it in fact did. Tuck compares this situation to cases of what are commonly called *preemptive causation*, in which one causal process leads to a given effect moments before a separate causal process would have produced the same effect had the first one not been present, such as when "one policeman . . . shoots and kills a bank robber [thereby causing the robber's death] . . . a split second before one of his colleagues would have done [so]."[32] Tuck then extends this model to all voting procedures, even those not involving a roll call. He holds there is always a unique "efficacious set" of votes, as he calls them, that together are solely responsible for the outcome of the voting procedure.[33] For example, if our five-person committee votes on the measure by each writing 'Y' or 'N'

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[29]   Perhaps it might be objected that really the winning condition for the voting procedure is this: either the chair votes 'Yes', or at least two committee members *other than the chair* vote 'Yes'. However, I do not see why there could not be a voting procedure with a winning condition as I have specified it. Imagine there are written guidelines explicitly formulating the conditions under which a measure being voted upon passes. Such guidelines might well formulate those conditions as I have, and there is no good reason to think the actual winning conditions would deviate from the written winning conditions, even if those conditions take the form of a disjunction, some of whose disjuncts entail each other. When we try to update our guidelines to add in a new disjunct to the winning condition, have we only succeeded in adding a disjunct that is the would-be disjunct we have written down minus a conjunction of the old disjuncts? Why think that?

[30]   Tuck 2008, 39, 40.

[31]   Ibid., 58–59. However, he attributes this theory of causation to J. S. Mill, not J. L. Mackie.

[32]   Ibid., 51.

[33]   Ibid., 44.

on a piece of paper, and four committee members vote 'Yes' whereas one votes 'No', Tuck holds it is the first three 'Yes' votes counted that constitute the efficacious set. Thus Tuck treats the process of looking at the pieces of paper one by one in order to tabulate the results as, in effect, its own roll call, and even though we might continue to count votes after we hit three 'Y's, Tuck holds that the measure has already passed and the fourth piece of paper we encounter with a 'Y' on it played no role in making this the case.

Thus although Tuck holds that voting outcomes are *jointly determined* by the votes in the efficacious set, he denies that such outcomes are ever *overdetermined*. And, problematically, he motivates his thought that there is always a unique efficacious set of votes by making some rather peculiar assumptions about what the rules governing a voting procedure must be. We can imagine two versions of our scenario in which the committee members write down their votes on a piece of paper. In the first (possibility #1), when a committee member scribbles down 'Y' or 'N', a vote has already been cast, and counting the votes is how we gain epistemic access to the results of a voting procedure that has already been completed. In the second (possibility #2), what it takes for a vote to be cast is instead for a committee member to write down 'Y' or 'N' and for all of the committee members to certify that such a vote has been cast when the votes are tabulated; so on this version of the case, in part what it takes to have voted 'Yes' is for what one writes on a piece of paper to be deemed to be a 'Yes' vote by the relevant figures. In fact, we can imagine two subvariants of this second case. On the first subvariant (possibility #2a), once three 'Yes' votes have been certified, the procedure is complete and the measure has passed. On the second subvariant (possibility #2b), even though being certified as a 'Yes' or 'No' vote is part of what it takes to constitute a 'Yes' or 'No' vote, the voting procedure continues until all of the votes have been certified, and then what it takes for the measure to pass is for a majority of all of those votes to be in favor of passing the measure. Among these three possibilities—#1, #2a, and #2b—it is only on the second that it is plausible that there is a unique set of efficacious votes. But it is just not clear why our five-person committee must be following the rules as imagined in possibility #2a. Indeed, most real-world versions of our five-person committee example are much more plausibly interpreted as ones in which the committee is either explicitly or implicitly following the rules as imagined in possibility #1 or #2b. After all, in possibility #2a, the person whose 'Y' mark is the fourth in the pile *does not even count as having voted*, which is a bizarre way of describing the situation. And surely this person would be aggrieved, or at least slightly perturbed, if the committee

members didn't even bother looking at the piece of paper with their mark on it once three 'Y's were uncovered.

More generally, Tuck's attempt to use the time at which a vote is cast or certified to determine a unique set of efficacious votes cannot possibly be generalized to all voting procedures. For surely there are some voting procedures in which votes can be simultaneously cast or certified, or in which the time at which the vote is cast or certified does not matter for the voting procedure's completion or winning conditions. Suppose our committee votes by raising their hands if they are in favor of passing the measure, and four committee members simultaneously raise their hands, and all five committee members simultaneously see that four of them have raised their hands. It boggles the mind to think that, somehow, three of these 'Yes' votes are efficacious and one is not. Although I think Tuck is right to hold that an individual vote can help determine the outcome of a voting procedure even when it fails the counterfactual test "Would the outcome have been different had that vote not been cast in that way?" I think he is wrong to deny that voting cases involve overdetermination. Moreover, like Goldman, Tuck rests his account of when and why votes can influence electoral outcomes on the mistaken assumption that such influence is *causal* influence, together with a questionable theory of causation.

7. Brief Remarks on the Ethics of Voting

My primary topic here has been the metaphysics of voting: what makes it the case that a given outcome of some voting procedure has occurred? And when does an individual's solitary vote play a role in determining that outcome? I have defended a view on which the facts about how various individual have voted jointly ground the facts about which of the options being voted upon have won and which have lost: it is *because* those individuals voted as they did that such-and-such option was a winner, where the 'because' at issue picks out a form of constitutive explanation I have followed contemporary metaphysicians in calling 'grounding', not a form of causal explanation. When more votes were cast for a winning option than were needed, then, I have argued, it is metaphysically overdetermined that the option has won: there will be various combinations of votes for the winner, each of which independently makes it the case that the winner has won, though what those combinations are will vary depending on the completion and winning conditions in place during a given vote. The existence of these various independent grounds for the winner being a winner does not diminish each independent grounds' metaphysical responsibility for that outcome. Nor, within a given ground, do we divvy

up responsibility for the outcome they together make the case: when various votes team up so as to ground a verdict about which option has won, each plays an indispensable part in securing that verdict, as far as that particular explanation of why the option has won is concerned. The votes work together to make the option a winner. And when that option has more votes than needed, there are multiple partially overlapping collections of votes that each do the required work.

I have focused on issues concerning the determination of voting outcomes because I think academic discussions of voting often rest, either implicitly or explicitly, on mistaken views about how such determination works. Authors blithely assume that votes determine electoral outcomes by causing them, that we can use counterfactual reasoning to assess when such causation occurs, that when an option wins by a margin of one then somehow every vote for that option was itself decisive or pivotal. We should avoid such assumptions, and when we do, a quite intuitive picture of how our votes work together to determine outcomes emerges. But, of course, the reason it is important to get clear on these *metaphysical questions* about when and why an individual vote helps determine the outcome of some voting procedure is because our answers to those metaphysical questions are relevant to *ethical questions* about when and why we should vote in the first place, and how we should respond to those who have voted or chosen not to vote. So let me offer a few remarks about how the metaphysical view I have defended interacts with ethical issues concerning our reasons to vote, to hold people accountable for how they have voted, and so on—although on this topic I will have to be briefer than I would like, because there are complex issues here that would require at least another paper to properly settle.

We can divide up the ethical issues related to voting into two groups: *backward-looking issues* concerning the attitudes it is fitting to have and the actions we have reason to perform in response to votes that have taken place in the past and *forward-looking issues* concerning whether and how to vote in an election or other voting procedure that has not yet taken place. The relevance of my metaphysical proposal for backward-looking ethical issues should be obvious. When the U.S. Supreme Court delivers a 6–3 ruling, we hold each member of the six-person majority accountable for their decision: if we judge the ruling a good one, we praise each of them, and if we judge the ruling a disastrous mistake, we blame each justice in the six-person majority. These attitudes on our part are difficult to make sense of given the standard line of reasoning about what it takes for a vote to influence the outcome of a voting procedure. If a given justice in the six-person majority had voted

differently, there still would have been a majority in favor of the same ruling, hence on the standard line of reasoning that justice's vote had no influence on the fact that there was a majority. So why are we praising or blaming them for the part they played in the Court's decision? The picture I have defended allows us to make sense of our practices here. Each justice in the majority *did* influence the outcome of their vote, not by making an independent causal contribution toward that outcome, but rather by having their vote in part ground the outcome. The justices in the majority together made it the case that court decided as it did, by together making it the case that there were at least five votes in favor of that decision. As more votes were secured than were needed, it was overdetermined that the Court ruled as it did. But no matter: overdetermination is still determination, and we hold each justice in the majority accountable for the role they played in that determination, both in our attitudes and in our actions. Why call for an investigation into a justice in the majority's conflict of interest in the decision if that justice's vote played no role in determining how the Court ruled? The natural view here is that each vote by the majority influenced the outcome, and that precisely for this reason we take certain attitudes and actions in response to those votes to be justified.[34]

Matters become more delicate when we turn to forward-looking issues. A tempting thought is that the forward-looking considerations are driven by a concern to be on the right side of the backward-looking factors.[35] The thought is: psychologically, we are motivated to vote because we want the sort of credit for the voting outcome that we get from being partly responsible for it, and, normatively, we are right to do so, because our reasons to vote flow from our reasons to want to be praiseworthy for what we do, and for being averse to being blameworthy for our conduct. But such a rationale for voting is, I would say, misguided. Our reasons to want to be praiseworthy are not prior to our reasons to perform the actions in virtue of which we would be praiseworthy were we to perform them, and our reasons to aim to avoid blameworthy conduct are not prior to our reasons against doing the sorts of things that would, partially in virtue of those reasons, make us a fitting target of blame. Although all of us are, from time to time, motivated to do things for the praise we would

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[34]   I have been focusing on third-person cases in which the individual adopting those attitudes and taking those actions is not the one who voted, but similar reasoning applies to first-person cases: for instance, I might deeply regret my vote in a tenure case for the role it played in determining an overall decision even though that decision would have been the same had I voted differently.

[35]   This, for example, is explicitly what Goldman (1999) proposes, and many of the existing criticisms of his view in the literature (such as that found in Brennan and Sayre-McCord 2015) are directed against this aspect of his view. Tuck (2008, ch. 2), by contrast, considers and then rejects such an approach to deriving forward-looking reasons to vote from backward-looking reasons to give people credit for how they voted, before settling on an account of forward-looking reasons to vote that is closer to the one I shall defend.

thereby fittingly receive or the blame we would thereby fittingly avoid, such motivations represent a distorted perspective on the normative landscape, an undue obsession with keeping one's hands clean and acquiring accolades, moral or otherwise, for one's actions. We should not vote just to get credit for the outcome—although, on my proposal, we will in fact deserve credit for an outcome if our vote helps bring it about.

Instead, I think a better approach starts by considering the point of voting in the first place. Votes are not idle exercises; instead, they are the means by which a collection of individuals come to a decision on a potentially contentious matter. That is what distinguishes a vote from an opinion poll, or a real vote from a straw vote. So to get a fix on the reasons to vote, we should start by providing an account of why it is important (or valuable, or required: I don't mean to prejudge the normative categories at issue at each level of assessment) for the relevant collection of individuals to come to a decision on the matter in question. This importance will in part be a matter of coming to the right (or best, or . . .) decision, and in part a matter of coming to that decision in the right kind of way. From these claims at the group level, we can move inward to the importance for each individual of playing a part in that collective decision-making process that is partially constituted by their vote, both with regard to steering the group toward the right decision and with regard to helping make sure the decision is made in the right kind of way. Depending on the specific relationship that the individual bears to the group, the individual might have strong reasons to take part in this process, or (what is not the same thing) strong reasons against failing to take part in it. But these reasons need not be overriding: the individual might have other, more pressing concerns that outweigh the reasons to engage in this particular voting procedure.

Every element in the landscape scene I have just crudely sketched out in charcoal requires greater detail. And the account I have been defending during the bulk of this paper, of how individual votes help determine a voting procedure's winner, is most relevant to only one region of the canvas: the individual's being able to help steer the collective decision-making process in the right direction even when the winner of a vote has secured more votes than needed. But that is a crucial part of the overall picture, as an example can help bring out. Suppose the senior faculty in my department are going to vote at a faculty meeting on whether a junior colleague of mine will receive tenure. (Let us stipulate that there will only be a vote at the meeting with no preceding discussion—perhaps a discussion of the merits of the case already took place during a previous

meeting that had to end early—and also stipulate that it is not possible to vote in absentia.) I think my junior colleague clearly deserves tenure, and I am confident she will receive enough votes. So why bother attending the faculty meeting and casting a vote? Because voting is how we together, as a department, make decisions, and this particular decision is an important one for us to get right. This importance at the group level in turn makes it important for me to take part in this process and to be in part responsible for our having made the right decision. Imagine if I were to tell my junior colleague the day before the meeting, "Actually, I don't plan on voting on your tenure case, because I'm so confident you'll get enough votes and want to stay home to get some writing done." Those are the words of a shitty colleague.

Of course, we can construct variants of the case in which skipping the meeting would be defensible: perhaps the only way I can make the meeting is by paying for a ludicrously expensive early-morning flight after my initial flight home from a conference was canceled. We can even imagine versions of the case where it is for the sake of the department, and not just my pocketbook, that I miss the meeting: maybe the only way for me to secure funding from a donor for three new faculty lines is to meet with that donor at the same time as the tenure vote. But in all of these cases, something is lost by my not being there in person to cast my vote in support of my colleague, *even if* the vote is a landslide and *even if* she would have received tenure regardless of how I voted.[36] By voting for her to receive tenure, I come to relate to my colleague, and to my other colleagues, and to the department as a whole, in a way that I do not if I take myself out of the voting procedure, or if I vote in the other direction. Perhaps I have even more reason to take part in the tenure vote when there is a good chance the margin will be a single vote. But it is not only in situations in which counterfactually twiddling whether and how I vote leads to a different outcome that my vote in part determines said outcome. Often, I influence the result of a vote even though my vote was not needed to secure that result, by being a part of several different combinations of votes that, together with various other combinations of votes, overdetermine the resulting outcome. And it important that I influence the vote in that way: I have reason to in part make it the case that we, the faculty, have together made the right decision on this matter.

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[36] Moreover, what is lost cannot be solely expressive in nature, for we can construct versions of the case in which my vote in person would lack any expressive component, because I have already made it public that I think my colleague should receive tenure and because the vote itself will be conducted via a secret ballot.

8. Coda: But What about Climate Change?

I end by addressing a thought that has no doubt occurred to many of my readers. To what degree does the account I have defended here of the metaphysics and ethics of voting extend to other cases in which the actions of a large number of individuals together lead to some effect that no one action on its own could produce? Can, for example, a similar story be told about why my use of a space heater in my office on a particularly cold winter morning helps make it the case that a given ice shelf in the Antarctic melts years later, thereby leading to various dire consequences for various people (some not yet born, but others already among us)?

There are at least three potential sources of disanalogy here. First, the relevant makes-it-the-case relation when it comes to climate change is causation, not grounding: at most my somewhat profligate use of a personal heating device is part of what *causally*, not *constitutively*, makes it the case that the ice shelf melts. And whereas an analogue of our second observation about grounding—concerning the impropriety of divvying up responsibility for making something the case in cases of overdetermination—also plausibly holds for causation, it is far from clear that a version of our first observation about grounding—concerning the impropriety of divvying up responsibility for making something the case among joint determiners—is applicable to causation. Second, because in the climate-change case nothing like a voting procedure is in place, with its appeal to a specific winning condition such as how the majority vote on some manner, we lack our clean way of establishing that large-scale overdetermination is occurring. And we have already mentioned how genuine overcausing is more difficult to establish than genuine overgrounding. Third, also because of the lack of a voting procedure, we cannot tell the same ethical story in the forward-looking direction, in which we start with the normative significance of some group of people coming to a decision on some potentially contentious matter, observe that a vote allows them to do so, and conclude that it is normatively significant for individual members of the group to play a part in such a voting procedure.

However, it would still be noteworthy if we could extend our backward-looking story, in which partial makes-the-case-style responsibility for an outcome underwrites responsibility of a moral or ethical character, to cases of climate change. And while I recognize much more would need to be said to adequately settle the matter, the other two potential disanalogies do not seem to me to be dealbreakers. There certainly are some cases where we find it natural to think of causes as akin to force vectors whose contributions can be added up;

consider the widely discussed case of several people together pushing a car out of a snow bank. But other cases do not as clearly fit that model: if three of you are pushing the car while I am revving the engine, am I one-half responsible for freeing the car? One-fourth? What if only two people pushing would have sufficed? It may well be that some (or maybe even all) cases of joint causation do not involve a total amount of causal responsibility that can be divvied up among the partial causes, and it may well be that some of the causal processes leading to climate change involve joint causation of that sort. If we add that some of the particularly pernicious effects of climate change are overdetermined by our individual actions, as I suspect they are, then it may well be that an analogue of my metaphysical story does indeed apply to the actions that together produce the large-scale effects of anthropocentric climate change. Such a result would provide a different twist to the story I have been telling. In a way, my story about the metaphysics of voting is an optimistic one: we together, by casting our individual votes, make it the case that some candidate wins the election (or that some measure passes, or that some defendant is acquitted), through our mutually reinforcing, partially overlapping votes, no one of which is needed to secure the victory (at least most of the time, when the margin of victory is not a single vote). But when extended to climate change, this proposal might seem deeply depressing: we together are destroying the planet, through our mutually reinforcing, partially overlapping actions, no one of which is needed to secure any particular event leading to a rise in sea levels or an increase in global temperatures. But a depressing story might nonetheless be true. And even in the voting case, the story is double-edged: when you and I vote for a winning candidate who turns out to be a disappointment once in office, we together made that happen (in part, numerous times over). So too does the good come with the bad when it comes to climate change: we together can make a difference, even if the difference that is thereby made would have been the same had any one of us not performed the action in part responsible for that outcome.

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