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Jurisprudence of Sport

Fairness in Sport and Law: Broome's Proportional Satisfaction as a Tool for Explaining and Informing Everyday Fairness

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Introduction

Fairness is one of our most important normative and rhetorical concepts in contexts ranging from childhood games to international diplomacy. This paper seeks to argue that fairness is a standalone concept with significant descriptive and normative value, and a tool that legal scholars and philosophers should reach for in parallel with justice and social welfare.[1] I focus my analysis on John Broome's theory of *fairness as proportional satisfaction of claims*, which I argue strongly reflects our intuitive understanding of fairness.[2] Sport offers a fruitful starting point for jurisprudential discussions of fairness given the greater emphasis we seem to place on fairness in sports than in law.[3] I apply Broome's theory to a range of sports case studies, showing its ability to provide robust explanations for the fairness of systems of sporting rules and competitive behaviors. Broome's theory gives us a detailed guide for evaluating novel rules and behaviors for fairness, something competing moral concepts and theories of fairness fail to do, making Broomean fairness a useful tool for informing everyday fairness debates in sports and the law. I argue that we use fairness for the distinctive value it provides in understanding relative outcomes and randomness, and that we should revitalize fairness in evaluating legal decisions and crafting and applying laws in the same way that we rely on fairness in sports.

[1] Contra Kaplow and Shavell (https://www.jstor.org/stable/pdf/1342642.pdf)
[2] I largely accept Broome's theory of fairness, with some (but not all) of the modifications proposed by Brad Hooker in his critique of Broome. See infra ___
[3] We often talk about sporting events as being unfair but rarely unjust or reducing social welfare and use reverse terminology when discussing the law.

Adopting a Definition of Fairness

Fairness is an intuitive concept, but no obvious or intuitive theory of fairness has gained general acceptance, in part due to the widely varied ways in which it is used.[4] One starting point for trying to summarize fairness is to think about fairness as a type of moral balancing.[5] In this paper, I adopt John Broome's theory of fairness as proportional satisfaction of claims as the best theoretical description of this moral balancing, though I discuss two competing theories (formal fairness and Rawls's procedural justice) and critiques of Broome's theory.[6] As Brad Hooker notes in his article on fairness discussing Broome's theory, "a 'fair decision', in [the] very broad sense of 'fair', means a decision that appropriately accommodates all applicable moral distinctions and reasons."[7] Broome's theory, discussed in the following sections, explains how to determine when decisions "appropriately accommodate[] all applicable moral distinctions and reasons."

Broome's Theory of Fairness

In my view, the most robust and powerful theory of fairness is that of John Broome. Although Broome posits his theory in the context of lotteries and indivisible goods,[8] his theory retains powerful explanatory and analytical power when applied to other questions of fairness. Broome's theory has two steps:

1. Identify the subset of moral reasons that are relevant to questions of fairness.
2. Compare the weight of moral reasons favoring each party and proportionally satisfy them through a decision-making process.

[4] "If we are trying to excavate what people mean by 'fair', I think we have to acknowledge that 'fair' is often used with a very broad meaning." https://www.jstor.org/stable/27504361, 331
[5] "We might imagine people defending their action by saying, 'We had a moral reason to do what we did. We did not have as good moral reason not to do it. Thus, our action was fair.'" https://www.jstor.org/stable/27504361, 332
[6] See https://www.jstor.org/stable/4545128, 95; infra ___
[7] https://www.jstor.org/stable/27504361, 331
[8] "Sometimes a lottery is the fairest way of distributing a good, and my theory explains, better than any other theory I know, why this is so. That is the main evidence I offer for it." https://www.jstor.org/stable/4545128, 87

The following sections discuss these two steps in greater detail and address potential criticism and concerns for the theory.

Identifying Fairness-Relevant Moral Reasons: Fairness-Claims

Broome begins his theory of fairness by identifying a subset of moral reasons he calls "claims" or "fairness-claims," which are he says are relevant to fairness.[9] Broome creates this set of claims by beginning with the set of all potential moral reasons for making a decision, and then excluding those reasons that he deems irrelevant to fairness: reasons that arise from maximizing utility (what he calls teleological reasons) and inviolable rights (side constraints).[10] Broome describes the remaining claims as the set of reasons that are "duties *owed to the candidate herself*."[11]

Broome's simple example is illustrative of the distinction between claims and other moral reasons:

> The distinction between claims and other reasons is easy to grasp intuitively. Take the dangerous mission, for example. One candidate is more talented than the others. This is a reason for allotting to the others the good of staying behind. But the other candidates' lack of talent gives them no claim to this good. It may be right to leave them behind, but it is not owed them to do so. Whatever claim they have to this good, the talented candidate has it also.[12]

For the purposes of this paper, I will rely on Broome's definition of *claims as duties owed to different parties*, with some references to his exclusion of teleological reasons from fairness.

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[9] Broome has some discussion of whether "claims" and "fairness-claims" are equivalent though he suggests that he believes they are. I do not address this question and treat these terms as interchangeable, primarily using "claims" throughout this paper. See https://www.jstor.org/stable/4545128, 96.

[10] https://www.jstor.org/stable/4545128, 91. C.f. Kaplow and Shavell's definition of "notions of fairness" as not based on how policies affect individuals' wellbeing, supra ____. See discussion of the special problem of side constraints, infra _____.

[11] Notably, by this definition we would likely include most side constraints as fairness-claims, as we will do based on Hooker's critique of Broome. See infra ___. https://www.jstor.org/stable/4545128, 92. The primary sources of these duties and therefore claims are "desert, agreements, needs (or priority for the worst off) and whatever side-constraints (or especially strong pro tanto duties) there are." Note that this is language from Hooker rather than Broome. https://www.jstor.org/stable/27504361, 350.

[12] https://www.jstor.org/stable/4545128, 92

Although Broome's theory says fairness only considers claims, other moral reasons can and do override fairness considerations. Broome specifically mentions social welfare and expediency as reasons we might choose a less fair outcome.[13] In Broome's soldier hypothetical, we might unfairly choose to always send the more qualified person on the dangerous mission because of the importance to society that the mission succeeds despite her similar claim on the good of staying behind (a teleological moral reason without relevance for fairness). In some cases, the costs of creating a fair process may not be worthwhile; we may see simple decision rules (e.g., select the youngest) or non-fairness-oriented decision processes instead. We will use Broome's theory to identify cases when there is an intentional departure from fairness.

Hooker's Critique: Side Constraints

I depart from Broome's theory of claims in one important way, by adopting Brad Hooker's criticism that *side constraints*, the subset of moral reasons that "necessarily prevail over any opposed reasons," should be considered claims for purposes of fairness.[14] Broome specifically excludes side-constraint moral reasons from determining fairness.[15] In contrast, Hooker suggests that respecting side constraints might be relevant or even required for fairness.[16] He provides the following example to support his argument:

> If a doctor takes your liver against your will and gives it to me, we might think that a side-constraint has been violated. We might also think the doctor committed an act of injustice against you. And we might think you have been treated *unfairly* in being deprived of your liver. In thinking this, we would have accepted that fairness is at least partly a matter of complying with side-constraints. [emphasis original][17]

I believe that Hooker's inclusion of side-constraint moral reasons as claims is consistent with Broome's articulation of claims as *duties owed to different parties* as well as our intuitions about

[13] See generally, discussion of expediency as a counterweight to fairness. https://www.jstor.org/stable/4545128, 90, 94
[14] https://www.jstor.org/stable/27504361, 332
[15] This is more true of later articulations of the theory, including the one described above.
[16] See https://www.jstor.org/stable/27504361, 338-339
[17] https://www.jstor.org/stable/27504361, 338

fairness.[18] Accepting Hooker's position on the inclusion of side-constraint moral reasons only requires that we consider all moral reasons that are *duties owed to different parties* (including side constraints),[19] and does not necessarily require any changes to other aspects of Broome's theory.[20]

Fair Processes for Distributing Goods: Lotteries and Proportional Satisfaction

Having identified the set of moral reasons that are relevant to fairness, the second half of Broome's theory articulates how to resolve "the conflicting claims of different people" when not all claims can be fully satisfied.[21] Continuing with Broome's dangerous mission example from above, if society requires that one person go on this dangerous mission, how can we fairly allocate the indivisible good of being allowed to stay behind? Broome posits three options for allocating the good (or chore):

1. *Winner-take-all*: Assign the rule to whatever party has the stronger set of claims.
2. *Simple rule*: Assign the good using a simple rule that is consistently applied.
3. *Proportional satisfaction*: Assign the good through a proportional allocation or lottery with weights based on the comparative strength of the parties' claims.

Broome rejects both *winner-take-all* and *simple rule* processes as unfair. Broome argues that the *winner-take-all* approach of "weighing up" various claims and allocating a good to the party with the strongest aggregate claim would violate fairness by failing to satisfy weaker claims at all, at least in some instances.[22] As Broome notes, *winner-take-all* "seems to override claims, rather than respect them," as once someone has a stronger claim than another, the strength of the

[18] Most would say that the person whose liver was stolen was treated unfairly.
[19] See infra ___, https://www.jstor.org/stable/4545128, 92
[20] Despite Hooker's framing, respecting side constraints is not inherently contradictory with Broome's proportional satisfaction of claims. As the strength of claims on one side becomes much greater than the claims on the other side, that side will gain in proportional satisfaction at the expense of the other side. We can think of side constraints like a limit in calculus, as creating a claim that is so strong that it outweighs claims on the non-side-constraint side to such an extent as to make it impossible for the other side to win in a randomized lottery (or removing the claims from the other side).
[21] Broome describes this mediation as "the particular business of fairness." https://www.jstor.org/stable/4545128, 94.
[22] See Broome's discussion of selecting someone to go on a dangerous mission. https://www.jstor.org/stable/4545128, 94, 98

second's is meaningless and goes unsatisfied.[23] Second, Broome rejects *simple rules* that might be "fair" under the notion of "formal fairness."[24] For example, Broome argues that a blanket rule that selects the youngest person for rationed life-saving medical treatment is potentially unfair as it disregards the claims of other parties.[25]

Instead, Broome argues that fairness requires a *proportional satisfaction* with weights determined by relative claim strength to ensure that all claims receive some satisfaction. Stated in Broome's own words:

> What, then, does fairness require? It requires, I suggest, that *claims should be satisfied in proportion to their strength*. I do not mean 'proportion' to be taken too precisely. But I do mean that equal claims require equal satisfaction, that stronger claims require more satisfaction than weaker ones, and also-very importantly-that weaker claims require some satisfaction. Weaker claims must not simply be overridden by stronger ones. [emphasis original][26]

For an indivisible good with insufficient quantity to satisfy all claims (Broome's area of focus), *proportional satisfaction* will require the introduction of randomness and lotteries as Broome notes in his hypothetical of the dangerous mission. Although Broome's work focuses on lotteries and indivisible goods, his criteria for fair processes can be easily applied to divisible goods as well. Where goods are easily divisible, a fair process could exchange randomness for proportional division, allocating more of the good to the party with stronger aggregate claims.[27] In application, this means that if A has a set of claims that is nine times stronger than that of B, a fair process will allocate 90% of the good to A and 10% to B (or give A a 90% chance of receiving the good and B a 10% chance). There are some situations, which I describe as "semi-

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[23] https://www.jstor.org/stable/4545128, 94. But see discussions of side constraint fairness, supra ____ (point to calculus limit note reconciling side constraints & Broome)
[24] Formal fairness discussed infra ___.
[25] See Broome's discussion of the rule about selecting the youngest for life-saving decisions and discussion of observability problems and breaking non-exact ties. https://www.jstor.org/stable/4545128, 88, 99-101.
[26] https://www.jstor.org/stable/4545128, 95
[27] There is an interesting question of whether fairness requires proportional division for divisible goods or if a lottery with proportional randomness would be allowed. To me, it seems that a lottery over divisible goods would remain fair (the classic lottery for money – which is easily divisible – is an example of claim-proportioned randomness to allocate a disproportionate amount of a divisible good). This issue is discussed further in the context of runs of luck, infra ___

divisible" goods, where a discrete number of indivisible goods are being allocated. Semi-divisible goods appear relatively commonly in sports, and fairness treatment of them parallels treatment of divisible and indivisible goods.[28]

Hooker's Critique: Randomness

Hooker criticizes Broome's theory as being too accepting of randomness, suggesting that less randomness may be required to make processes fair, in some cases endorsing more *winner-take-all* processes as fair.[29] I believe Hooker's criticism of randomness is ill-founded for several reasons, but see the relationship between randomness and fairness as more complex than Broome presents as discussed at the end of this section.

In support of anti-randomness, Hooker contrasts Broome's example of a random coin toss to allocate indivisible advantages in sports (e.g., who gets the ball first in football[30]) with other non-random methods for solving similar problems (e.g., providing favorable seeding in tournaments based on previous performance).[31] Hooker's argument fails because it muddles claims and goods in the fairness process, giving short shrift to the potential for agreements to change fairness claims and to the contributions of prior randomness to things he describes as claims.[32] For example, while tournament seeding is an input for tournament performance, it is also a good that is allocated based on agreements about tournament structure as well as the agreements and randomness that determined the outcomes of underlying games. I argue that agreements that do not include the exchange of non-fairness moral reasons (e.g., monetary payoffs) can influence the strength of fairness claims and thus ultimate fairness, potentially

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[28] See discussion of semi-divisible home field advantage for multi-game series, infra ____

[29] One aspect of this is Hooker's desire to include side constraints in calculations of fairness, see supra ___, though his criticism goes beyond that.

[30] The outcomes of such a coin toss can be incredibly impactful on competitive outcomes. See, e.g., https://www.jstor.org/stable/pdf/10.4169/math.mag.85.4.277.pdf, 277 (Markov chain analysis of 2010 NFL overtime rule change suggesting a pre-change win probability of around 60% for teams who win the overtime coin toss and an expected reduction to 56% following the change); An analysis of the defense first strategy in college football overtime games (discussing changes in the value of winning the coin toss in college football overtime over time).

[31] https://www.jstor.org/stable/27504361, 345-346

[32] "When should desert be rewarded in a 'winner-takes-all' fashion and when in a proportional fashion? The answer presumably depends on what prior agreements have been made." See also discussion of Sidgwick. https://www.jstor.org/stable/27504361, 343

creating side constraints and determining fair outcomes.[33] Hooker also confuses changes in the evaluation of the strength of fairness claims with changes in randomness. While Hooker is correct that there are cases where it is unfair to flip a coin rather than simply assign a good to some person, that unfairness comes not from the randomness of the coin flip but rather from a failure to proportionally satisfy the parties' claims (e.g., flipping a coin when only one party has a claim on the good would be unfair).[34] Whether a certain procedure is fair or unfair is not determined by whether that procedure includes randomness, but by whether it proportionally satisfies claims as Broome describes.[35]

Randomness: Lessons from Sport

The sports examples discussed in this paper raise two important randomness-related questions for Broome's fairness: runs of luck and required accuracy. First, can something be fair if, despite a proportional satisfaction of claims and a fair Broomean process, random runs of luck in outcomes (particularly in cases with multiple random "draws") lead to an accumulation of good for one party? In cases of multiple draws, where indivisible goods begin to look more like divisible goods, we might wonder whether a process that in each individual draw satisfies Broome's conditions for fairness is fair on a macro scale.[36] Such accumulation of randomness may lead to a perception of unfairness, even in the absence of true unfairness, and this perception may be equally if not more harmful to the legitimacy of the underlying process or activity. However, we might also see runs of luck as evidence of fairness as when multiple random factors combine to allow for a significant upset.

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[33] For example, if we agree that basketball shots taken beyond a certain line count for three points, it is fair to award three points if someone makes a shot conforming with that rule. See also, discussion of agreements allocating home field advantage, infra ____

[34] For example, we might say that the claim on a safe-out call at first base in baseball should be based on what actually happened, whether the runner or the ball got to the base first. Thus, if we know that the ball got to the base first, it would be unfair to flip a coin to determine the call, not because randomness is inherently unfair but because we would be failing to proportionally satisfy the fielding team's claim on the good of the out. This discussion is complicated by the potential costs of *knowing* the correct outcome. See infra ___

[35] It seems plausible that increased randomness above what is absolutely necessary for allocating indivisible goods may be fair in some cases, see, e.g., Rawls's discussion of "fair bets" infra ____. But see proportional division of home field advantage without randomness in the context of semi-divisible goods infra ___.

[36] Prominent examples of this appear in the discussion of safe-out and ball-strike judgment calls in baseball, see infra ____, and player allocation contexts, see infra ____

Second, we could reframe Hooker's argument against randomness to one about accuracy in how we evaluate claims. We might believe that there are underlying "true claims," the actual strength of moral reasons that we would ideally want to proportionally satisfy through fairness, but that it might be costly or impossible to fully ascertain these true claims. There might be some fairness or other moral duty to try to reduce uncertainty and more accurately evaluate the strength of these claims, all things considered. However, this is not an anti-randomness argument; it is an anti-uncertainty argument.[37] The required tradeoffs between teleological reasons, such as cost and enjoyment, and claim accuracy make inaccurate evaluations of claims a murky space for theorizing fairness (as a key feature of fairness is otherwise ignoring teleological moral reasons).

Alternative Theories of Fairness

Two alternative theories of fairness are worth brief mention as potential competitors to Broome's theory of proportional satisfaction of claims: *formal fairness* and *Rawls's procedural justice*.

Formal fairness is the idea that what fairness requires is "interpreting and applying rules consistently – i.e., applying the same rules impartially and equally to each agent."[38] This definition of fairness is a variation on Broome's formulation of the *simple rule* decision making process and thus fails to accurately describe fairness for the reasons Broome states. While formal fairness accurately captures some cases of obvious unfairness,[39] it is relatively thin because it does not directly address the formally fair application of rules that may be substantively unfair, both because they fail to satisfy some weaker claims and because they may be based on reasons that are not fairness-claims.[40] Although formal fairness is a relatively weak theory of fairness, it

[37] We will consider related questions in the context of judgment calls and replay review, see infra ____
[38] https://www.jstor.org/stable/27504361, 329
[39] For example, formal fairness would label the disparate racial enforcement of rules for laundry permitting in *Yick Wo v. Hopkins* as unfair. 118 U.S. 356 (1886).
[40] Formal fairness's deep reliance on the concept of equality of treatment leaves it vulnerable to the broader malleability of equality. It is not enough to say that a rule should be equally or impartially applied; to do so we need to understand what "equally" and "impartially" mean, which requires an examination of substantive principles. See generally, Westen, "Empty Idea of Equality," 556-557. Some of the empirical literature on fairness seems to almost equate the concepts of fairness and equality. See, e.g., https://pubs.aeaweb.org/doi/pdfplus/10.1257/jep.7.2.159; https://www.science.org/doi/10.1126/science.aab0096

is a common point of reference for academic and social discussions of fairness and thus is worth keeping in mind.

Rawls's procedural justice is another potential competitor to Broome's theory given its similar structure and Rawls's many references to fairness when describing his theory.[41] Rawls articulates three kinds of procedural justice: perfect procedural justice,[42] imperfect procedural justice, [43] and pure procedural justice.[44] While Rawls proposes a theory of procedural *justice* rather than *fairness* and thus is vulnerable to obvious criticism for including fairness-irrelevant moral reasons (e.g., teleological reasons), even if we were to limit these theories to consider fairness-relevant claims,[45] none of Rawls's kinds of procedural justice can adequately theorize fairness.

First, perfect procedural justice cannot provide a theory of fairness because it requires that it be "possible to devise a procedure that is sure to give the desired outcome" as measured by some external criteria.[46] This restricts the theory from covering many cases where fairness is applied today because often in those cases, it is impossible for any procedure to ensure the desired outcome (e.g., if two deserving people need an organ transplant but only one organ is available, it is impossible to devise a procedure giving both the transplant).

Second, imperfect procedural justice cannot provide a basis for theory of fairness because it cannot distinguish between *proportional satisfaction* and *winner-take-all* procedures in terms of fairness. Although imperfect procedural justice seems well positioned to define fairness as it is able to account for situations where "there is no feasible procedure which is sure to lead to" the "correct outcome," it provides minimal additional guidance to compare procedures. If *winner-*

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[41] Rawls Theory of Justice 74

[42] Rawls defines the characteristics of perfect procedural justice:

> First, there is an independent criterion for [the just outcome], a criterion defined separately from and prior to the procedure which is to be followed. And second, it is possible to devise a procedure that is sure to give the desired outcome.

Theory of Justice, 74

[43] "The characteristic mark of imperfect procedural justice is that while there is an independent criterion for the correct outcome, there is no feasible procedure which is sure to lead to it." Theory of Justice, 75

[44]

> Pure procedural justice obtains when there is no independent criterion for the right result: instead there is a correct or fair procedure such that the outcome is likewise correct or fair, whatever it is, provided that the procedure has been properly followed.

Theory of Justice, 75

[45] It is worth noting that in doing so, we must rely heavily on the first part of Broome's theory that describes what moral reasons can appropriately be considered for fairness.

[46] Theory of Justice, 74.

take-all procedures in the presence of unsatisfied opposing claims are unfair as Broome forcefully argues, then imperfect procedural justice cannot provide an adequate theory of fairness because of its inability to distinguish these procedures.[47]

Finally, pure procedural justice fails to adequately theorize fairness because cannot account for distributional outcomes that are required by fairness.[48] As Rawls notes, "pure procedural justice obtains when there is no independent criterion for the right result,"[49] but in the case of fairness, there are independent criteria for evaluating results: the relative strengths of parties' claims. Pure procedural justice does allow for randomness, describing "fair bets" (an example of pure procedural justice) as "those having a zero expectation of gain, that… are made voluntarily, that no one cheats, and so on. The betting procedure is fair and freely entered into under conditions that are fair."[50] There are two problems with this formulation from the perspective of fairness. First, it is highly circular and vague; Rawls leaves open the possibility of additional conditions for fair bets with "and so on" and liberally uses the word "fair" in defining pure procedural justice. Second, there are examples where fairness might require some expectation of gain (or loss), in direct contradiction of Rawls's pure procedural justice definition, because there is an intendent criterion for evaluating a result.[51] Although Rawls has nearly all the pieces of the second step of Broome's theory of fairness (proportional satisfaction), he fails to put them together into a coherent theory of fairness and fails to identify that only a subset of moral reasons is relevant to fairness (Broome's first step).

Fairness as a Standalone Value

I believe we should care about fairness because it has value for evaluating rules, independent of other concepts like justice and social welfare, from both a normative and descriptive perspective.

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[47] If, of course, the reader believes that *winner-take-all* processes are fair, then this objection disappears. However, I endorse Broome's criticisms of the fairness of *winner-take-all* processes and believe that objection defeats imperfect procedural justice theories of fairness.
[48] Rawls himself acknowledges this in his example of the "fair division" of a cake that he uses to elucidate perfect procedural justice. Theory of Justice, 74. See also discussion of NBA lottery infra ____
[49] Theory of Justice, 75.
[50] *Id.* Note the acceptance of voluntary agreements, which I endorse as a way of creating and modifying claims.
[51] See, e.g., discussion of the fairness of NBA draft lottery odds which create an expected gain for teams with the worst records, infra ____

There are two reasons why fairness might have normative value in evaluating our systems of rules and procedures. First, fairness might be important if unfairness creates harms for a person from a consequentialist perspective: by treating someone unfairly the person will be harmed. This unfairness-caused harm may imply moral wrong, at least in some cases. Hooker provides the example of a rule that boosts the utility of a large group at the expense of a smaller group as an example of where unfairness creates moral wrong. Even if the rule has an aggregate benefit to society and no alternative rule better maximizes social utility, "most of us think such a rule would be unfair and therefore morally wrong (in at least many cases)."[52] A stronger position on the importance of fairness is that fairness is a value *in itself* to those who are being treated fairly or unfairly, "independent[] of whether someone's being treated unfairly causes any… harms to that person."[53] Broome supports this view, arguing that "a person's good consists partly in how fairly she is treated; unfairness is bad for a person, whatever she may feel about it."[54]

Even if we were to argue that fairness lacks normative value, the concept has powerful explanatory value because there is substantial evidence that we do treat fairness as an independent value. Empirical research finds that people are willing to trade some amount of good for a fairer allocation of a good. In studies of the Ultimatum Game, researchers have found that players are willing to reject a small payoff if their counterparty has chosen to give themselves a much larger payoff. While economists note that this willingness to reject nominally unfair offers is irrational, it nevertheless reflects a preference for fairer treatment over a small amount of some good and affirms the importance of fairness as having independent value.[55]

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[52] https://www.jstor.org/stable/4545206, 30. Broome makes a somewhat similar argument that "fairness is a subdivision of *justice*, and that justice is concerned with all claims, but fairness only with fairness-claims." https://www.jstor.org/stable/4545128, 96. C.f. Kaplow and Shavell's welfare economics, https://www.jstor.org/stable/pdf/1342642.pdf

[53] https://www.jstor.org/stable/27504361, 335-336

[54] Weighing Goods, 182. Hooker disagrees, arguing that "construing unfairness as constituting a harm to individuals seems to me implausible," and that a person would rather choose slightly more of some good rather than slightly less unfairness. https://www.jstor.org/stable/27504361, 336. I disagree with Hooker's argument for reasons largely similar to those in a counter argument he himself presents. For Hooker to be correct that fairness is not a harm in itself, he needs to show not that a small amount of unfairness is outweighed by a small amount of some good, but that *egregious* unfairness is outweighed by *any* amount of good. This conclusion seems incorrect to me (e.g., dignitary harms in tort). In Hooker's framing of the counterargument:

> The objection might be that, even if being treated unfairly never by itself amounted to enough of a harm to outweigh other benefits to that individual, being treated unfairly might nevertheless count as an individual harm. On this view, someone's being treated unfairly constitutes a harm to that individual, albeit a harm lexically dominated by every other kind of benefit or harm to that individual.

https://www.jstor.org/stable/27504361, 336

[55] The study found that "about half of all responders reject offers [that would give them] below 30%" of the combined amount. The authors comment:

People also commonly "fairness" as a rhetorical tool when challenging the validity and enforceability of specific rules or outcomes. Fairness challenges are often made in the context of sports where rules and outcomes are described as "unfair," in other competitions (e.g., competitive bidding for contracts),[56] and in the law, both explicitly through issues like "algorithmic fairness"[57] and implicitly through challenges to legal rules that are argued to create unfairness.

> The irrational human emphasis on a fair division suggests that players have preferences which do not depend solely on their own payoff, and that responders are ready to punish proposers offering only a small share by rejecting the deal…

Though note that there are multiple other explanations for the unwillingness to accept unfair deals that give less weight to considerations of fairness (e.g., bounded rationality in understanding the single-instance nature of the Ultimatum Game). https://www.science.org/doi/10.1126/science.289.5485.1773

[56] See, e.g, Andrew Denny, *Procedural Fairness in Competitions*, 8 Jud. Rev. 228 (2003), *R v National Lottery Commission ex p. Camelot Group plc* [2001] EMLR 3 (fairness considerations raised in competitive bidding process for holding National Lottery).

[57] See, e.g., https://link.springer.com/article/10.1007/s13347-022-00584-6

Applying Broomean Fairness to Sport

Fairness has broad usage in sport, with applicability ranging from officiating decisions and participant behaviors to the rules governing a sport. This section analyzes several cases from sport through the lens of fairness to show how Broome's definition of proportional satisfaction of claims maps onto our understanding of fairness and can help create consistency in what we describe as fair or unfair.

The first section compares multiple systems for player allocation and team construction with an emphasis on new player drafts, highlighting different ways that allocation rules seem to adapt Broome's theory of proportional satisfaction to real-world problems. The section focuses on how sports determine what counts as a claim and how fairness challenges arise when a subset of competitors appear to have their claims over or under recognized. I also compare professional sports with non-professional competitions that lack business considerations, in both contexts highlighting the importance of excluding teleological reasons from fairness that Broome emphasizes in the first step of his theory.

The second section considers fairness in judging and the role that randomness should play in determining competitive outcomes, looking at examples from baseball and figure skating. Disagreements about missed calls and instant replay highlight a tension between fairness and uncertainty, with some competitors suggesting that fairness requires not only proportional satisfaction of claims but also attempting to reduce uncertainty in determining claim strength. I then compare randomness and bad luck with systematic biases in judging outcomes, showing that Broome's theory can account for differences in fairness between random errors and systematic errors.

The third and final section looks at allocations of home field advantage to provide lessons for Broome's theory, emphasizing two key problems: fair processes for allocating semi-divisible goods and fair agreements for modifying good allocation. I find that participants still seem to apply versions of Broome's proportional satisfaction to semi-divisible goods within the constraints of semi-divisibility. I also argue that agreements can modify claims, processes, and therefore fairness, so long as they include an exchange only of fairness-relevant moral reasons and are entered into voluntarily. This theory of agreements provides the basis for many

discussions of fairness in everyday life as often outcomes are based on agreements rather than directly on lotteries as theorized by Broome.

Constructing a Team: Fairness in Player Allocation

This section compares four example mechanisms for player allocation to understand how various sports address the problem of distributing individual goods (talented players). In professional sports, player allocation is a function both of fairness and of non-fairness teleological reasons. I begin by discussing two professional sports that use new-player drafts to try to level talent across teams over time, the NFL and the NBA, and discuss the ways that Broome's theory can explain differences in the structure of their drafts. I then compare them with two examples from non-professional sports, fantasy sports auctions and choosing teams for pickup basketball, to provide examples where non-fairness teleological reasons may have less influence on structural rules.

Professional Sports: The NFL and NBA Drafts

One of the primary systems of new player acquisition in professional team sports is the new player draft, which is used by nearly all major American sports leagues. Conceptions of fairness have played a role in both the creation of new player drafts and the format of these drafts today. The NFL draft (the first major sporting draft)[58] was created in 1936 in response to concerns from one of the participants (Bert Bell, owner of the then nascent Philadelphia Eagles) about inequality of talent created by the previous system of open financial competition by NFL teams to sign the best new players out of the college ranks and the impact that was having on the NFL's core business model.[59] Prior to 1936, NFL teams offered contracts to successful college players directly, often competing with each other to see who could offer the most appealing deal to a player.[60] Under Bell's proposal, which became the basis for the NFL draft, new players were distributed amongst teams via a multi-round draft where players were selected in reverse order of the previous year's standings, meaning that the worst teams had better opportunities to select promising new players than successful teams.[61] This practice has continued relatively unchanged

[58] https://www.inquirer.com/philly/sports/20160617_Origins_of_major_sports_drafts.html
[59] A lack of competitive parity between teams with different means was increasingly making it difficult for the NFL to attract fans at the time Bell proposed the draft. https://www.profootballhof.com/football-history/nfl-draft-history/
[60] https://www.theguardian.com/sport/2022/apr/25/the-great-american-crapshoot-how-bert-bell-saved-the-nfl-with-the-draft
[61] https://www.profootballhof.com/football-history/nfl-draft-history/

through to the present day.[62] Bell seems to have thought some amount of talent leveling was the plan's primary value.[63] He later coined the phrase "any given Sunday" to express the importance of competitive parity and uncertainty that structures like the draft encouraged and extended the idea of the draft to other areas of team construction such as the waiver wire, where teams with worse records had priority in claiming players released by other teams.[64] Bell's idea of a draft favoring teams with worse records has since been adopted by nearly all other American professional team sports leagues including the NBA (1947), NHL (1963), MLB (1965), WNBA (1997), MLS (2000), and NWSL (2013).[65]

In contrast to the NFL draft, which has continued to use a strict reverse-standings order for selections, the NBA draft has undergone substantial iterations and revisions to its core structure over time, all of which are worth considering in the context of fairness. As with NFL draft, league-wide considerations of financial impact and self-interest were critical early on in the NBA draft's history, particularly in the rule of "territorial picks," which allowed teams to forego their first-round selection and select a local player prior to the draft with the hope of bringing in some of their local following as fans of the NBA team.[66] However, the territorial draft system had the same issue that Buck Bell identified in the pre-draft NFL signing system in that it reinforced the advantage of a few teams at the expense of others and thus created problems for the long-term health of the league, which depended on a modicum of competitive parity.

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[62] While there have been changes in the number of rounds in the draft and minor details like compensatory picks for free agent signings, the general structure remains essentially the same.

[63] C.f. expansion drafts conducted when leagues add new teams, which encourage only partial leveling by allowing teams to protect a certain number of players from selection by new teams. This gives new teams the ability to accumulate some talent but also keeps them at a (short-term) disadvantage to other teams. https://thehockeywriters.com/nhl-expansion-draft-rules/. But see https://www.espn.com/nhl/story/_/id/37842696/las-vegas-golden-knights-expansion-success-title-championship (The Las Vegas Golden Knights won their first NHL championship in 2023, the team's fifth season).

[64] "Any given Sunday" has also been extended to game-by-game scheduling with the goal of scheduling evenly matched teams, particularly early in the season. In particular, bad teams are given a slightly easier schedule that increases competitive excitement and makes it slightly easier for them to make the playoffs. On the Clock, 22-23, https://www.sportingnews.com/us/nfl/news/nfl-schedule-how-made-league-opponents-272-games/a4iykr3alznrium47wyuolpd (games scheduled against teams from different divisions that finished in the same place in the standings attempt to match teams against others with similar previous-season performance).

[65] NHL President Clarence Campbell: "We're ultimately hopeful it will produce a uniform opportunity for each team to acquire a star player." https://web.archive.org/web/20010128131400/http://nhl.com/futures/drafthistory.html, "The idea behind the draft was simple: [] it gave the poorer teams—usually those lower in the standings—an equal chance to sign the top talent being produced in colleges and high schools." https://vault.si.com/vault/1967/05/01/fresh-breezes-from-the-freeagent-draft, https://bleacherreport.com/articles/566827-mls-superdraft-why-the-rise-of-youth-academies-causing-the-draft-to-be-obsolete

[66] https://web.archive.org/web/20101203184544/http://www.nba.com/history/draft_evolution.html

Although a standard reverse-standings draft took place following the territorial draft, if the best players could be selected through the territorial draft, they would go to their local teams rather than the worst teams in the league. The territorial draft was used relatively rarely (just 22 territorial picks were made between 1949 and 1965), but territorial picks gave a huge advantage to teams in areas that generated high-flying basketball talent while ignoring the preexisting talent of those teams.[67] More than half of all territorial picks eventually ended up in the Basketball Hall of Fame, and teams were able to take advantage of the system to scoop up all-time greats Wilt Chamberlain and Oscar Robertson.[68]

In 1966, the territorial draft picks system was replaced with the coin flip system, which continued until 1984.[69] Under this system, the worst team in each division (now the Eastern and Western Conferences) would participate in a coin flip to award the first pick in the draft, before the draft proceeded in reverse-standings order for the remaining teams.[70] This led to at least two drafts where a coin flip radically changed the trajectory of different teams. In 1969, the expansion Milwaukee Bucks and Phoenix Suns faced off in a coin flip to see who could select Kareem Abdul-Jabbar (then Lew Alcindor) out of UCLA.[71] Abdul-Jabbar (playing alongside former territorial pick Oscar Robertson) won Rookie of the Year and helped lead the Bucks to their first (and only prior to 2022) NBA Championship in 1971, as well as trips to the Conference and NBA Finals in 1972 and 1974. In contrast, the Phoenix Suns have yet to win an NBA Championship as of 2023. In a similar story, the coin flip between the Los Angeles Lakers (who had received the pick from the New Orleans Jazz) and Chicago Bulls before the 1979 draft delivered Magic Johnson to the Lakers, leading to five NBA championships for the Lakers

[67] https://www.burlingtoncountytimes.com/story/sports/columns/2012/01/17/a-look-back-at-nba/17395626007/
[68] https://www.burlingtoncountytimes.com/story/sports/columns/2012/01/17/a-look-back-at-nba/17395626007/ In particular, Chamberlain highlights the potential unfairness of the system as other teams complained that the Philadelphia Warriors were allowed to use a territorial pick on him despite playing his college career in Kansas on the basis that Chamberlain was from Philadelphia. The Warriors had finished with only the third-worst record in the previous season.
[69] Although the end of territorial picks has usually been explained with fairness arguments, it is worth noting a parallel shift in teleological reasons that may have contributed, as increases in regional, national, and international revenues relative to local teams may have made it less critical to protect local interests through territorial picks (though the timing for business-model changes does not fully align with the end of territorial picks). https://web.archive.org/web/20101203184544/http://www.nba.com/history/draft_evolution.html
[70] https://web.archive.org/web/20101203184544/http://www.nba.com/history/draft_evolution.html
[71] See https://www.jsonline.com/story/sports/nba/bucks/2021/07/06/coin-flip-led-milwaukee-bucks-draft-lew-alcindor-kareem-abdul-jabbar-in-1969-phoenix-suns-other-team/7864775002/ for a great summary of the coin flip, the coin, and its impact on the teams involved.

(1980, 1982, 1985, 1987, 1988) and postponing success for the Bulls until they drafted Michael Jordan third overall five years later.[72]

Over its lifetime, the coin flip system came under heavy criticism. Having the first pick (or at worst a top-two pick) of college basketball players in a given year was a potentially huge advantage that was too concentrated in the two coin flip teams. As a result, teams were incentivized to try to misrepresent their overall talent levels by tanking for a worse record to achieve one of the two disproportionately rewarded positions (the two coin-flip positions at the bottom of each conference). As San Diego Clippers owner Donald Sterling said at the time, "We've got to bite the bullet. We can win by losing."[73] Other teams and officials were unhappy about the ability of teams to manipulate the order of the draft and complained to league officials to come up with a solution before the entry of Patrick Ewing in the 1985 draft. In response, the league began a lottery for the top picks in each draft, with the 1985 lottery effectively randomizing the first-round selection order for seven teams that missed the playoffs.[74] Although Ewing's draft lottery remains dogged by allegations that the lottery was fixed to send him to the New York Knicks with cold or bent envelopes (allegations of cheating and unfairness in the administration of rules that this analysis assumes are not present for the sake of focusing on the fairness of structural rules directly), the draft lottery itself and its randomness have remained the way that the NBA allocates new stars since then with minor variations.[75] The precise nature of the draft lottery including the picks and teams involved, the relative odds, and the method for conducting the draws have changed over time with the most important shifts being towards giving teams with worse records better odds of securing top picks and expanding the pool of teams eligible for the lottery.[76]

What Makes a Draft System Fair?

[72] For a retelling, see https://www.nba.com/bulls/news/coin-flip-could-have-change-bulls-history
[73] Notably Sterling's sentiment and the Clippers and Rockets tanking behavior violates norms of sportsmanship and the duty to try to win. https://www.si.com/longform/2015/1985/ewing/index.html
[74] https://www.nba.com/news/nba-draft-lottery-explainer
[75] Note again the countervailing importance of outside considerations beyond simply competitive fairness (financials) in determining rules. See https://www.si.com/longform/2015/1985/ewing/index.html for a fuller account for theories about rigging in the 1985 draft lottery.
[76] See https://www.nba.com/news/nba-draft-lottery-explainer. The 1990 lottery was the first to use weighting to assign picks among different teams. https://www.nba.com/lottery

With the addition of the coin flip and then the lottery, the NBA diverged from the standard reverse-standings order draft practiced by the NFL with the goal of increasing fairness. It is not the only league to do so. The NHL also determines its top draft picks via a weighted lottery, and the MLB introduced a lottery for the first time to assign picks for the 2023 MLB draft (though the rules and odds for those lotteries are slightly different from the NBA's).[77] This divergence in approaches between determinate and weighted random pick allocation raises the question of whether one approach is fairer. To answer this question, we need to look more closely at how different draft systems and lotteries reward teams (how they derive and proportionally satisfy claims in the language of Broome), focusing on the specific circumstances of each sport and examining the two main potential rationales for a lottery system: star power and tanking. For the purposes of this section, we will begin with the baseline assumption that leagues with some variation of a reverse standings draft (either weighted lottery or strict reverse order) believe less talented teams have stronger fairness-claims on new players.[78]

Beginning with the NBA's use of territorial picks, it is not difficult to see why this system was vulnerable to criticism as unfair. The system of allocating the best players to specific teams based on arbitrary reasons like their location makes rewards orthogonal to the strength of record- or talent-based claims. Rewarding location leads to a violation of Broome's horizontal and vertical equity requirements that "equal claims require equal satisfaction [and] stronger claims require more satisfaction than weaker ones" because strong claims may be ignored in favor of arbitrary considerations of geography.[79] The harsh criticism of this system as unfair provides further support for Broome's assertion that teleological moral reasons like those that originally motivated the territorial pick system are irrelevant for purposes of fairness.

In contrast, the coin flip system provides strong evidence that a *winner-take-all*-type process for allocating individuals goods without sufficient randomness is unfair. By giving the worst teams in each conference an equal chance of receiving the first pick, the coin flip system

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[77] Notably, the NHL lottery has additional rules to discourage repeated taking (no team can win the lottery more than two times in a five-year span) and has stronger sportsmanship characteristics, whereas the NBA Draft leans slightly further into introducing luck. See https://puckprose.com/2023/01/09/nhl-draft-lottery-works-determine-draft-order/ for details on NHL draft. https://www.mlb.com/news/how-the-mlb-draft-lottery-works

[78] These stronger claims could be justified under desert- or agreement-based moral reasons. Any reverse-standings draft will tend towards this goal, and we may assume that participants intend the likely consequences of their actions.

[79] https://www.jstor.org/stable/4545128, 95. As T.M. Scanlon notes, "it is reasonable to object to principles that favor others arbitrarily," and the territorial draft pick system did so by assigning top talent based on the luck of team locations. What We Owe to Each Other, 216

both overrecognized the claims of the two teams that were at the bottom of each conference and underrecognized the claims of other bad but not bottom-of-the-table teams. In Broome's framing, the system assigned the good of getting to participate in the coin flip (and getting a top-two pick) to the team with the worst record in each conference while overriding weaker claims that bad-but-not-awful teams had on this good.[80] This bright-line rule rewarding the worst team is effectively a *winner-take-all* or *simple rule* process for allocating the good of coin flip participation and thereby a top pick, and was rightly criticized as unfair for failing to meet Broome's standard of proportional satisfaction of claims.

The current NBA draft lottery fits well with Broome's theory of fairness, and thus it is not surprising that it has stuck and that similar formats have been adopted by several other leagues.[81] In particular, the NBA is under greater pressure than most professional sports leagues to solve the problem of fairly allocating indivisible goods due to the importance of star power in professional basketball.[82] We have already discussed the historical example of expected star Patrick Ewing that motivated the creation of the draft, but Ewing is not the only instance of a potentially game changing player arriving in the NBA. One can imagine a player so talented (Michael Jordan, LeBron James, or Kareem Abdul-Jabbar perhaps) where adding that player to any team, regardless of their previous talent, would immediately make that team competitive with the best teams in the league.[83] If only one of those players exists in a given draft but there are two equally untalented teams with similar records, should we simply allocate that player to the team that happened to lose one additional game? Broome argues that there is inherent unfairness in rewarding the team with the worst record with his guaranteed selection (*winner-take-all*, reflected in criticism of coin flip system as insufficiently distributed). Allocation of such a player must have a substantial element of randomness, otherwise a team that might have

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[80] For the purposes of clarifying the example, I have split the coin flip draft process into allocation of two separate goods: (1) the good of participating in the coin flip and getting a top-two pick and (2) the good of winning the coin flip and getting the first pick. Unfairness in the first stage implies unfairness in the second (as teams whose claims go unsatisfied at the first stage will not progress to the second stage), and the first is simpler to understand.

[81] See supra ___ (MLB, NHL)

[82] Contrast this with, e.g., the importance of star players in the NFL. See infra ____

[83] https://bleacherreport.com/articles/708075-nba-draft-lottery-is-it-fixed-for-some-or-fair-for-everyone. James and Abdul-Jabbar for example are tied for third in most NBA finals appearances of all time with ten each (James has done so with four different teams, Abdul-Jabbar with two). Jordan has six NBA finals appearances and six championships. https://www.sportingnews.com/us/nba/news/most-nba-finals-players-all-time-list-stephen-curry-warriors/eja9gn2chfbh3wgd0bfetvtz. See also anticipated impact of Victor Wembanyamba, the prize of the 2023 NBA Draft Lottery. https://nymag.com/intelligencer/2023/05/the-2023-nba-draft-lottery-is-all-about-victor-wembanyama.html

substantial (albeit slightly weaker) claims will see its claims go entirely unsatisfied, violating Broome's core requirement that "weaker claims must not simply be overridden by stronger ones."[84] The NBA's solution, as with Broome's, is to hold a weighted lottery that attempts to give proportional weight to the various claims of different teams on the indivisible good of selecting a new star.[85]

Although the NBA attempts to proportionally satisfy claims, there are two reasons why it likely fails to achieve Broome's ideal of fairness: administrability and tanking. Achieving perfect fairness may be administratively impossible given the complexity of observing and weighing different claims in the real world.[86] Rather than trying to evaluate the precise strength of each team's claim for a weighted lottery, the NBA uses several rules of thumb for evaluating claims. First, it says that playoff teams have no claim on the good of potentially receiving the top pick. This seems reasonable as it would seem that these teams do not qualify for the relevant moral reason of needing or deserving a good player that will help them turn around their team's performance.[87] Second, the NBA creates a consistent and easily administrable schedule that attempts to meet Broome's vertical equity requirements that "stronger claims require more satisfaction than weaker ones, and also-very importantly-that weaker claims require some satisfaction."[88] The NBA's current lottery rule does not recognize any difference in claim

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[84] https://www.jstor.org/stable/4545128, 95. See discussion supra __

[85] Notably, the NBA lottery only allocates the top three picks (those that are likely to have the opportunity of selecting a "certainty" prospect) suggesting that these are the types of prospects that the NBA sees as indivisible goods that would be unfair to allocate without randomness.

[86] This story is also complicated by uncertainty in estimating the value of indivisible goods in the NBA context, though this is more related to outcomes than the underlying claims teams may have on the goods. For example, incoming players are unknown quantities with their ultimate value being dependent both on effective evaluation of talent and development, and often it is uncertain which player will be selected at the time the pick is assigned to the team. Compare, e.g., LeBron James who was one of the most anticipated incoming NBA players of all time and the #1 overall pick (https://web.archive.org/web/20080621235002/http://www.cbc.ca/sports/columns/top10/draft_picks.html) and Steph Curry who was the #7 overall pick in his draft class but was selected to the 2010s All-Decade Team alongside James. https://www.nba.com/all-decade-team-best-players-2010s. The problem of uncertainty is one of the reasons that this discussion focuses primarily on top picks who are "certain" talents like Ewing and James as it simplifies some of the surrounding problems.

[87] This runs some risk of being criticized as a pseudo-*winner-take-all* or *simple rule* system with an arbitrary cutoff. We could say that the playoff teams' claims are excluded by agreement, see discussion of fair agreements infra ___. If we are trying to allocate the good of the ability to win championships (or field a championship-caliber roster), we might think that the current system of recognizing no claims for low-end playoff teams is actually under compensatory relative to their true desert and thus unfair, as proportional satisfaction would require giving them some chance at top talent.

[88] Again, this has some vulnerability to *simple rule* criticisms, but the ability to improve upon this system faces serious real-world constraints. https://www.jstor.org/stable/4545128, 95. https://www.nba.com/news/nba-draft-lottery-explainer

strength among the three teams with the worst records, perhaps slightly violating Broome's goal of providing more satisfaction to stronger claims, but we might find this minor unfairness acceptable based on non-fairness moral reasons of expediency (there may be high costs in discovering true desert[89] and adjusting lottery weights each year) or as a necessary minor evil for addressing tanking.

Tanking (losing on purpose to receive better draft rewards) creates a significant problem for claim strength observability. If teams have an incentive to tank for better draft picks and correspondingly greater expected rewards, one team might intentionally lose games until it has the worst record, giving it the strongest observed claim even though it might not have the strongest actual claim based on underlying talent. If a team can tank and secure all the rewards from its higher draft pick, it would have a significant advantage over others because the lottery weights will boost its expected post-draft position based on an inaccurate observed desert (particularly if the reward of the top pick is an Abdul-Jabbar or James). The tanking problem was a common complaint among NBA teams advocating for a shift from the coin flip to lottery. Given the potentially strong incentives for teams either to attempt to compete for championships or to have one of the two worst records in the league (and thus be eligible for the coin flip), it is not clear that using reverse standings was very effective in evaluating which teams were in the worst shape, with teams like the Houston Rockets and Donald Sterling's Clippers using questionable tactics (sometimes repeatedly) to ensure they were in the coin flip for the top pick.[90] There may be other problems with claim observability beyond tanking; randomness in terms of injuries or game outcomes (the way the ball bounces) might also lead to a mismatch of team record and true desert.[91] Because we cannot observe the true strength of a team's claim (due to underlying randomness in competitive outcomes or due to intentional concealment), there will be at least some unfairness in the lottery's proportional weighting as it attempts to satisfy all relevant claims. However, the addition of randomness does reduce incentives to conceal or

[89] In fact, it is likely impossible to do so. See the entire sports commentator ecosystem that has built up around disagreements over which teams are better.
[90] Sports Illustrated gives the example of the Houston Rockets' decision to play Elvin Hayes 52 of 53 minutes in an overtime game en route to their second-straight top pick which they used to select Hakeem Olajuwon. https://www.si.com/longform/2015/1985/ewing/index.html
[91] See, e.g., 2019-20 Golden State Warriors who had the league's worst record due to injuries despite being conference champions the previous year and NBA champions two years later. https://www.nbcsports.com/bayarea/warriors/steve-kerr-was-all-warriors-james-wiseman-2020-draft-pick

misrepresent the strength of a team's claim by reducing the direct reward for poor performance, and in doing so may bring claim satisfaction in closer alignment with underlying desert.

Does Broomean fairness require the use of a lottery to make a draft fair? We can compare the NFL's use of a strict reverse standings draft with the NBA's lottery system to understand why fairness might (or might not) require the NFL to implement a lottery. If we assume that fairness in any draft case requires that we give greater satisfaction to stronger claims, then randomness in previous season performance and the risk of tanking, both of which exist in the NFL, may appear to make a strict reverse order draft a poor mechanism for achieving Broomean fairness by obscuring claim representation in teams' records.[92] However, in sports with less randomness and less incentive for tanking, reverse standings order may more closely reflect desert, meaning that using strict reverse standings order to allocate picks may be closer to Broome's proportional satisfaction of claims. Importantly for our comparison, the NFL is far less star driven than the NBA where individual players can play a larger role in determining competitive outcomes (one player can play 1/5th of a team's minutes in an NBA game and be a key player on every offensive and defensive play whereas at most an NFL player will play around 1/22nd of a team's minutes, though the quarterback's role as primary ball handlers gives the position an outsized impact relative to other players).[93] The more star-driven model of success in some leagues like the NBA makes selection of the absolute top players more important.[94] Less potential for outsized impact from individual players (the lower importance of indivisible goods) might help explain why a lottery is less in demand in the NFL, where picks and individual players tend to have less proportional value (with the notable exception of quarterbacks where uncertainty in predicting NFL performance at draft time is often an issue).[95]

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[92] We might think that there are potentially alternative ways to calculate merit in draft order (e.g., examining market forces such as sports betting odds that attempt to determine relative quality and merit for different teams), but these methods are both administratively troubling (the relationship between sports leagues and sports betting has many issues) and subject to similar risks of manipulation as team records (e.g., a team that does not try as hard to score points should have betting odds adjusted against them). See also discussion of handicaps and betting infra ____

[93] This analysis can be further extended to other sports (e.g., in baseball a batter can only take at most one in nine at bats and a pitcher can start only one in four or five games, making individual players less important to team success). Basketball rosters are also far smaller than football rosters (13 players are allowed to dress for each team for an NBA game versus 55 for the NFL).

[94] This can be seen by comparing NBA and NFL pick-value charts which attempt to approximate the relative value of top picks. https://thedatajocks.com/nba-draft-pick-values/, https://www.pro-football-reference.com/draft/draft_trade_value.htm, see also https://bleacherreport.com/articles/708075-nba-draft-lottery-is-it-fixed-for-some-or-fair-for-everyone

[95] See, e.g., https://allfortennessee.com/2018/04/26/nfl-draft-manning-leaf/, https://www.businessinsider.com/new-england-patriots-draft-tom-brady-sixth-round-pick-2022-2?op=1. Interestingly, the MLB implemented a draft lottery

Still, tanking does seem to occasionally happen in the NFL, and a lottery-based system might increase fairness by discouraging bad actors from attempting to conceal their true desert and better reflect the claims that bad-but-not-terrible teams might have on new players.[96]

Fantasy Auctions and Pickup Basketball: Team Construction Without Teleological Considerations

In the real world, teams carry over many of their players from the previous season creating an uneven talent baseline for new player acquisition,[97] non-competitive considerations such as media markets and ring chasing influence player distribution,[98] and claim strength may be uncertain and impossible to observe accurately. This friction limits us to imperfectly fair solutions like the NBA draft lottery and NFL draft, designed to proportionally reward teams' claims to the extent possible given real world constraints. In contrast, non-professional team construction tends to focus on equalizing resources and opportunity to select the best players, suggesting fairness claims based on skill in player selection and processes that are designed to reward those skills.

Contrast the auction draft in fantasy sports, which is an example of attempted fairness in player allocation without the frictions regularly imposed by reality in professional sports settings. A traditional auction draft ensures equality of opportunity across all teams: all teams have the same auction budget, the same rights to bid on the same set of players, and non-competitive factors are ignored because fantasy sports are detached from the actual playing of the game.[99] In a traditional fantasy auction draft, teams also do not have different deserts or preestablished

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in 2022 despite looking more like the NFL in several respects, including more difficult performance predictions at the time of the draft and presumably records that more accurately reflect desert given the large number of games and at bats each season. Top MLB stars can have a significant impact on team outcomes though not at the same level as an NBA star.

[96] See, e.g., https://profootballtalk.nbcsports.com/2022/02/03/the-nfls-current-draft-system-clearly-incentivizes-tanking/. C.f. English Premier League relegation rules which discourage tanking and encourage teams to expose true desert by penalizing rather than rewarding the worst teams (teams at the bottom of league standings are relegated to a lower league while best teams in lower leagues are promoted). However, EPL does not have a draft and has fewer meta-competitive structures to promote leveling, potentially reducing fairness if we believe that teams have similar claims on competitive success regardless of financial resources.

[97] The NBA's Uniform Player Contract (the standard contract form for players) is four years in length. https://basketballnoise.com/how-long-is-an-nba-contract/

[98] https://fivethirtyeight.com/features/are-the-nbas-ring-chasers-devaluing-the-ring/, https://www.nbcsports.com/nba/news/vince-carter-on-ring-chasing-i-come-from-an-era-where-thats-not-how-it-was

[99] This statement is largely true, but anyone who has played fantasy sports knows a Yankees or Packers fan who cannot help but pick their team's players against their own competitive interests. https://bleacherreport.com/articles/2545755-the-beginners-guide-to-fantasy-football-auction-drafts

needs because all competitors start with a blank slate in the auction at the beginning of the year. Fantasy sports also remove complicating outside business considerations, with all competitors solely focused on creating teams that can score as many fantasy points as possible. By perfectly equalizing all team resources and needs and allowing near complete flexibility in terms of strategy and approach, the auction draft gives every competitor the same aggregate claim on player talent and rewards only skill in player selection. Given the fairness appeal of an auction draft to select players, it is not surprising that a 2015 *New York Times* article suggested adopting a variation on this approach to selecting new talent in the NFL, with teams openly bidding for new players but restricted by the league's salary cap.[100] In fact, MLB international youth signing works this way, with clubs allowed to sign young international players in open competition, subject to a staggered cap that allows poorer and smaller market teams to spend slightly more than others.[101]

Drafts in professional team sports also differ significantly from the ways teams are constructed in casual or "pickup" sports. In a 2015 survey of 672 pickup basketball players conducted by *SBNation*, people used a variety of methods to choose opposing teams including captains drafting their teams in alternating order, dividing up teams in some way that tries to subjectively balance team talent, or having players shoot (an approximation of talent) and using their makes and misses as a way of selecting people for each team.[102] As these methods evidence, in casual competitions participants construct structural rules that try to level the competition via limits on team construction in ways that often parallel those used by professional sports leagues (a mix of ordered selection and random assignment that is designed to give each team a similar expected probability of success). As in American professional sports, the team creation processes preferred for pickup basketball suggest that there is relatively little difference in the strength of claims for various competitors, and any differences in desert likely should come from skill in talent identification.

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[100] Neil Irwin, *How to Make the N.F.L. Draft More Entertaining and More Fair*, N.Y. TIMES, Apr. 30, 2015, https://www.nytimes.com/2015/05/01/upshot/how-to-make-the-nfl-draft-more-entertaining-and-more-fair.html.

[101] Note the similarities between this staggered cap and our discussion of Formula 1's tilted aerodynamic testing restrictions as evidence that the strength of fairness-claims may be different for different aspects of team selection. https://www.mlb.com/glossary/transactions/international-amateur-free-agency-bonus-pool-money

[102] https://www.sbnation.com/lookit/2015/4/7/8353509/what-are-the-rules-of-pick-up-basketball-survey

Adjudication: Fairness, Randomness, Uncertainty, and Error

This section considers the important role that Broomean fairness plays in judging, examining interrelated concepts of randomness, correction of mistakes, accuracy, and bias. I begin by focusing on the example of a missed judgement call in baseball, applying Broome's theory to disagreements about the fairness of missed calls and technical assistance that can increase the accuracy of judges. Broome's theory shows that the acceptance of random mistakes may indeed be fair but leaves unanswered whether fairness requires reducing these constraints to the extent possible (including exchanging teleological reasons to do so). The section concludes by contrasting the randomness of a missed call with systematic biases in judging, using the example of national bias in figure skating to show that Broomean fairness can distinguish random mistakes from malicious mistakes, and that not all missed calls are equal.

Judgement Calls: Proportional Satisfaction and Randomness

On June 2, 2010, Jason Donald hit a ground ball to first base on a pitch from Detroit Tigers pitcher Armando Galarraga with two outs in the bottom of the ninth inning. Tigers first baseman Miguel Cabrera fielded the ball and threw to Galarraga covering first base.[103] Although the play at first base was close, the throw and Galarraga's foot clearly beat the runner for what should have been the final out in the 21st perfect game in MLB history.[104] Instead, first base umpire Jim Joyce called Donald safe.[105] Joyce's call provides a relatively ideal case study for fairness in finalizing adjudicatory outcomes: the call was made on what would have been the last out of the game, and thus there is no concern about a butterfly effect from overturning it,[106] and there is no dispute about what the correct call would have been.

Was it unfair for Joyce to get the call wrong, even if he did so unintentionally? Applying Broome's theory, we first have to consider what claims the sport gave to both Galarraga and

[103] https://theathletic.com/1722128/2020/05/12/beyond-perfect-armando-galarraga-10-years-after-the-call/
[104] https://theathletic.com/1722128/2020/05/12/beyond-perfect-armando-galarraga-10-years-after-the-call/, https://www.youtube.com/watch?v=dqjSlQdaXwE, For context, 23 people have thrown official perfect games as of March 2023 while 24 people have visited the moon (either moonwalk or orbit). https://www.space.com/how-many-people-have-walked-on-the-moon
[105] You can see a video of the full play including Joyce's call and the immediate aftermath here. https://www.youtube.com/watch?v=dqjSlQdaXwE
[106] Although views on this change if, for example, Donald had contract incentives requiring him to reach a specific number of hits in the season and his hit against Galarraga was required to achieve that statistical milestone.

Donald (and by extension their teams) and then address the process (including randomness or lack thereof) used to resolve conflicts between these claims. As with other cases, the relevant fairness claims for each party seems to come from desert and agreement, with disagreement about whether participants agreed that desert is reflected in the factual outcome on the field or the umpire's judgment call estimating what happened.

Galarraga's claims on the good of getting the call at first base appear extremely strong. Galarraga did all of the things he needed to do to get the out (and throw a perfect game), and Joyce's incorrect call deprived him of his desert. At least one reading of the rules that competitors were playing under (and thus agreed to) leads to the same conclusion. Rule 5.09(b)(6) defines an out as where "[first] base is tagged before [the batter] touches the… base."[107] By its own terms, this rule seems to require that Donald be called out, without any room for randomness or error.

Donald's claim on the call at first base is less obvious and requires interpreting Rule 5.09(b)(6) within the context of other baseball rules. Rule 9.02(a) says that "any umpire's decision which involves judgment, such as… *whether a runner is safe or out*, is final. No player, manager, coach or substitute shall object to any such judgment decisions" [emphasis added].[108] Rule 9.02(a) seems to suggest that despite the language clearly defining an out, safe-out judgment calls are subject to some randomness in the umpire's decision perhaps suggesting some desert-based claim to Donald for *almost* being safe (situations that are "too close to call").[109] Indeed, Galarraga's return to pitch to the 28th batter after the blown call suggests acceptance of being bound by the randomness of judgment calls under Rule 9.02(a), even in the extreme case where the call incorrectly prevented a perfect game. Galarraga voiced as much at the time with his comment that "nobody's perfect."[110]

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[107] Rule 5.09(b)(6), https://content.mlb.com/documents/2/2/4/305750224/2019_Official_Baseball_Rules_FINAL_.pdf

[108] MLB Rule 9.02(a). See also MLB Rule 9.02(b-c) discussing appealability of umpire decisions for various types of judgment calls.

[109] Notably hockey has a similar treatment of judgment calls despite a longer history of replay review for non-judgment decisions. https://www.latimes.com/archives/la-xpm-1991-06-25-sp-1247-story.html (introduction of goal review in 1991), https://www.nhl.com/news/rule-changes-for-2019-20-nhl-season-307950356 (updates to replay review in 2019 with explicit exclusion of "discretionary" calls such as penalties). The NFL has experienced a similar debate in its decision to first allow review of pass interference calls (2019) and then end review just one year later (2020). https://www.cbssports.com/nfl/news/nfl-makes-major-change-to-instant-replay-by-making-called-and-uncalled-pass-interference-penalties-reviewable/, https://www.si.com/nfl/2020/09/13/pass-interference-replay-review-scrapped-nfl-explainer

[110] https://theathletic.com/1722128/2020/05/12/beyond-perfect-armando-galarraga-10-years-after-the-call/

Catcher Michael McKendry articulated the idea that fairness allowed for blown calls in response to an unrelated call that went against his team: "They're [meaning the umpires] going to get some right. They're going to get some wrong. That's just part of it. Nobody is perfect at the end of the day."[111] Instead of judging officiating decisions based on the external criteria of factual correctness, McKendry accepts the on-the-field officiating decisions as the final correct set of outcomes, which cannot be invalidated by contrary factual evidence. In essence, McKendry expects umpires to make the correct call most of the time and to miss calls in an unbiased distribution, and participants accept that calls that do not go their way are simply a part of the game. This is effectively Broome's proportional satisfaction, where close judgment call plays give both sides some claim based on uncertainty in human perception (if 80% of people watching the play in real time think the call should be out and 20% think the call should be safe, it would be fair to randomly make the call using a lottery with those weights, which is effectively what happens when umpires choose what they think is the right call).[112] The finality of umpire decisions might even be seen as a crucial element of ensuring Broomean fairness, as allowing competitors or others to impose a factually correct outcome on the referee in some situations but not others (assuming that doing so in all situations will be impossible) will distort the umpire's ability to proportionally satisfy claims based on his own unbiased perception.[113]

Instant Replay: Accurately Assessing Claims

Given the contribution of both desert and randomness to outcomes in sports, we are forced to ask whether unfairness dictates a specific level of randomness, particularly whether it requires minimizing randomness (subject to some cost-benefit analysis of the process for doing so). The answer is unclear. There are games we would describe as fair (flipping a coin) that are entirely random, as well as games we would describe as fair (chess) that have essentially no randomness.[114] There are limits to how much randomness and uncertainty we would accept in

[111] https://bleacherreport.com/articles/1156392-breaking-down-the-pros-and-cons-of-instant-replay-in-mlb
[112] Though notably umpires have additional training that we might think will increase accuracy and reduce randomness over the general population.
[113] We might think that having an impartial outsider to make difficult calls also improves perceptions of fairness (both Broomean and other kinds like formal fairness) and the ability to influence judgment calls or retract finality negates these benefits.
[114] https://www.vox.com/videos/2017/6/5/15740632/luck-skill-sports

adjudicatory decisions while still considering them fair.[115] We would reject the idea that safe-out calls should be determined solely by the flip of a coin rather than an umpire's decision, in part because this fails Broome's condition of giving stronger satisfaction to stronger claims. In the same vein, we might think that additional randomness for randomness's sake does not fit with Broome's view of fairness by diluting the ability to proportionally satisfy claims.[116] Whether fairness requires that claims be as accurately proportionately satisfied as possible given other constraints (i.e., costs) or if it simply requires the loose relative horizontal and vertical equity suggested by Broome is an interesting question in the context of instant replay, which can be used as a tool for reducing randomness in outcomes.[117]

We might think that the tension between Rules 5.09(b)(6) and Rule 9.02(a) was created by the inability to always make a correct call on judgment plays, a constraint that has been reduced over time and may now be entirely eliminated through the availability of easy video replay (with minimal non-fairness losses to moral reasons like expediency and administrability).[118] Prior to the availability of instant replay, it was impossible to get a call correct with certainty, and an umpire's best effort, which is subject to some random error but likely to come close to proportionately satisfying the strength of claims (e.g., a play where the runner is safe by a greater margin is more likely to be called safe), might be a fair way of meeting Broome's requirements for fairness.[119] However, if fairness requires estimating the relative strength of claims with as much accuracy as is possible (in essence creating a side

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[115] All sports, even individual sports that are seemingly judged scientifically, are subject to some randomness factor in outcomes. See discussion of precision in timing and measurement from the CB, https://www.nytimes.com/2014/02/13/sports/olympics/womens-downhill-historic-tie.html

[116] One example of this is the NFL's 2010 overtime rule changes designed to reduce the importance of the coin toss in determining game outcomes. See supra note ____

[117] See supra ___ (HE & VE quote)

[118] Similar questions are raised by the continued acceptance of judgment calls for balls and strikes as discussed below, see infra ____, and discussions about the reviewability of discretionary or judgment calls in the NFL and NHL, see supra note ____

[119] The "no appeal" condition of umpire judgment calls appeared relatively early in baseball rules, though not at the exact start. See *Constitution and Playing Rules of the National League* (1898), Rules 59 ("There shall be no appeal from any legal decision of either the umpire or the assistant umpire."), 60 ("Under no circumstances shall any player be allowed to dispute a decision by either umpire, if only an error of judgment is involved; and no decision rendered by either umpire shall be reversed, except it be plainly shown by the code of rules to have been illegal."), "Advice to Umpires" ("The captain only is allowed to appeal to you… on a legal misinterpretation of the rules."). https://ia802909.us.archive.org/31/items/ConstitutionAndPlayingRulesOfTheNationalLeague1898/univarch-019270-0001.pdf. Note, this "no appeal" rule appears to have been added to the National League rules between 1896 and 1898. https://www.lib.umd.edu/collections/university-archives/digital/baseball-rules. See also https://scholarship.law.upenn.edu/cgi/viewcontent.cgi?article=5322&context=penn_law_review for discussion of common law evolution of baseball's rules over time.

constraint requiring the correct call where the factual outcome is knowable), judgement calls would be clearly unfair as they give insufficient satisfaction to the team that met the strict requirements of the rules.

Returning to Armando Galarraga's near perfect game, while the MLB has taken no action to officially change Joyce's call in the decade since the game, various people (including Galarraga) have suggested baseball do so.[120] Monmouth University students even submitted a brief to MLB Commissioner Rob Manfred arguing (in part on grounds of "fairness") that baseball change its record books to endorse Galarraga's perfect game.[121] These efforts to reverse the call after the fact provide an opportunity for analyzing the fairness of review and appealability for on-field calls with a particular focus on the MLB's response to the Galarraga game.

Had the Galarraga game taken place under baseball's current rules, Joyce's call would have almost certainly been appealed using instant replay and overturned.[122] The MLB's decision to introduce replay in 2014 suggests a desire to reduce the amount of incorrect important officiating decisions (thus reducing the role of randomness and judgment calls in baseball outcomes), allowing baseball to reward players and teams more accurately for their success on

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[120] https://cdn.theathletic.com/app/uploads/2022/02/23172110/Mon-U-Law-and-Society-Presentation-to-MLB-Commissioner-x-2-8-22-Galarraga-case-3.pdf, https://theathletic.com/1722128/2020/05/12/beyond-perfect-armando-galarraga-10-years-after-the-call/

[121] Brief suggests that in overturning the call, "the Commissioner [would be] act[ing] in the name of fairness." https://cdn.theathletic.com/app/uploads/2022/02/23172110/Mon-U-Law-and-Society-Presentation-to-MLB-Commissioner-x-2-8-22-Galarraga-case-3.pdf, 35.

[122] When the MLB expanded its system of instant replay review to cover plays like Galarraga's, should that have required a change to the record books to recognize his perfect game? The fact that the outcome would have been different under today's rules raises the issue of *ex post facto* fairness or "diachronic formal fairness" as Hooker calls it, see https://www.jstor.org/stable/27504361, 330 (any time any rule is changed, there will be an inconsistent treatment of those covered by the rule before and after the change violating formal fairness). Even if we believe that fairness requires the use of video review to try to assess competitors' claims more accurately, there remain *ex post facto* concerns about fairness in considering whether to change the call retroactively. At the time of the Galarraga game, there was nothing in the rules that allowed the use of video evidence to overturn safe-out calls, nor was it common practice for the MLB to change its rulings on various in-game calls after a game was completed. But see, https://cdn.theathletic.com/app/uploads/2022/02/23172110/Mon-U-Law-and-Society-Presentation-to-MLB-Commissioner-x-2-8-22-Galarraga-case-3.pdf, 38-43 (George Brett pine tar game). In 2023, managers who wish to challenge plays using instant replay need to make their challenge within 15 seconds of the umpire on the field finalizing their call. By limiting the time teams have to invoke video review (and in theory blocking them from confirming the accuracy of the call on the field prior to making their challenge), the new rule seems to suggest that calls can only be overturned for a relatively short period of time after they were made (limited retroactivity), and challenges can only be fairly made if the decision to challenge involves some judgement by the competitor (a lack of complete information on what the right call was). https://theathletic.com/4348574/2023/03/27/mlb-replay-rules-2023/. These constraints suggest that changing governing rules for allocating goods after the fact generally is not seen as fair as it redefines and fails to proportionally satisfy agreed upon assessments of claims.

the field. Indeed, some commentators suggested that fairness already required using replay to reverse blown calls in response to Joyce's missed call:

> [B]lown calls are a certainty. And several of them will have the potential to materially affect pennant races. Nothing happening in baseball tomorrow is more important than figuring out how to reverse those calls in time *to protect the fairness of the game*. [emphasis added][123]

This argument seems to take the position that getting the factually correct call and estimating desert under Rule 5.09(b)(6) as accurately as is technically feasible is a fairness-required side constraint.[124] If we assume the factually correct outcome as the required outcome of officiating decisions, taking the call on the field might be unfair in that it will fail to proportionally satisfy the side constraint (under rewarding factual success), but combining the call on the field with some type of video review will reduce randomness and violate the correctness side constraint to the minimum amount possible. However, the costs of more accurately determining the strength of competitors' claims (e.g., increased time spent with video review or decreased enjoyment from the end of judgment calls) are teleological rather than fairness related, and there may be no fairness-internal way of determining whether to require video review unless we believe that fairness requires attempts to more accurately measure claim strength to the extent reasonable or possible.

Balls and Strikes: Fairness and Reducing Randomness

In contrast to safe-out calls, ball-strike calls on pitches remain judgment calls fully subject to randomness and umpire discretion at the Major League level as of 2023.[125] Broome's

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[123] Note the emphasis the commentary places on calls with "potential to materially affect pennant races." There is an interesting question about the relationship between fairness and stakes as well as the viability of fairness claims against calls with *de minimis* effects that I do not explore in depth here. The importance of Joyce's call was increased because of the significance of a perfect game but other calls will have less significance. I theorize that whether something is unfair is orthogonal to its stakes, but that higher stakes make it more likely that participants will more vigorously press claims of unfairness, but do not attempt to fully defend that hypothesis here. https://tht.fangraphs.com/tht-live/on-galarraga-joyce-and-instant-replay/

[124] See supra ___

[125] This is no longer true for some Minor Leagues. https://www.newyorker.com/magazine/2021/08/30/invasion-of-the-robot-umpires

theory can be applied to these calls as well, with claims assigned to the pitcher and batter based on the path a pitch travels between the pitcher and home plate, with non-negligible claims awarded to both sides in cases where the call is close due to uncertainty and human fallibility. Although there are already ways to evaluate the accuracy of umpire calls today[126] and some commentators suggest that more accurate "robot umpires" are destined for the MLB,[127] others oppose such a change on the grounds that the randomness of human umpires is a core part of baseball (in essence the same argument in favor of randomness that McKendry made in the safe-out context). Former player and manager Joe Torre opposed replacing human umpires with robots saying, "it's an imperfect game and has always felt perfect to me."[128]

Distinguishing ball-strike calls and robot umpires from instant replay is that robot umpires would provide more accurate initial decisions instead of increasing decision accuracy via appellate review. Thus, the question of ball-strike call accuracy is a pure question about whether the sport wants randomness and incorrectness in outcomes (rather than a more complex weighing of the costs and benefits of instant replay). There is greater acceptance of human fallibility and randomness in ball-strike calls when compared to safe-out reviews (though this is changing), and the two-sided nature of that dispute suggests that the relationship of fairness to randomness in many cases does not have one right answer. Similar debates and evolution are occurring in tennis, which has begun adopting Hawk-Eye Live technology to make in-out calls in real time that were previously definitively made by human line judges.[129]

It is possible that differing views on the fairness of randomness and error in ball-strike calls versus safe-out calls are supported in part by the greater number of ball-strike calls and their tendency towards lesser individual impact on game outcomes, thus making it more likely that randomness will even out and have a smaller net impact on game outcomes (raising interesting questions of whether ball-strike calls are more like divisible or indivisible goods given their numerosity).[130] However, like in the instant replay case, whether fairness requires a shift to robot umpires in the longer term will depend on whether fairness requires more accurate evaluation of

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[126] See, e.g., https://twitter.com/UmpScorecards
[127] https://www.newyorker.com/magazine/2021/08/30/invasion-of-the-robot-umpires
[128] This is notably a teleological argument in favor of increased randomness over a feasible minimized baseline (increased enjoyment from being subject to potentially incorrect judgment calls). https://www.newyorker.com/magazine/2021/08/30/invasion-of-the-robot-umpires
[129] https://www.espn.com/tennis/story/_/id/30877297/hawk-eye-live-gains-more-support-australian-open
[130] Though these errors often do not balance out over the course of any given game. See again https://twitter.com/UmpScorecards

claims and the reduced uncertainty. As previously discussed,[131] cases where multiple indivisible goods need to be allocated blend the line between proportional randomness and divisible good allocation, and the use of randomness creates the risk of one team going on a "run" in random lotteries and being allocated a disproportionate amount of the goods. As a result, increased accuracy may be important both when factual correctness is critical to claim satisfaction in a particular case (similar to the Galarraga game) and when a small number of jointly impactful cases might be randomly biased in the same way (similar to an umpire calling balls and strikes).

Judging Subjective Competitions: Bias and Systematic Errors in Refereeing

In some cases, a run of luck might not actually be the result of randomness but rather on systematic error or bias in the underlying decision-making process. Broome's theory of fairness takes a strong stance against systematic errors and biases as unfair for failing to proportionally satisfy the claims of all parties and can effectively distinguish them from runs of luck like the ball-strike calls that might be less obviously unfair.

One example of systematic bias in sports is the trope of the "Russian judge,"[132] the judge in subjectively judged international competitions (such as gymnastics and figure skating) who seems to award more points to the competitors from their own country than to their rivals. History is littered with examples of national bias,[133] and there is substantial statistical evidence across time, nationalities, and sports that judges exhibit at least some national favoritism.[134] This

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[131] See supra ___ (discussions of semi-divisible outcomes, runs of luck from theory section). See also discussion of semi-divisible goods in the context of home field advantage, infra ____

[132] See https://skateguard1.blogspot.com/2018/04/unravelling-russian-judge-stereotype.html for a discussion of the history and origins of the Russian judge stereotype. Note that while historically this stereotype has been attributed to judges from Eastern Bloc countries, other countries' judges have also been shown to show favoritism. See, e.g., https://www.tandfonline.com/doi/pdf/10.1198/tast.2009.0026, Table 3 (showing relatively universal national favoritism bias in diving scores at the 2000 Olympic games); https://journals.sagepub.com/doi/pdf/10.2466/pms.1993.77.2.355, Table 2 (comparing national bias among skating judges in the 1988 Olympic games).

[133] For example, Yuri Balkov of Ukraine who was suspended for a year after being caught on tape saying what order the ice dancing competitors at the 1998 Nagano Olympics would finish prior to the competition taking place. https://www.nytimes.com/2014/02/21/sports/olympics/who-were-the-figure-skating-judges.html

[134] The foundational article in this space is https://www.tandfonline.com/doi/abs/10.1080/02701367.1988.10605486 (artistic gymnastics in the 1984 Olympics). See also https://journals.sagepub.com/doi/pdf/10.2466/pms.1993.77.2.355 (figure skating judges at the 1984 and 1988 Olympic games), https://www.tandfonline.com/doi/pdf/10.1198/tast.2009.0026 (diving judges at the 2000 Olympic games), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3863918/pdf/jssm-05-CSSI1-21.pdf (2003 MuayThai World Championships), file:///Users/jackdavidson/Downloads/BS_Art_23381-10.pdf (Men's gymnastics judges at the 2011 European Championships), https://www.mdpi.com/2076-2615/13/17/2797 (dressage competitions in 2022-2023). Studies also show other types of bias in judging and similar analysis can be applied to those instances of bias

section applies Broome's theory to find national biases in judging to be unfair because these decisions are based on teleological reasons (self-interest and patriotism) rather than claims, and highlights the resonance between skating's responses and Broome's theory.

The weight of the early literature suggests that international competitions within skating's historical 6.0 scoring system tended to give weight to national biases, and that biases potentially influenced outcomes.[135] In response to concerns about national bias, the International Skating Union (ISU, skating's governing body) took several steps to try to align competitive outcomes more closely with underlying desert.[136] It has taken four interrelated approaches to solving this problem: (1) auditing and disqualification, (2) replacing of standards with strict rules, (3) adjusting aggregation in the sport's scoring system, and (4) embracing randomness. Together, these actions serve to align skating outcomes with Broome's proportional satisfaction of claims, with adjustments for real-world constraints and the fallibility of judges.

One approach that skating has taken to the problem of national bias is to increase evaluations and training for judges to try to ensure that they are not influenced by national bias. As part of broader change to from the 6.0 system to the ISU Judging System (IJS) in 2004,[137] the ISU increased its auditing of judges' scores to attempt to identify bias and began restricting judges "with unsatisfactory performance evaluations [from] officiat[ing] at future ISU Events for a prescribed period of time, the minimum period proposed being two years."[138] The ISU has also instituted procedural changes to reduce consideration of other fairness-irrelevant moral reasons such as outside pressure, nationality, and bribes.[139] The ISU's system of auditing and disqualification aligns with Broome's theory of proportional satisfaction by identifying judges

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as well. See, e.g., https://scholarsarchive.byu.edu/cgi/viewcontent.cgi?article=1191&context=facpub (analysis of racial bias among NBA referees)

[135] https://journals.sagepub.com/doi/pdf/10.2466/pms.1993.77.2.355, See also supra ___ (note w/ all the articles)

[136] https://doi.org/10.1515/jqas-2019-0113, 289. Note that in a subjective sport like skating, perfectly defining underlying desert and ideal performance may be elusive.

[137] The change from the 6.0 system to the IJS was in response to a scandal at the 2002 Olympics that also reflects many of the issues discussed here. See https://vault.si.com/vault/2002/02/25/thorny-issue-canadian-pair-david-pelletier-and-jamie-sale-got-belated-gold-even-as-a-judging-scandal-so-shook-the-sport-that-it-brought-talk-of-long-overdue-reform

[138] https://www.isu.org/isu-statutes-constitution-regulations-technical-rules-2/isu-judging-system/275-new-judging-system-faq/file, 4

[139] "As long as the exact marks awarded by specific judges can be identified, the risk of external pressures and influences exist." Judges' marks are now randomized and anonymized in some ways to prevent this. https://www.isu.org/isu-statutes-constitution-regulations-technical-rules-2/isu-judging-system/275-new-judging-system-faq/file, 4

that fail to proportionally satisfy claims due to systematic biases and errors, and then removing those judges from the process for resolving disputed claims.

The adoption of the IJS also represents a shift in skating scoring from looser standards to strict rules for scoring some aspects of skaters' performances, perhaps an endorsement of *simple rule* procedures for allocating goods as fair if more theoretically fair procedures are infeasible due to non-fairness constraints (e.g., national bias in judging under subjective standards). Under the 6.0 system, judges were required to give two scores on a scale of 0.0 to 6.0 for "technical merit" and "artistic merit," and the scores were then added together and subjected to a variation on ranked choice voting among multiple judges to determine a winner.[140] The extreme flexibility in this system made it difficult to make direct comparisons, ensure consistency in judging, or detect and remove instances of bias. In response to this excess flexibility, the IJS attempted to introduce more rigorous rules for calculating scores.[141] Skating programs now are scored by two separate panels, a technical panel (which awards points for the difficulty of elements using a predetermined "Scale of Value" (SOV) – effectively a degree of difficulty score) and a second panel that judges the quality of skaters' execution. The IJS also has other rules that attempt to ensure that scores reflect desert without the opportunity for bias, including a uniform table of required deductions for faults within a program to ensure that mistakes are penalized consistently.[142] These forced deductions are again helpful in reducing national bias, as was the case in the 2002 Olympics when a Russian pairing was initially awarded the gold medal despite a mistake in their program while the second-place Canadian pairing skated flawlessly due to the French judge receiving pressure to vote for the Russian skaters as part of a vote swapping scheme.[143]

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[140] https://www.mentalfloss.com/article/55137/guide-scoring-figure-skating-olympics

[141] Whether this change has actually led to greater consistency and reduced bias in skating scores is an unsettled topic of debate, though it seems clear that the intent of the system was to create greater consistency. https://www.nytimes.com/2014/02/06/sports/olympics/despite-revamped-system-for-judging-figure-skating-gets-mixed-marks.html

[142] https://www.isu.org/inside-isu/rules-regulations/isu-statutes-constitution-regulations-technical/special-regulations-and-technical-rules/29500-single-pair-and-ice-dance-2022/file, Rule 353(1)(n). Indeed, the ISU has incredibly detailed guidance to judges on matters as specific as "Free Leg Drops – If the free leg drops down for a long time while preparing for a difficult camel variation, the corresponding Level feature is still awarded, but the Judges will apply the GOE reduction." https://www.isu.org/isu-statutes-constitution-regulations-technical-rules-2/isu-judging-system/single-and-pair-skating/31570-technical-panel-handbook-1/file, 14. Diving also has a similar system to the SOV where they have a "degrees of difficulty" table that provides an objective component to diving scores. See 2015 FINA Rulebook, Appendix D (FINA Table of Degrees of Difficulty)

[143] https://vault.si.com/vault/2002/02/25/thorny-issue-canadian-pair-david-pelletier-and-jamie-sale-got-belated-gold-even-as-a-judging-scandal-so-shook-the-sport-that-it-brought-talk-of-long-overdue-reform

The ISU also responded to fairness concerns by changing the way that judges' scores are aggregated to determine a winner (analogous to changes in the second step of Broome's theory). Under the original 6.0 system, judges' scores were aggregated by using a variation of a ranked choice voting system, which gave equal weight to each judge's score and made outliers potentially impactful on the outcome (again see the controversy in 2002 where the Russian pair won first over the Canadian pair by a 5-4 margin among the nine judges meaning that a flipped vote from France would have meant a win for the Canadians).[144] This system suffered from many of the same problems that Broome criticized *winner-take-all* processes for, with very slight advantages in the scoring of a single judge potentially creating a very large swing in outcomes. Under the IJS, ISU Rule 353(1) aggregates a "grade of execution" (GOE) score reflecting subjective performance using a "trimmed means" approach which discards the highest and lowest judges' scores before taking the mean, replacing the previous ranked choice aggregation.[145] This means that in the case of a judge that scores with some conscious or unconscious bias towards her national skaters, those skaters will not necessarily outperform unless another judge also scores those skaters excessively high, as the biased scores will be trimmed from the final result.[146] The switch from a voting system to an averages system reflects greater alignment with Broomean fairness in a relatively subtle way. Broome's emphasis on *proportionality* is better satisfied by a more expressive average (where each judge can indicate their view on small differences in the quality of execution in a more nuanced way that gives weight to different evaluations of performance differences) than in the previous ranked choice system.

The IJS also *adds* randomness (in contrast to instant replay arguments about reducing randomness) with the goal of increasing the fairness of its scoring system, randomly selecting "scoring judges" from among a broader panel of judges to reduce the ability or incentive to try to influence individual judges' scores.[147] Skating's solution to judging bias of distributing judging

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[144] See supra ___

[145] https://www.isu.org/inside-isu/rules-regulations/isu-statutes-constitution-regulations-technical/special-regulations-and-technical-rules/29500-single-pair-and-ice-dance-2022/file, Rule 353(1). The use of trimmed means was one of the recommendations in the Whissell et al. paper on how to address the problem of national bias. See supra ____

[146] This story is slightly complicated by random variance in scores, with a biased score leading to a greater capturing of variance upside (or downside) in the final average. However, the general idea of using trimmed means to reduce the importance of potential biased scores is correct.

[147] https://www.isu.org/isu-statutes-constitution-regulations-technical-rules-2/isu-judging-system/275-new-judging-system-faq/file, 4

power widely and randomly seems to be relatively effective in reducing deviations in outcomes from underlying claim strength.[148] The IJS also retains randomness in other important, though less visible, ways. The main additional source of randomness is in the judges' accuracy and in the variance of their scores. This randomness is analogous to the human fallibility present in judgment calls discussed in the baseball context, though with the added challenge that there may be no single right answer in a subjective sport like skating. Individual judges might not be perfectly accurate (one judge may score skaters uniformly higher on execution than the average judge) or might have variance in their individual scores (for example a judge who is not biased but has far greater spread in her scores than the average judge).[149] There is no additional randomness in who is declared the winner once a final score is generated, as a pair with a 239.88 will always win over a pair with a 239.25 rather than receiving a 50.066% chance of winning the gold medal in a weighted lottery.[150] However, one can think about how the process of competition and judging is in itself a sort of weighted lottery, and the final scores might reflect a proportional satisfaction of claims in that respect. We also might view the fairness of non-randomly selecting a winner as based on the pre-agreement of competitors that the top scoring pair be awarded the victory as creating a side constraint leading fairness to require the selection of a specific winner by removing all claims on victory from the party with a lower score.[151] Overall, the history of skating scoring gives us lessons in the importance of identifying what moral reasons to include when considering the fairness of various decisions and rules, and highlights the ways that agreements and randomness can interact when resolving fairness questions.

[148] This is perhaps evidence in favor of the Broomean fairness of distributed democratic decision making more broadly.
[149] https://arxiv.org/pdf/1807.10021.pdf (discussing how to evaluate for both quality and bias in gymnastics scoring)
[150] The actual scores in the finals for the gold (China) and silver (Russia) pairs at the 2022 Beijing Olympics. https://olympics.com/en/olympic-games/beijing-2022/results/figure-skating/pair-skating
[151] See discussion of agreements creating side constraints infra ____

Lessons from Sport: Fair Agreements and Semi-Divisible Goods

While the previous applications focus on what Broome's theory can teach us about rule structures and practices in sport, sport can also give us greater insight into Broome's theory. This section discusses how various sports allocate home field advantage, using practices from sport to shed light on when and how agreements can alter fairness and on fair ways to allocate semi-divisible goods.

There is ample statistical evidence that playing at home is an advantage, with estimates ranging from a five to ten percent increase in win percentage for teams that get to play at home in American professional sports.[152] Attempts to explain home field advantage vary widely, from suggestions that crowd noise hurts visitors' communication to geographic factors like time zones, altitude, and travel fatigue.[153] Nonetheless, the advantage of playing at home seems to be real, and sports have to come up with ways to allocate it to one competitor or the other for most competitions.

Allocating Home Field Advantage: American College Football

American college football has perhaps the widest range of different treatments of home field advantage. There is evidence that home field advantage exists for college football,[154] and the sport's scheduling complexity (with both conference and non-conference games each year) gives both governing bodies and teams (through independent negotiation) the opportunity to allocate home field advantage among different competitors. The majority of most teams' schedules are determined by conferences, which provides the starting point for determining who gets to play what games with home field advantage.[155] It appears that playing at home is a good that has to be allocated among competitors (potentially using fairness considerations). While it certainly helps teams to play at home, there is not a moral duty that this advantage be given to a

[152] https://www.smithsonianmag.com/smart-news/home-field-advantage-is-real-and-heres-why-1146109/
[153] https://fivethirtyeight.com/features/the-nfls-home-field-advantage-is-real-but-why/
[154] https://www.actionnetwork.com/ncaaf/home-field-advantage-college-football-2023, https://www.espn.com/college-football/story/_/id/20519639/alabama-ohio-state-oklahoma-boast-best-home-records-college-football-do-own-home-field-advantage-too
[155] See https://bleacherreport.com/articles/1350023-how-is-a-college-football-schedule-made. Although this article is from 2012 and some of the specific details have changed slightly, the overall discussion of how schedules are made still holds in most cases.

specific competitor in the same way that there might be a moral duty to recognize a competitor's claim of greater talent or performance.

Conference games provide a useful starting point for understanding fair allocation of home field advantage. If we believe that neither team in a conference matchup has a better claim on the good of home field advantage, then Broome's proportional satisfaction requires random allocation of home field advantage with even odds between teams. We might think that a conference's schedule, even if not randomly allocating home games but rather alternating between home games for different teams, is fair as it proportionally satisfies the claims of both teams on home field advantage.[156] This is how nearly all conferences schedule their games (allocating even numbers of home and away games to each team and alternating locations for specific matchups each year[157]), reflecting close alignment between Broomean fairness and conference scheduling. For semi-divisible goods like matchup location, alternating may even be *more* fair due to the guarantee that claims be proportionally satisfied over time rather than due to random variance, though this argument treats home field advantage like a divisible good that is being allocated over multiple seasons rather than an indivisible good allocated for a single game.[158]

When only a small number of games will be played between two teams, college football programs do not always use the proportional satisfaction of equal claims approach used by conferences to try to ensure fairness. Additionally, decisions about who and how to schedule are dominated by non-fairness questions like logistics and financial costs.[159] Even with the importance of these non-fairness teleological considerations, some non-conference games continue to see home field advantage allocated in line with Broome's theory. "Home-and-home" series where teams play two games, one at each team's home stadium, emulate the Broomean fairness conference games by trying to give teams equal satisfaction on their equal claims of the good of playing home games. Similarly, neutral site games, which are played in neither team's

[156] Ignoring any time value created by being the first in the series to play at home.
[157] At least to the extent possible where conferences do not play an odd number of games in a season.
[158] We might think treating home field advantage like a fully divisible good is more accurate in the conference context or for long-running series but less accurate for less frequent series discussed below. I also argue that there may not be a fairness internal reason under Broome's theory to preference random or non-random allocation of divisible goods making this division no more fair than random assignment with the proper odds, see supra note ___ (discussion of applying Broome's theory to Rawls's "fair bets")
[159] See https://bleacherreport.com/articles/1350023-how-is-a-college-football-schedule-made discussing the "boatload of questions [that] have to be answered as you decide who you want to get on to the schedule."

home stadium (though sometimes may give some pseudo-home field advantage to one side given the location's greater proximity to one of the teams[160]) might be thought of as fair because they proportionally satisfy teams' claims by giving neither one the good of home field advantage.[161] This example of fairness through equal non-satisfaction is perhaps strong counterevidence against Hooker's criticism of Broome's theory that fairness requires maximal proportional satisfaction of claims to the extent possible,[162] suggesting that relative or proportional satisfaction is more important for fairness than absolute satisfaction.

Fair Agreements and Home Field Advantage: Non-Conference College Football and the NFL

Not all non-conference scheduling aligns with Broome's theory of fairness. Often, more successful schools with greater economic heft and bargaining power will be unwilling to forego the revenue and competitive advantage of a home game and are willing to exchange teleological reasons to retain home field advantage. Instead of scheduling home-and-homes, teams with a teleological bargaining advantage instead will often try to schedule home-and-home-and-homes, where two home games are exchanged for one away game, or "pay games," where an opponent (usually a lesser opponent who is likely to lose) is paid to play the stronger team at home.[163] As non-competitive reasons like finances become more important for certain teams, it seems as though those teams often bargain away their fairness claims to equal home field advantage in exchange for non-fairness payouts.[164]

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[160] See, e.g., the 2023 Camping World Kickoff game played between Florida State and LSU in Orlando, Florida or the 2023 Penn State vs. Michigan State game which is being played in Detroit, Michigan. https://fansided.com/2023/07/24/college-football-neutral-site-games-2023-full-list/

[161] This is somewhat similar to the way that college football currently conducts its postseason with bowl games being played at "neutral" sites, though as in other cases they may be less neutral for some bowls and teams (e.g., the University of Miami (FL) playing in the Orange Bowl in Miami).

[162] Unlike in the case of side constraints, I side with Broome against Hooker on this point of criticism. For Hooker's view, see https://www.jstor.org/stable/27504361, 341 ("Broome accepts that there is a moral reason to satisfy people's claims maximally. It is just that he thinks that this moral reason isn't part of fairness. [Hooker] argue[s]… that this moral reason is part of fairness. Fairness requires the greatest possible proportionate satisfaction of claims.").

[163] Some teams getting payouts of nearly $2M to play a single game against a top opponent. See https://www.forbes.com/sites/tomlayberger/2023/08/29/auburn-michigan-paying-nearly-2-million-in-week-1-college-football-guarantee-games/?sh=7f608ca67d34. For greater discussion of pay games, see https://bleacherreport.com/articles/311968-how-much-do-teams-receive-in-financial-guarantees-for-away-games

[164] Note that this is the inverse of the principle that we saw in Ultimatum Game research, supra ____, where participants were willing to trade off some good in exchange for fairer treatment. In this case, we see exchanges of fairness for some other good. There are many reasons why we might see exchanges in different directions here, but

These exchanges of teleological reasons for fairness claims provide us an ability to look more closely at when agreements generate fairness-relevant moral reasons (i.e., claims). Agreements can structure what moral reasons influence the distribution of goods and the processes for resolving conflicts between moral reasons. In some but not all cases, agreements can serve as the basis for claims. I argue fairness by agreement is only possible if parties are not trading their fairness claims for non-fairness reasons (e.g. monetary payoffs) and the bargaining processes themselves satisfy Broome's fairness (proportional satisfaction of parties' claims on the process). These types of fair agreements exchanging only fairness claims can change the fairness claims of each side and even create side constraints by removing the claims of one party.[165] In contrast, many agreements are struck through differences in bargaining power, resource allocations, or real-world constraints rather than an inherent desire to abandon fairness, and these agreements cannot modify claims or what qualifies as a fair outcome.[166] Applying this theory of fairness by agreement to the case of pay games of home-and-home-and-homes in college football, we see that agreement by competitors to these types of scheduling arrangements does not alone make them fair, because that agreement is brought about by the influence of non-fairness reasons and significant differences in bargaining power.

Contrast these agreements with agreements for allocating home field advantage for postseason playoffs in professional sports.[167] The NFL allocates home field advantage within its conference playoffs based on regular season performance, with each round lasting one game and the team with the better regular season record getting home field advantage in each round.[168] This allocation of home field advantage is governed by agreed upon rules that home field advantage should be awarded to the team with better regular season performance. If the agreement creating these rules is fair, I argue, then the allocation of playoff home field advantage

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it may give additional credence to the idea of fairness as having standalone value that we see such tradeoffs between fairness and teleological reasons as meaningful.

[165] For example, changing the yards required for a first down in exchange for changing the number of downs before turning the ball over in football.

[166] Note that these agreements are not inherently unfair, parties might still see Broomean fairness satisfied in the process of creating the agreement and its outcome, they are just unable to change the fairness claims of different parties if they include an exchange of teleological reasons.

[167] Leagues often have extensive rules governing this question. See, e.g., this summary of MLB's playoff seeding and tiebreaker rules https://dknetwork.draftkings.com/2021/10/2/22704088/mlb-tiebreaker-rules-2021-playoffs-scenarios-home-field-advantage-al-wild-card-spot-mariners-red-sox

[168] The Super Bowl between the two conferences is ostensibly played at a neutral site giving neither team home field advantage. See https://www.nfl.com/news/buccaneers-become-first-team-that-will-host-super-bowl-at-home-stadium

to these teams is fair. Applying Broome's theory, this agreement can be seen as adjusting or defining the strength of teams' claims on the good of home field advantage in the playoffs based on their regular season performance. In each round, the agreement gives teams that have a better regular season record a claim and teams with a worse record no claim. I argue that these claims are valid within Broome's theory because no teleological reasons were exchanged as part of the agreement, and there is no evidence of unfairness in the creation of the agreement itself. Because the moral reasons resulting from the agreement are claims, allocating home field advantage based on the agreement is likewise fair because it satisfies Broome's rule of proportional satisfaction.

Rewarding Home Field Advantage: College Basketball

College basketball has also had to address problems of home field advantage, but from a different angle. Historically, college basketball's system of postseason tournament selection was based on teams wins and losses without considering games' locations, giving a benefit to teams that played games at home and creating unfairness by rewarding non-claim moral reasons. This section summarizes college basketball's work to remove this bias, highlighting the ways that unfairness can cascade through multiple levels of competition through agreements.

As in college football, top college basketball teams have been reluctant to schedule road games against good teams outside of required road matchups in conference play. This is because postseason selection criteria did not adequately account and compensate for the challenge of road matchups.[169] The historical ranking system used to help select teams for the NCAA "March Madness" tournament, Rating Percentage Index (RPI), did not consider venue when calculating things like strength of schedule and win quality, key metrics for deciding what teams would make the postseason tournament and who they would play. Ignoring matchup locations created perverse incentives for teams to maximize home games and minimize away games, as a game against the 20th best team in the country at home presents approximately the same challenge as a game against the 90th best team in the country on the road.[170] As a result, teams with more

[169] This is perhaps a problem that college football is still struggling with but the smaller number of games and greater financial value to individual home games in football muddies the picture.
[170] https://kenpom.com/blog/tiers-of-joy/. See also https://www.espn.com/blog/collegebasketballnation/post/_/id/111917/quantifying-the-difficulty-of-winning-on-the-

teleological scheduling power (generally those from the top conferences) were able to avoid scheduling away games against good non-conference opponents, while being overrewarded for wins in non-conference home games.[171] In itself, this selective schedule construction created marked unfairness at the level of individual games but RPI's failure to account for this propagated this unfairness into the postseason selection process. The unfair divergence between claim strength (the challenge of matchups where teams won) and rewards (postseason seeding and qualification) was a motivating factor behind the introduction of NCAA Evaluation Tool (NET) rankings in 2019. NET rankings reward teams for playing and winning games on the road, bringing postseason rewards more in line with actual team performance and strength of schedule.[172] Although the fairness of individual games is not completely solved by the switch to NET (teams might still play matchups based on non-fairness teleological reasons, creating non-proportional satisfaction of claims on victory in any single game), it reduces the propagation of unfairness from games to the postseason selection process and reduces the meta-competitive pressure from postseason rules to maximize home court advantage, thus likely improving home court allocation fairness overall for college basketball.

Semi-Divisible Home Field Advantage: The NBA

The NBA has seven-game playoff series, and how it allocates home games within those series is another example to compare the fairness of home court allocation. In particular, the NBA's treatment of home court allocation for playoff series highlights the challenges and opportunities of semi-divisible goods and potential unfairness from any consideration of teleological reasons in allocating goods. Across the seven games, the team with the better regular season record is awarded four games at home in recognition of its regular season performance, in the same way that the better regular season team is given home field advantage in the NFL

road; https://kenpom.com/blog/road-teams-are-winning-more-often-in-college-too/; https://kenpom.com/blog/how-to-measure-site-specific-home-court-advantage-part-two/

[171] This historical over-rewarding of regular season non-conference home wins for teams from top conferences might contribute to the prevalence of upsets in NCAA tournament play, where teams are forced to play challenging non-conference matchups at largely neutral site locations.

[172] For example, the NET system includes both a matchup location factor within its calculation of team quality ("Adjusted Win Percentage") and focuses heavily on the "quadrant system" of classifying win quality based on the quality of opponent *and the location the matchup took place*, e.g., rewarding a home win over a top 30 team the same as a road win against a top 70 team. https://www.ncaa.com/news/basketball-men/2018-08-22/net-rankings-what-know-about-college-basketballs-new-tool-help?utm_campaign=inline-article

playoffs. For this allocation to be fair, Broome's theory would seem to suggest relatively close claim strength for both teams but slightly stronger claims for the team with the better regular season record.

Interestingly, the sequencing of games in the NBA Finals has changed over time, originally taking a 2-2-1-1-1 format before switching to a 2-3-2 format from 1985 to 2013 and then returning to a 2-2-1-1-1 format since then.[173] The switch to 2-3-2 was made in large part due to non-fairness logistical cost concerns, creating a likely source of unfairness under our theory of fair agreements.[174] In contrast, the return to 2-2-1-1-1 was made largely on fairness grounds, based on the argument that the 2-3-2 format was providing an unwarranted disadvantage to the better performing regular season team by forcing them to "spend eight days on the road away from home" according to Commissioner David Stern.[175] In this case, fairness required greater proportional allocation of the semi-divisible advantage of home court advantage to the better regular season team, likely based on a combination of desert- and agreement-based fairness-claims. When the 2-3-2 gave too many countervailing advantages to the worse team by forcing the better team on an extended road trip and providing one game (Game 5) where the worse team would actually have a cumulative advantage in the number of home games played up to that point, proportional satisfaction of the competitors' claims required changing the sequence to preserve more of an advantage for the higher seed, giving stronger satisfaction to its stronger claims.[176] We might also see the return to the 2-2-1-1-1 as focusing on a return to fairness as the net importance of non-fairness reasons fell. Travel costs in 1985 were almost certainly higher in proportion to the teams' budgets than they were in 2013 (primarily due to much lower NBA

[173] The numbers here represent a number of games played at each team's home court, with the first and last numbers in the sequence representing home games for the team with the better regular season record and then alternating with the other team in between. https://sports.yahoo.com/news/nba--nba-finals-switch-to-2-2-1-1-1-format-190234671.html

[174] "Former Boston Celtics coach Red Auerbach had championed the switch to 2-3-2 to cut down on travel when his team was facing the Los Angeles Lakers." https://sports.yahoo.com/news/nba--nba-finals-switch-to-2-2-1-1-1-format-190234671.html

[175] https://sports.yahoo.com/news/nba--nba-finals-switch-to-2-2-1-1-1-format-190234671.html

[176] The advantages for the lower team were compounded by the problem of higher seeded teams being more likely to win their previous series more quickly and thus face more time off than the lower seed. As a result of this, the higher seeded team might come out "flat" and lose one or both of the first two games, facing the risk of losing the series on the road before having another chance to play at home. The resulting need to win the first two games to guarantee an additional home game placed great pressure on the higher seeded team to immediately perform, an example of where meta-competitive dynamics may compound or affect the ways in which claims are satisfied.

revenues), and as team revenues rose relative to costs, non-fairness considerations were less likely to outweigh fairness in the minds of competitors.

Conclusion

The explanatory power of Broomean fairness across a wide range of examples from sport shows its value as a tool for understanding everyday questions of fairness and potential applicability to moral and legal questions as well.[177] Three distinctive characteristics of Broomean fairness discussed throughout this paper highlight its potential for use beyond the world of sports.

First, Broomean fairness emphasizes the distinctive nature of claims, non-teleological moral reasons that govern fairness, relative to other moral reasons. Rather than throwing all moral reasons together and making tradeoffs between them, fairness distinguishes claims and suggests that overriding or exchanging these reasons may cause more harm to individuals than disregarding other moral reasons, even when society as a whole is not harmed.[178] As discussed in the context of fairness by agreement, there is also value of explicitly recognizing when fairness is being traded off for non-fairness reasons, often due to a difference in bargaining power, resource allocations, or real-world constraint rather than an inherent desire to abandon fairness.

Second, Broome's theory places greater emphasis on the relational nature of outcomes than competing moral tools like social welfare and justice, giving it a unique perspective to add to legal theory. Broome's fairness can provide a rigorous philosophical framework to back horizontal and vertical equity-based decision making in legal fields like bankruptcy (where all decisions with intercreditor impacts raise these questions) and tax law (where progressive taxation rates and other taxation policies are evaluated in part based on their compliance with horizontal and vertical equity).

Third, Broomean fairness embraces and understands randomness in a way that other moral principles often do not, fully separating randomness from potentially confounding concepts like desert and uncertainty.[179] By focusing on proportional satisfaction and accepting

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[177] Hooker articulates the importance of theorizing fairness in a discussion of another moral theory that fails to account for it:

> A comprehensive moral theory owes us an account of fairness. Why? First of all, most of us are not always sure what is fair. Secondly, in many cases where we are sure, we don't agree! A comprehensive moral theory ought to help us with these uncertainties and disagreements.

https://www.jstor.org/stable/pdf/4545206.pdf, 33

[178] See study on the Ultimatum Game, supra ____

[179] C.f. Rawls's slightly less deft handling of randomness in his theory of procedural justice and a discussion of the theory's shortcomings, supra ___

the role that randomness can (and sometimes must) play in meeting that goal, fairness can better account for legal policies and real-world processes than many competitors.[180] For example, Broome's theory might be able to tell us something about the acceptability of various standards of appellate review, distinctions between law and fact, comparative versus contributory negligence, and whether "judgment calls" should be made in the legal space by judges or juries. Broome's theory also forces us to separate randomness from uncertainty and errors,[181] giving us strong tools to deal with problems of uncertain claim strength and bias that commonly appear in the law.

Although fairness exists adjacent to many of the concepts that we already use when seeking to understand and evaluate law, these concepts are disjointed without a robust theory of fairness, like that provided by Broome. Together with concepts of social welfare (as a principle for optimizing social value) and justice (as a system for attempting to match outcomes with desert), Broomean fairness provides an important third perspective that gives voice to the importance of relational differences and a way of reconciling the messiness and randomness of the real world with the idealized theories of philosophy.[182] As this analysis of sport shows, Broome's fairness can serve as a theoretically rigorous counterpoint to current systems of evaluating legal rules and outcomes (e.g., law and economics), and it has promise as a theoretical framework that can be applied to the law in both empirical and normative settings.

[180] See, e.g., Rawls's direct competitor of "imperfect procedural justice" which fails to fully bridge the gap between theory and practice (procedures are imperfectly procedurally just if they lead to a just outcome most of the time – a less robust standard than proportional satisfaction).
[181] Something that confuses Hooker, see supra ____
[182] C.f. Rawls's idealized theories of procedural justice, supra ___