#### 3. Anti-Black racism is illogical, slavery proves, and our thesis is correct.

**Evans 23** (Professor Chris Evans is the author of Slave Wales: The Welsh and Atlantic Slavery 1660-1850. His interests include abolitionism in the British world in the nineteenth century and the links between European industry and the Atlantic slave trade) History Research Group at the University of South Wales, “Five myths about Atlantic slavery”, https://history.research.southwales.ac.uk/news/five-myths-about-atlantic-slavery/, DM

3. **~~Slaves~~ [Enslaved people] were cheap labour Not true. Enslaved Africans were expensive to acquire. Europeans had to purchase them with costly trade goods (Indian cottons, brass articles from Germany, French brandy, glassware from Bohemia, etc.). Africans were enslaved because European labourers would not freely migrate to the Caribbean, where plantation work was murderously gruelling. Enslaved Africans had no choice in the matter.**

#### 2. Not malleable---Best studies.

**Grossman 18** (Sara Grossman, She graduated from UC Berkeley with a Bachelor’s Degree in Political Economy in 2015 and from the University of Westminster (UK) with a Master’s in Media, Campaigning, and Social Change in 2020. She has lived in Berlin since 2016. “White people: Let’s start by understanding our own biases”, (2018), DM

The brain’s capacity for snap judgement and fear-based gut reaction was developed in our evolutionary ancestors, who lived in homogenous groups and understood anyone outside the group to be an immediate survival threat. The **mental mechanisms for determining who is “us” and who is “them”—and therefore a threat—were undoubtedly useful for ancient, more primitive societies where interactions with outside groups were uncommon**. However, as our social networks grew and our worlds became increasingly connected, these quick reactions based on familiarity became less helpful in determining what is a threat and what isn’t. In fact, Almodio argues, they are a disadvantage. **“Humans now live in a multicultural society** linked by neighborhoods, workplace and political hierarchies, states, nations, and global regions—and peaceful interdependence is now key to our survival,” Almodio wrote. “With these new societal complexities, the basic machinery of the mind that promoted the survival of our evolutionary ancestors becomes not-so-adaptive for social life in the 21st century.” It seems, however, that **our subconscious mind has yet to catch up**, not least influenced by the wide**spread racism, racist stereotypes, and negative racial attitudes that are consistently reinforced in media, politics, and the society at large.** Findings from the widely-used Implicit Association Test **(IAT) demonstrate that racial bias remains widespread, despite popularly stated views of egalitarianism.** The IAT, which tests for the strength of associations between **concepts (like Black people or women) and evaluations or stereotypes (like good or aggressive), has found that of the millions of people who have taken the test, around 70 percent of white respondents have some sort of pro-white bias**—**despite the same percentage claiming to hold unbiased racial attitudes.**  Other studies have identified similar conflicts between active and subconscious attitudes. One **NYU study found that when white men viewed pictures of Black male faces with quick glances, activity spiked in their amygdala, the brain structure associated with feelings of vigilance and fear. “Neuroscience has shown that people can identify another person’s apparent race, gender, and age in a matter of milliseconds,” Princeton psychologist Susan Fiske has said. “In this blink of an eye, a complex network of stereotypes, emotional prejudices, and behavioral impulses activates. These knee-jerk reactions do not require conscious bigotry, though they are worsened by it.”**

#### 2. This evidence concedes that fugitivity leads to collective solidarity which means this is a piece of aff evidence that proves the permutation and the link turn and proves we are a pre-requiste,

Embodiment of the Underground Railroad specifically occludes the necessary and pragmatic work of making particular demands on the state to achieve more progressive ends.

Adolph 1NC Reed & Kenneth Warren 26. Professor Emeritus in the Department of Political Science at the University of Pennsylvania and Distinguished Visiting Professor of Politics at Mount Holyoke College, Massachusetts. Fairfax M. Cone Distinguished Service Professor in the Department of English at the University of Chicago. “BLACK STUDIES, CULTURAL POLITICS, AND THE EVASION OF INEQUALITY: The Farce this Time.” DOI: 10.4324/9781003569947.

If nothing else, The Underground Railroad reflects the commonsense of much of contemporary black studies, which moves through complications, qualifications, and semi-disavowals but remains committed in a variety of ways to rediscovering, restating, and reaffirming race as the primary vector of producing and redressing inequality. The novel never reunites Cora with her mother, Mabel, and never allows Cora to discover her mother’s fate; but it does let the reader know that Mabel did not simply abandon her daughter. We learn in a brief chapter that Mabel, after realizing her freedom would be incomplete without Cora, had turned back in the swamp through which she had been fleeing, hoping to rejoin her daughter, only to be bitten and killed by a water moccasin. Cora does not and will not know this, but in the broader history provided by race, we are enjoined to take comfort in the idea that no one is truly forgotten or simply left behind.

In focusing his fiction on the Underground Railroad, and the experiences of his imagined fugitives, Whitehead sidelines the event that was most consequential in shaping the fortunes of African Americans, namely, the Civil War that brought slavery to an end. In doing so, Whitehead sounds a dissonant note from that played by Frederick Douglass, who had also, in the many actions he took against slavery, been a part of the historical Underground Railroad. In Life and Times, Douglass recalled his involvement with the network as the most “congenial, attractive, fascinating, and satisfactory work” of his life. But, ever focused on the pragmatic goal of achieving true political liberation, he distinguished its emotional rewards from its practical efficacy, saying: “True, as a means of destroying slavery, it was like an attempt to bail out the ocean with a teaspoon, but the thought that there was one less slave, and a fugitive slave—brought to my heart unspeakable joy.”135 Douglass’s point was that what had ended slavery was not black fugitivity or black solidarity, whatever their contributions might have been, but a collective political movement of black and white Americans to marshal the power and the resources of the state for the purposes of achieving and maintaining liberation, justice, and equality.

#### Levine says Obama is an example of important pieces to Black radical struggle for radical reformism.

1NC Levine 23 (Caroline Levine is a professor of humanities at Cornell University. 10/17/23, *The Activist Humanist: Form and Method in the Climate Crisis,* Princeton University Press)

Turning to the project of guaranteeing basic capabilities carries with it a new relation to political action. Instead of gesturing to unrepresentable futures, I ask: what materials, what agency, what strategies can build conditions for collective continuance here and now? “Pragmatism” has often been a term of opprobrium in the aesthetic humanities, charged with confining us ever further within the brutal systems of the present. José Esteban Muñoz argues against “gay pragmatism” because it reentrenches the “corrupt and bankrupt social order,” and Karen Pinkus warns environmentalists against the “tyranny of the practical.”60 Anything short of pulling this whole rotten society up by the roots is the same as quietism and complacency, wishy-washy liberalism, or worse, sinister neoliberalism. Radical thinkers call for “burning it all down,”61 drawing on a long history of revolu-tionary thought that has opposed piecemeal reforms in favor of the shattering work of revolution.62 At least as far back as Marx and Engels in 1850, leftists have worried that social welfare programs like health care and social security provide just enough in the way of comfort and security to prevent workers from rising up as an angry mass but without changing fundamental economic structures.63 Accelerationists go so far as to argue that we should hasten the worsening of conditions because desperation is the necessary precondition for revolutionary change.64 The more moderate—and more pervasive— version of this logic, which we can see in such diferent thinkers as Jack Hal- berstam and Giorgio Agamben, is that we should not work for small changes or half measures because these will prolong our acceptance of a fundamentally violent and exploitative system. But what if this refusal of pragmatic action is wrong? What if institutional changes, techno-fixes, and legislative reforms do not necessarily get in the way of large-scale structural change and can in fact serve radical ends? A diferent tradition of revolutionary thinkers has understood organizing for achievable ends as important, even necessary, steps in a larger revolutionary struggle. For Rosa Luxemburg, famously, the opposition between revolution and reform was a false dilemma: “The struggle for reforms is its means; the social revolution, its aim.” Women’s sufrage was for Luxemburg a crucial example.65 Raymond Williams, too, understood reformist tactics as more efective at mobilizing working-class people than the demand for an immediate smashing of capitalism.66 In our own time, Chantal Moufe advocates a “radical reformism” as a crucial tool for building a powerful populism of the left.67 **Against passionate arguments from fellow radicals,** Angela Davis has defended the legal reforms of civil rights and the election of Barack Obama as important pieces of the Black radical struggle, **not obstacles to it**.68 Similarly, Sherry Wolf, a socialist organizer for LGBTQ rights, has argued for the importance of gay marriage not as a concession to an assimilationist pressure but as part of a larger fight for civil rights for all.69 And here, perhaps surprisingly, is Slavoj Žižek: In the developed Western societies, calls for a radical revolution have no mobilising power. Only a modest “wrong” choice can create the subjective conditions for an actual communist perspective: whether it fails or succeeds, it sets in motion a series of further demands (“in order to really have universal healthcare, we also need . . .”) which will lead to the right choice. There is no shortcut here, the need for a radical universal change has to emerge by way of mediation with particular demands. To begin straightaway with the right choice is therefore even worse than making a wrong choice, as it amounts to saying “I am right and the misery of the world which got it wrong just confirms how right I am.”70 The insistence on revolution in wealthy countries actually turns into the opposite—a kind of perfectionism that gets stuck because it does not have sufficient mobilizing power. In this scenario, revolution itself gets in the way of revolution. Despite many important diferences, these thinkers agree that large numbers of people are most inclined to mobilize around immediate causes of suffering and concrete demands. And because revolutions take shape through the collective energy and organization of big groups, practical struggles to trans- form existing conditions and institutions, such as the fight for labor protec- tions, voting rights, and same-sex marriage, are necessary to the building of the revolutionary left. Or to put this another way: it is a mistake not to recog- nize the revolutionary potential in any campaign that draws and mobilizes large numbers for expanding or transforming existing institutions, even if these ends are not thoroughgoing transformations of current conditions in their own right, like marriage equality or national health care. The crucial question here is a strategic one—how social, economic, politi- cal, and cultural transformation actually comes about. In place of the fantasy of a spontaneous revolution where, as Bruce Robbins puts it, “Everything Is Suddenly and Utterly Changed,”71 I turn to the revolutionary tradition that invites us all to struggle with imperfect and near-term political ends, to focus on mobilizing, organizing, and planning, and to engage in the unromantic, demanding work of social transformation through all existing channels for political struggle, including elections, battles for legal rights, and institutions like the university and the state. Practical politics is also crucial to building skills, organizations, and collective power on the left, all preconditions for radical structural change. If no stark decision has to be made between revolution and reform, if movements across the left grow powerful by joining forces in messy, impure coalitions, and if short-term, practical struggles have the potential to serve long-term radical ends, then the wholesale refusal of pragmatism is troubling indeed. But what kind of action will be most meaningful? When it comes to climate change, radicals have often been quick to critique political proposals. We should not hope for techno-fixes, for example—whether wind power, geoen- gineering, or wildlife reclamation projects—because an ongoing reliance on technical knowledge only reentrenches the assumption that human subjects can dominate and manipulate nature and deepens inequitable social relations.72 Nor does it make sense to seek change through electoral politics, at least in the United States, because this “carbon democracy,” dominated by a “politics of economic calculation,” depends on fossil fuels.73 We should not fight for carbon pricing, even if it will bring down emissions globally and quickly, because this reinforces the logic of capitalism.74 The Green New Deal is troubling either because it does not go far enough or because it sustains the long history of Euro-American colonialism and the exploitation of the Global South.75 All of these critiques have merit. But too unflinching a focus on the problems obscures the ways that change actually happens. Kai Heron and Jodi Dean argue, for example, that three groups—scientists, social justice activists, and Indigenous leaders—have created a compelling coalition for environmental justice, despite serious differences in political and epistemic positions and methods: “Allied with science, environmentalists shed their eco-hippy personae to become representatives of a fact-based critique of mass consump- tion.” Meanwhile, “the leadership of indigenous people [grew] to national and international prominence as they forged collective opposition to pipelines and fracking.” And then “attention to sacrifice zones, slow death, and the per- sistent deprivations of environmental racism helped environmentalists move beyond the elitist image long associated with conservationism.”76 Increasing numbers of university scientists have found their knowledge transformed for the better by alliances with Indigenous communities, and racial justice organ- izations, from the NAACP to Black Lives Matter, have incorporated the fight against climate change and pollution into their daily work.77 Heron and Dean argue that this coalition has successfully shifted the whole mainstream of pub- lic opinion away from climate denialism. In other words, diferent environ- mental movements, each marginal or troubling in isolation, have strengthened and transformed each other, and together have provided momentum for larger and larger scales of change. “Left pessimism,” according to Heron and Dean, is not only mistaken but outright dangerous. It has displaced climate denial from fossil fuel interests— where it began—onto the left’s “own arguments, shielding themselves from the overwhelming burden of action.”78 The burden of action is overwhelming indeed if we assume that no work is worth doing apart from immediate and total revolution, demolishing every constraint and every institution, or if we must conduct pure and virtuous campaigns that avoid all imposition of human subjects on the world. But the burden lifts if we imagine ourselves as working with the conditions we have to build a larger and larger movement for collec- tive continuance. That is where the hard, imperfect, meaningful, transformative work starts, and that work will be the focus of the pages that follow.

#### 2. “The USFG” is an instrument for disembodied debates that ignore real-world issues.

Monteith 23 Squid Monteith, Assistant Professor of Practice and Director of Debate at UNI. Digital debate as anti-Black; Examining governing policies through close textual analysis. Diss. 2023

Originally intended to be a pipeline for policy and legislative ideas to be iteratively tested by skilled academics, debates within the activity often focused on a plan-based discussion over how the United States Federal Government should respond to a given issue (NDT Book 2020, 2020). Annually, a topic, or resolution, is released that act as a guide for research and preparation for the debate season. Once the topic has been released, teams begin to methodically comb through thousands of pages of literature and news articles to craft their arguments – both for and against the resolution. This process of argument generation culminated in highly analytical debates over the quality of research, or evidence, found and deployed in the debate. Thus, 17 debaters would spend more time trying to find evidence for all their arguments than they would consider the application of their arguments to their lived experience. This distance between lived experience and the claims of evidence fostered in-depth debates over plan-based responses to hypothetical issues at the cost of genuine, real-world applicability.

#### 3. Workers are lumpen proletariats, but their interpretation perpetuates erasure.

**Britannica 98** “Lumpenproletariat”, https://www.britannica.com/topic/proletariat, Jul 20, 1998, DM

In the theory of Karl Marx, the term proletariat designated the class of wage workers who were engaged in industrial production and whose chief source of income was derived from the sale of their labour power. As an **economic category** it was distinguished in Marxian literature from the poor, the **working classes**, and the **Lumpenproletariat**. Because of its subordinate position in a capitalist society and the effects of periodic depressions on wages and employment, the proletariat as described by Marxists was usually living in poverty. But it was not therefore identified with the poor, for some members of the proletariat, the highly skilled or labour aristocracy, were recognized as not poor, and some members of the entrepreneurial class were not wealthy. Despite synonymous use in agitational literature, the term proletariat was distinguished from the working class as a generic term. The former referred to those engaged in industrial production, whereas the latter referred to all who must work for their living and who received wages or salary, including agricultural labourers, white-collar workers, and hired help occupied in the distribution services. **The Lumpenproletariat consisted of marginal and unemployable workers of debased or irregular habits and also included paupers, beggars, and criminals.**

#### 4. Collective means to be of a group of people.

**Cambridge No Date** [Cambridge, Collective; https://dictionary.cambridge.org/us/dictionary/english/collective] cmeow

of or shared by every member of a group of people:

#### 5. Bargaining means to negotiate a transaction.

**Oxford No Date** [Oxford Dictionaries, “Bargaining”, https://languages.oup.com/dictionaries/] cmeow

negotiate the terms and conditions of a transaction.

#### 3. No limits DA. Negotiated prior to the season, proves they should already have critiques to anti-Blackness K affs, and the Cap K is never concessionary ground!

**Trufanov et al. 25** (“Labor Topic Paper”, Nora Cai, Christopher Callahan, Sebastian Rao, Anthony Trufanov, John Turner, Sheima Ben-Abdallah)

Since **Du Bois’ *Black Reconstruction***, which framed the **end of slavery and Reconstruction as a general strike by Black workers, many have taken up a vision of workers’ emancipation as a tool for racial justice. In this vein, pro-labor white workers highlight the inclusiveness of unions (after their initial rejection of Black workers).** However, other scholars critique this view, arguing that it neglects the subjugation of **Black workers even within nominally inclusive unions and plays into historically exclusionary tropes of the liberated white working class.** Some of **these ideas are already frequently raised in debates under the umbrella of capitalism Ks of affs focused on anti-blackness, and many popular authors such as Tiffany King expressly critique the frame of labor when applied to Blackness.**

#### **3. That proves the subject formation paradox, and turns the fairness paradox.**

Tam 15 [Nicoladie, University of North Texas, “A Decision-Making Phase-Space Model for Fairness Assessment,” SciencePG] recut cmeow

1.2. Decision Dilemma and Conflict Resolution

The selection of the decision choice is often governed by the desired outcome in which the decision-maker has to decide which of the two variables is more important to choose to optimize. A conflict in decision occurs when maximization of one variable will minimize the other, making it impossible to maximize both. Thus, the decision requires choosing between one of the two variables to maximize, when no other alternatives are available.

For the decision to choose between fairness and monetary gain, it is often assumed that monetary gain will override fairness for the decision in economic transactions, while fairness will override monetary gain for the decision in social transactions. But sometimes, there is the **paradoxical decision** that people can choose to forgo **maximization** of either **fairness** or monetary gain to obtain the desired outcome that seems **counter-intuitive**.

<<CONDENSED, NONE OMITTED>>

This paper will explore the theoretical relationship between these two decision criteria, and determine that a logically consistent decision can be made by choosing the fairness criterion, without necessarily choosing the monetary gain criterion to resolve the conflict. Experimental confirmation of the decision model is provided in the companion paper [1] to confirm that the decision can be made using fairness as the decision criterion without necessarily relying on monetary gain as a criterion In examining the decision-making process, many studies use fairness as a factor to determine how decisions are made in economic transactions [2-5] and distributive justice [6-8]. Fairness is also used as a factor to determine how decisions are affected in social interactions [9-21]. Because what is considered as fair (or unfair) is often biased by an individual’s subjective perception, and this bias can alter the decision made by an individual. Thus, it is important to delineate the underlying decision-making criteria so that we can quantify which factor is more important in influencing a decision. Humans are not the only species that use fairness as a criterion for making decisions, primates also use fairness as a factor to make their decisions [22]. Thus, the decision- making process is conserved across species in evolution from primates to humans, which suggests that there is a generalizable universal principle underlying the decision- making process. 1.3. Ultimatum Game as a Tool to Determine the Decision- Making Process in Relation to Fairness Decisions based on fairness have been studied extensively using the classical Ultimatum Game (UG) experimental paradigm in behavioral economics [2, 23-27]. UG is a split- the-money game where the human subject’s decision-making process is deduced from the decision to accept or reject the monetary offer, depending on whether the offer is perceived as fair or not [27]. The rule of the UG is that a proposer offers an amount of money to share with the responder. The responder is asked to make a decision to accept or reject the proposed offer. If the responder decides to accept the money, both keep the money; otherwise, both lose the money. Thus, the decision to accept or reject the offer in UG depends on whether it is better to maximize the monetary gain or maximize fairness in the decision criterion. This provides a useful tool to determine which decision variable — fairness or monetary gain — is more important to use as the decision criterion. Since the rule of UG requires losing the money if the responder rejects the offer, it creates a conflict for inequitable offers, in which the responder cannot maximize fairness and monetary gain at the same time. If the responder chooses money, it would not be fair. If the responder chooses fairness, it cannot gain the money. Thus, it creates a dilemma for the responder to decide which of the two decision criteria is more important to maximize. This provides the condition in which the underlying decision-making process can be examined theoretically, using a logically consistent model, without violating any logical reasoning, or contradicting any decision criteria. Numerous computational models for hypothesizing the decision-making process based on fairness have been developed to describe how fairness is evolved in UG [25, 26, 28-34] using economic game theories [4-7, 35, 36]. We will introduce a different theoretical model to account for the decision-making process that can use a single criterion — fairness — without requiring choosing both fairness and monetary gain as the criteria to resolve the dilemma. Previous decision-making model has incorporated the relativity of fairness considerations to describe how fairness and monetary gain/loss considerations without compromising the decision for fairness over monetary gain [1, 37-40]. This paper will derive a novel decision-making criterion using the geometric quadrant of the decision-space in the fairness- equity stimulus-response function for determining how a decision is made (see Fig. 1 below). 1.4. Relativity in Fairness Assessment in the Decision- Making Process In assessing fairness in the decision-making process, there is an implicit comparison between two entities — self- regarding and other-regarding concerns [13, 14, 41]. Without such comparison, equality and fairness would not exist. When a comparison is made, it is usually based on one frame of reference relative to another (i.e., comparing between self and others). For example, when someone asks us how fair it is, it usually involves an implicit computation to compare others relative to ourselves. In computing subjective fairness, it compares self in relative to others, using a self-centered frame of reference in the comparison. When the frame of reference is switched from a self-centered one to an other-centered one, fairness is also changed from fair into unfair relatively — without changing the amount of disparity between them. On the other hand, objective fairness is computed by comparing the disparity relative to both parties (self and others) using a neutral party’s (a third person’s) standpoint. Thus, objective fairness is computed by including other- regarding concerns using an other-centered frame of reference, while subjective fairness is computed by including only self-regarding concerns using a self-centered frame of reference. Thus, the decision using fairness as the criterion can change depending on whether a self-centered or an other- centered frame of reference is used as the decision criterion. 2. The Relativistic Fairness-Equity Model Expressing the above relativistic relationships mathematically, let us define f as a quantifiable measure of fairness as a vector, and d as the disparity vector between self and others. Then the level of fairness perception in relation to disparity is given by: f = k ⋅ f (d) + b (1) where k is the fairness sensitivity coefficient, b is a constant representing the baseline fairness level, and f(d) is a function of the disparity vector, which can be either a linear or a nonlinear function. The disparity measure is a relativistic measure that is opposite to the equity measure. Without loss of generality, the disparity vector (d) is a vector difference between oneself and others when comparing a quantity — in the case of UG, the monetary difference — between two persons in the proposed monetary offer. The disparity measure can take on a positive or a negative value, depending on whether the disparity is in favor of oneself in the comparison. For instance, if an offer is a bigger amount to oneself than the amount to the other person, then the disparity is a positive value. If the offer is a lesser amount to oneself than the amount to the other person, then the disparity is a negative value. If the offer is the same for both the self and the other person, then the disparity is zero. Since the vector d is a signed quantity, Eq. 1 automatically accounts for the relativity of fairness — what is fair (f) for the self is unfair (–f) for the other person. This relativity in fairness is automatically computed by the change in the sign of disparity from a positive (d) vector to a negative (–d) vector, when the frame of reference is switched from a self- centered frame of reference to an other-centered frame of reference. 2.1. Decision Threshold Using Fairness as a Decision Criterion Note that Eq. 1 also corresponds to the classical stimulus- response (SR) function for fairness in physiological or psychological systems. This fairness stimulus-response function also corresponds to the input/output (I/O) function in computer science. The stimulus is disparity, and the response is fairness. For the UG paradigm, the stimulus is the amount of monetary disparity between the two persons in the offer (or the offer-ratio), which will result in either monetary gain or loss if the responder accepts or rejects the offer, respectively. The stimulus-response function is usually a non-linear sigmoidal function in psychological or physiological systems, rather than a linear function. Since the operating range of most living systems lies in the linear physiological region (in the middle of the sigmoidal stimulus-response function), for simplicity, we will use this linear operating range as a first approximation in our model. That is, given the disparity stimulus d, a person will respond with a fairness perception computed according to Eq. 1. If the decision is based on fairness as a criterion, then the fairness stimulus-response function can be used to determine the fairness threshold in which a person decides to switch from a rejection decision to an acceptance decision. Thus, using this relativistic fairness-equity model, it will allow us to quantify the threshold in which a decision is made, and determine whether monetary gain can be captured in the fairness decision, without using monetary gain as a decision criterion. 2.2. Relativity in Fairness Assessment by Including both Self-Regarding and Other-Regarding Concerns If the decision incorporates self-regarding concerns, it uses the self-centered frame of reference to evaluate fairness for the decision criterion. If the decision incorporates other- regarding concerns, then it uses the other-centered frame of reference to evaluate fairness for the decision criterion. This relativistic model of fairness can account for both self-centered fairness (i.e., how fair it is to “me”) and other- centered fairness (i.e., how fair it is to “you”) by Eq. 1. That is, the equation implicitly incorporates not only a self- centered perspective of fairness (using a local frame of reference), but also an other-centered (non-self) view of fairness (using a global frame of reference). 2.3. Switching Frame of Reference in the Evaluation of Fairness Perception By default, this vectorial model has already encapsulated the inclusion of reference frame implicitly by the signed vector, d, in which relative fairness is computed — i.e., “fairness to me” is computed by f = k•ƒ(d), while “fairness to you” is computed by the opposite vector, f = k•ƒ(–d). To explicitly express the relativity of fairness, let us denote “fairness to me” as f (using a self-centered frame of reference), and “fairness to you” as f' (using the other- centered frame of reference), with the primed notation. Then “fairness to others” is given by: f′ = k′ ⋅ f (d′) + b′ (2) Thus, the decision threshold can be determined by either Eq. 1 or Eq. 2, depending on whether only the self-regarding concerns is incorporated into the decision or the other- regarding concerns are also incorporated into the decision. 2.4. Derivation of Decision Criterion Based on Fairness If the decision is based on fairness, then the criterion to accept or reject an offer is determined by the level of fairness. Let’s say that the decision threshold, θ, is located at neutral fairness level (θ = 0), then the decision is to accept the offer if it is fair, and reject the offer if it is unfair. The decision, δ, would be quantified by: +1, if f ≥ 0 δ=−1, iff≥0 (3) where δ = +1 represents an acceptance decision while δ = –1 represents a rejection decision. If the decision threshold is located at a positive fairness level (θ > 0) for a fair perception or a negative fairness level (θ < 0) for an unfair perception, then the decision is determined by: 2.5. Fairness Bias by Shifting the Baseline Level of Fairness Perception The baseline level of fairness perception is given by the y- intercept of the stimulus-response function f = k•f(d) + b, i.e., the constant b in Eq. 1. Thus, any bias in the fairness baseline level is represented by a change in the constant, b. If the baseline bias is toward a more fair level, then the constant, b, will increase. If the baseline bias is toward the unfair level, then the constant, b, will decrease. This quantification of this fairness bias will allow us to determine how a decision can be affected by a change in the fairness baseline level. 2.6. Decisions Bias Resulted from Changing the Baseline Level of Fairness Perception

<<PARAGRAPH INTEGRITY RESUMES>>

Let us assume, without loss of generality, that the decision criterion is fairness, then the decision would be determined by the level of fairness perceived by the person. Furthermore, if the decision threshold were set according to the fairness level as defined by Eq. 4, then any change in fairness baseline level would alter the decision threshold accordingly.

That is, any **bias** in the **fairness** perception will also bias the **decision**. In other words, if the decision to accept is determined by fairness, and if the **decision** to **reject** is determined by **unfairness**, then when the **fairness perception** is shifted/switched from fair to unfair. The decision, δ, will also change/switch from acceptance (δ = +1) to rejection (δ = –1) according to Eq. 3, if the decision threshold is set at θ = 0. For any other non-zero decision threshold, the decision, d, is given by Eq. 4.

The above logic is generally assumed in the decision- making process when fairness is used as the criterion by most of the UG studies [42-47]. But there are exceptions to the above assumption that seem paradoxical. Sometimes, humans accept **unfair offers**, while other times they may reject **fair offers**. When this occurs, it is often assumed that the decision is either irrational or the **decision** is made using some other **criteria** other than **fairness** [42-47]. But this assertion may not be necessary. We will show below, by using the relativistic fairness-equity model, that the decision can still be made with fairness as the criterion without being irrational, and without incorporating some other factors other than fairness as the criterion.

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2.7. Fairness Bias by Changing the Fairness Sensitivity Fairness perception can also be biased by a change in fairness sensitivity rather than a change in fairness baseline. Fairness sensitivity is quantified by the slope, k, of the stimulus-response function in Eq. 1. If the slope, k, increases, the **sensitivity to fairness** is **heightened** with a much more **exaggerated sense** of **fairness**. If the slope, k, decreases, the sensitivity to fairness is diminished with an indifference perception to fairness. Thus, there are two types of fairness biases — baseline bias and sensitivity bias. **Baseline bias** affects the sense of what is **fair** or **unfair**, whereas **sensitivity bias** affects the heightened or diminished **awareness** of **fairness** or **unfairness**. Baseline bias is quantified by the y-intercept, b, and sensitivity bias is quantified by the slope, k, of the fairness stimulus-response function, f = k•f(d) + b, in Eq. 1. By the same token, if the **decision** criteria were **based** on **fairness**, then fairness baseline, fairness sensitivity, or both can **bias the decision**. Thus, a decision may be altered by changing the y-intercept, b, or the slope, k, of Eq. 1. This summarizes the dependence of decision on fairness biases mathematically. 3. Graphical Representation of the Decision Phase-Space Quadrants Let us represent the objective disparity, d, graphically by the x-axis (independent axis), and the subjective fairness, f, by the y-axis (dependent axis) based on the fairness stimulus- response function, f = k•f(d) + b, in Eq. 1 (see Fig. 1). The same graph is essentially divided into the left-half and the right-half by the y-axis representing inequity (hypo-equity) and hyper-equity, respectively. The graph is also divided into the upper-half and the lower-half by the x-axis, representing a fair and an unfair perception, respectively. When a decision is made, it is made based on the condition of fairness and equity according to the specific quadrant as described below (see Fig. 1). 3.1. Interpretation of the Decision-Space in the Relativistic Fairness-Equity Quadrants Combining the above fairness and equity interpretations, the decision-space in which the decision is made can also be subdivided by four quadrants (see Fig. 1): (a) Upper-left“fairandinequitable”quadrant; (b) Upper-right “fair and hyper-equitable” quadrant; (c) Lower-right“unfairandhyper-equitable”quadrant; (d) Lower-left “unfair and inequitable” quadrant. +1, δ =  − 1 , if f ≥ θ i f f ≥ θ ( 4 )  <<FIGURE OMITTED>> The interpretations of the fairness perception in each of the quadrant are provided below: (a) If the decision is made in the upper-left quadrant decision-space, then it is a lenient decision — it is based on the condition of feeling fair even though it is inequitable (see Fig. 2). (b) If the decision is made in the upper-right quadrant decision-space, then it is a fair decision — it is based on the condition of feeling fair when it is hyper- equitable (see Fig. 2). (c) If the decision is made in the lower-right quadrant decision-space, then it is a greedy decision — it is based on the condition of feeling unfair, even though it is hyper-equitable (see Fig. 2). (d) If the decision is made in the lower-left quadrant decision-space, then it is an unfair decision — it is based on the condition of feeling unfair when it is inequitable (see Fig. 2). 3.2. Relativistic Interpretation of the Fairness-Equity Quadrants when the Frame of Reference is Switched If the frame of reference for evaluating fairness is switched from self to others, then the fairness-equity quadrant graph would become a mirror image of the decision-space graph in Fig. 1. That is, what is hyper-equitable to self is inequitable to others, and vice versa. Thus, these graphs represent subjective fairness based on their own frame of reference. The only exception to this subjectivity is the center dividing line at the absolute equitable offer (disparity d = 0 at x-axis origin), where it is equitable to both self and others, objectively. At this vertical y-axis, the proposed offer is absolutely equitable for both self and others. Thus, the dividing vertical line represents objective fairness relative to any neutral third party (independent of the relative self- centered or other-centered frame of reference). <<FIGURE OMITTED>> 3.3. Decision Criterion Based on Offer-Ratio If the decision criterion were based on the monetary offer- ratio in UG, then it also corresponds to the decision criterion based on the disparity variable in the relativistic fairness- equity model. For instance, if the acceptance decision criterion were set at a specific offer-ratio (at a specific disparity), then the decision space would be divided vertically into two halves instead of four quadrants. The vertically dividing-line is the decision threshold that is based on disparity. This dividing-line is a given by: d=ε (5) where ε is the specific offer-ratio (or disparity) used to determine an acceptance decision. The decision criterion based on disparity is given by: +1, δ =  − 1 , if d ≥ ε i f d < ε ( 6 ) 3.4. Determination of the Decision Threshold using Both Fairness and Disparity Criteria Given that the fairness stimulus-response function in Eq. 4 is used as one of the decision criteria and the disparity in Eq. 6 as the other criterion, then the intersection of these two decision thresholds would determine the exact location (quadrant) within the fairness-equity space in which the decision were made. If both fairness and disparity were used as the criteria, then the decision space where the decision is made is given by: +1, δ =  − 1 , if f ≥ θ and d ≥ ε i f f < θ a n d d < ε ( 7 )

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Any decisions made outside of the decision space in Eq. 7 would appear as irrational, because it is inconsistent with using both fairness and disparity as the criteria. But such paradoxical decisions are not necessarily irrational, but rather caused by using solely one decision variable as the criterion — such as using either fairness or disparity as the criterion. Examples of such paradoxical decision spaces are:

+1, if f ≥ θ and d < ε  
δ =  − 1 , i f f < θ a n d d ≥ ε ( 8 )

+1,

if f < θ and d ≥ ε i f f ≥ θ a n d d < ε

δ =  − 1 ,

( 9 )

It is only paradoxical if both criteria were used, as in Eq. 8 and Eq. 9. But if one of the criteria were used, as in Eq. 4 or Eq. 6, no paradox or irrationality would exist. The paradoxical decision spaces in Eq. 8 and Eq. 9 would merely be a subspace captured by either Eq. 4 or Eq. 6, resolving the paradox or irrationality. That is, if a person decides based solely on the fairness criterion, irrespective of the disparity in the monetary offer, or if money is not an issue for the person, then it is perfectly rational to reject money, because money is not an issue. There can be many other reasons to reject an equitable or accept an inequitable, nonetheless monetary gain/loss is not one of the criteria.

3.5. Identification of Decision Criteria in the Decision Space with Respect to the Fairness-Equity Quadrant

Given that the specific perception of fairness and equity can be represented by the fairness-equity quadrants, we can identify the decision criteria by the graphic location of the quadrant in which the decision threshold is located. That is, if the acceptance decision is located in the hyper-fair and hyper-equitable (upper-right) quadrant, and the rejection decision is located in the unfair and inequitable (lower-left) quadrant, then the decision made is often considered as logical/rational. The exact location of the decision threshold in these quadrants is dependent on the fairness biases, as reviewed in the above sections.

3.6. Rational Decisions due to a Shifting of the Decision Space into a Paradoxical Fairness-Equity Quadrant

On the other hand, if the decision is located in the hyper- fair and inequitable (upper-left) quadrant, then the decision appears to be paradoxical, when a person considers inequitable offers as fair in the decision. Most often, this **paradoxical decision** is assumed to be irrational, but in fact, is **logically consistent** with the relativistic fairness-equity model. This is because the location of the decision criterion is merely being shifted to the upper-left quadrant by the fairness biases in the stimulus-response function. Thus, this results in a decision bias that seems paradoxical or illogical, but it is merely caused by a shift of the decision space into a different fairness-equity quadrant, without contradicting any logical principles for fairness assessment or decision-making. It is merely a result of the **fairness bias**, which **subsequently affects the decision.**

Similarly, if the **decision** is located in the **unfair** and hyper- equitable (lower-right) **quadrant**, then the **decision** appears to be **paradoxical** when a person considers **hyper-equitable offers** as **unfair** in the **decision.** This paradoxical decision is also appeared to be irrational, but in fact, is logically consistent with a shift in the decision space into the lower- right fairness-equity quadrant, without contradicting any logical principles for fairness assessment or decision-making.

The paradoxical decision can be identified as a shift of the **decision space** in the fairness-equity quadrant caused by a **shift** in the **fairness bias.**

3.7. Decisions Based on Fairness Criterion Rather than the Monetary Gain Criterion

Because the amount of monetary gain or loss in UG is directly linked to the amount of disparity in the offer when a person accepts or rejects the offer, an acceptance decision would result in a monetary gain, and a rejection decision would result in monetary loss. Thus, if monetary gain or loss were the criterion for the acceptance or rejection decision, then monetary offer of any amount would always result in an acceptance decision, independent of fairness. Therefore, the decision space for acceptance decision would span all four fairness-equity quadrants.

Thus, the monetary gain or loss is a consequence of the decision rather than the criterion of decision in UG. That is, if a person accepts the money, it will always be a monetary gain. If a person rejects the money, it will always be a monetary loss. The monetary gain or loss is caused by the decision. If the decision were to use monetary gain or loss as the criterion, then the decision is already predetermined, without any regards to fairness or disparity. If the decision were not predetermined by the consequence of monetary gain or loss, then a person could use fairness, disparity/equity or both in the decision criterion (assuming fairness and disparity/equity were the two given choices in the decision, as in the UG paradigm).

If either one criterion — **fairness** or disparity/equity — **were used** as the **decision criterion**, then **no paradoxical** or **seemingly irrational decision** **would exist**. If both criteria — fairness and disparity/equity — were used as the decision criteria simultaneously, then there are some conditions in which the decision may appear to be paradoxical (as in Eq. 8 or Eq. 9). But such paradoxical decision is merely a shift of the decision criterion into the decision space, which is caused by a shift in the fairness perception (i.e., caused a fairness bias) rather than being irrational. The experimental evidence in the companion paper [1] also showed that human subjects behaved precisely as predicted by the relativistic fairness- equity model, which is logically consistent without being irrational when they rejected the monetary offer.

**4. Summary**

The mathematics of the decision-making process using fairness and disparity as the decision criteria is derived theoretically using a relativistic fairness-equity model. The results show that the logically consistent **decisions can be made using either fairness or disparity, or both criteria, without being irrational or paradoxical.** The monetary gain or loss is a consequence of the decision in UG rather than a decision criterion, unless the decisions were predetermined by the monetary gain or loss. These logically consistent decision criteria were deduced graphically by the location of the fairness-equity quadrant in which the decisions were made. The location of the decision space quantifies the rationale in which the decisions were made, i.e., the decision criteria used in making such a decision.