Desert and Economic Interdependence*

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Abstract

Outside of philosophy, the idea that workers deserve to be paid according to their productive contributions is very popular. But political philosophers have given it relatively little attention. In this paper, I argue against the attempt to use this idea about desert and contribution to vindicate significant income inequality. I claim that the inegalitarian invocation of reward according to contribution fails on its own terms when the following condition holds: the size of each worker's contribution depends on what others *only together* do. When workers only together make another more productive, that is not reflected in the sum of their own contributions. Thus reward according to contribution recognizes individual accomplishments without recognizing their dependence on collectives, dependence that is, in complex economies, ubiquitous.

On February 19, 2020, at the ninth Democratic presidential debate, moderator Chuck Todd asked Michael Bloomberg about his fortune: "[S]hould you have earned that much money?" Bloomberg, eventually, said that he should have. Some time later, Bernie Sanders turned to him with an objection: "You

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know what, Mr. Bloomberg, it wasn't you who made all that money. Maybe your workers played some role in that as well."

This paper is about Sanders' objection. It is an attempt to marshal that objection against one possible justification for Bloomberg's answer: the familiar claim that workers *deserve* income commensurate with their *contribution* to the economy, where it is assumed that some workers contribute much more than others. Call that claim the Inegalitarian Contribution Principle.

Despite its familiarity, egalitarian political philosophers have provided few arguments that would refute the Inegalitarian Contribution Principle on its own terms.[1] That is what I try to do here: I offer an argument against the principle that relies only on premises to which its defenders are committed. Most importantly, I do not appeal to the fact that workers do not wholly control or choose the magnitudes of their contributions—that is, that they are in those senses not responsible for them. Most defenses of the Inegalitarian Contribution Principle function as arguments for the idea that workers can deserve more than others on the basis of differences in contribution made possible by differences in "natural talents," talents that are unchosen and out of their control. To simply assume otherwise is thus to risk begging the question.[2]

[1]Exceptions include Sean Aas, "You Didn't Built That: Equality and Productivity in a Complex Society," *Philosophy and Phenomenological Research*, XCVIII, 1 (January 2019): 69–88 and David Alm, "Desert and the Control Asymmetry," *Ethical Theory and Moral Practice*, XIII, 4 (August 2010): 361–375. See notes 28 and 43, respectively. Jeppe von Platz focuses on the division of output between capital and labor, but some of his arguments bear on the distribution of labor income, too. "The Principle of Merit and the Capital-Labour Split," *Economics and Philosophy*, XXXVIII, 1 (March 2022): 1–23. See notes 22 and 27.

[2]But for examples of the appeal to responsibility, see Frank Knight, "The Ethics of Competition," *The Quarterly Journal of Economics*, XXXVII, 4 (August 1923): 579–624, at pp. 598–599; F. A. Hayek, *The Constitution of Liberty* (Chicago: University of Chicago Press, 1960), pp. 94–5; John Rawls, *A Theory of Justice* (Cambridge, MA: The Belknap Press of Harvard University Press, 1971), §§17, 47–48; James C. Dick, "How to Justify a Distribution of Earnings," *Philosophy and Public Affairs*, IV, 3 (Spring 1975): 248–272, at p. 263; Wojciech Sadurski, *Giving Desert Its Due: Social Justice and Legal Theory* (Dordecht, Holland: D. Reidel Publishing Company, 1985), ch. 5; Robert Young, "Egalitarianism and Personal Desert," *Ethics*, CII, 2 (January 1992): 319–341; Serena Olsaretti, *Liberty, Desert, and the Market: A Philosophical Study* (Cambridge: Cambridge University Press, 2004), pp. 24–33; Richard Arneson, "Desert and Equality," in N. Holtug and K. Lippert-Rasmussen, eds., *Egalitarianism: New Essays on the Nature and Value of Equality* (Oxford: Oxford University Press, 2007), pp. 262–93, at p. 266; and Andrew Lister, "Wages, Talents, and Egalitarianism," *Erasmus Journal for Philosophy and Economics*,

In addition, to fall back on the idea that some workers are simply *unlucky* to have less marketable talents than others is to risk obscuring a deeper objection, the one that I try to recover in this paper: workers who might seem to contribute much less than others when considered one by one often together make possible the contributions of the workers who would, on the basis of those contributions, claim more than them. This is, in a way, among the most basic presuppositions of trade unionism.[3] And this is why, as we will see, the very invocation of contribution that might seem to justify Bloomberg's answer in fact vindicates Sanders' objection to it.

I argue in particular against the most popular conception of "contribution," a *difference-making* one. In brief: (1) a person can only be deserving in virtue of something to the extent that it is *about* that person; and (2) in any complex economy, the size of any difference that a worker makes—e.g., their *marginal revenue product*—is mostly not about that worker. This is because of its dependence on other workers, and what they only together do.

In Section 1, I motivate a particular subjunctive reading of the Inegalitarian Contribution Principle: reward according to marginal revenue product. In Section 2, I offer a case in which this reading of the principle seem to misfire. In Sections 3 and 4, I argue that complex economies are relevantly analogous to that case.

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xi, 2 (Autumn 2018): 34–56. Note that two of the main defenders of the Inegalitarian Contribution Principle, David Miller and Thomas Mulligan, do accept a principle of equality of opportunity; in that sense their theories are "responsibility-sensitive." But the principle is relatively weak—basically Rawlsian fair equality of opportunity. See David Miller, *Principles of Social Justice* (Cambridge, MA: Harvard University Press, 1999), pp. 180–1, 314 n. 22; and Thomas Mulligan, *Justice and the Meritocratic State* (New York: Routledge, 2018), pp. 34–6.

[3]From Victor Serge's first novel: "A man alone is nothing more than an insect in a field, not needed anymore: there are too many hands on the earth, machines get along better without you and me. No one can look out for himself anymore or save himself... People can only save themselves by the millions, each playing his little tiny chance with the others... If the working class lays its head on the chopping block, don't think you'll be spared as an exception or forgotten. There is no personal Providence watching over you... We can only count on ourselves, but all together..." Victor Serge, *Last Times* (New York: New York Review Books, 2022 [1946]), p. 257.

1 The Inegalitarian Contribution Principle

1.1 Preliminaries

I follow convention in treating desert as a three-place relation: a *desert subject* deserves some *desert object* in virtue of a *desert base*.[4] Call putative instances of this schema *desert claims*. I focus here on economic desert claims, where the desert base involves economic activity and the desert object is some material reward. I do not define "economic activity." And, for simplicity, the reward I consider throughout is money.

The economic desert claims that I evaluate are *pre-justicial* and *pre-institutional*.[5] They are pre-justicial in that their content is not parasitic on an independent conception of justice. (Indeed I will assume in the background of my discussion *desertism*, the view that distributive justice consists in giving people what they deserve.[6]) They are pre-institutional in that they cannot be deflated to statements of institutional entitlement.[7]

1.2 The Principle

The Inegalitarian Contribution Principle says that some workers contribute much more and so deserve much more than others. What motivates this principle? Consider first

Equity "What we [deserve to] get out of an enterprise [is] commensurate with what we put into it."[8]

[4]See, for example, Joel Feinberg, "Justice and Personal Desert," in *Doing and Deserving: Essays in the Theory of Responsibility* (Princeton: Princeton University Press, 1970), pp. 55–94, at p. 61; John Kleinig, "The Concept of Desert," *American Philosophical Quarterly*, VIII, 1 (January 1971): 71–78, at p. 71; and Serena Olsaretti, "Justice, Luck, and Desert," in John S. Dryzek, Bonnie Honig, and Anne Phillips, eds., *The Oxford Handbook of Political Theory* (Oxford: Oxford University Press, 2008), 436–449, at p. 438.

[5]See Samuel Scheffler, "Justice and Desert in Liberal Theory," in *Boundaries and Allegiances: Problems of Justice and Responsibility in Liberal Theory* (Oxford: Oxford University Press, 2003), 173–196, at p. 185.

[6]See Jeffrey Moriarty, "Desert-based Justice," in Serena Olsaretti, ed., *The Oxford Handbook of Distributive Justice* (Oxford: Oxford University Press, 2018).

[7]Cf. Nien-hê Hsieh, "Moral Desert, Fairness, and Legitimate Expectations in the Market," *The Journal of Political Philosophy*, VIII, 1 (March 2000): 91–114, at secs. III–IV and N. Scott Arnold, "Why Profits Are Deserved," *Ethics*, XCVII, 2 (January 1987): 387–402.

[8]Mulligan, *Justice and the Meritocratic State*, *op. cit.*, p. 45.

This quote comes from Thomas Mulligan. He argues that the *equity theory* literature within social psychology shows that Equity has near-universal appeal.[9] I accept it here for the sake of argument. And I agree with Mulligan that it seems to provide support for the

Contribution Principle Workers deserve economic reward commensurate with the magnitude of their productive contribution.[10]

To get from here to the inegalitarian version, we simply add the assumption that some workers contribute much more than others:

Inegalitarian Contribution Principle (i) (Contribution Principle); and (ii) some workers contribute much more than others.

My argument targets not the Contribution Principle *simpliciter* but the Inegalitarian Contribution Principle. I argue, in effect, that it relies on an equivocation: the conception of contribution on which some workers contribute much more than others (the second conjunct) is one that renders the Contribution Principle (the first conjunct) implausible.

[9] *Ibid.*, ch. 3. For other overviews of relevant empirical research, see David Miller, *Principles of Social Justice* (Cambridge, MA: Harvard University Press, 1999), ch. 4 and Emin Karagözoğlu, "Bargaining Games with Joint Production," in Rachel Croson and Gary E. Bolton, eds., *The Oxford Handbook of Economic Conflict Resolution* (Oxford: Oxford University Press, 2012), 359–371.

[10] Defenders include Miller, *Principles of Social Justice*, *op. cit.*, ch. 6; David Miller, "Our Unfinished Debate about Market Socialism," *Politics, Philosophy, and Economics*, XIII, 2 (2014): 119–139; Mulligan, *Justice and the Meritocratic State*, *op. cit.*; Huub Brouwer and Thomas Mulligan, "Why Not Be a Desertist?: Three Arguments for Desert and against Luck Egalitarianism," *Philosophical Studies*, CLXXVI, 9 (2019): 2271–2288; Stephen Kershnar, "Giving Capitalists Their Due," *Economics and Philosophy*, XXI, 1 (2005): 65–87; and Teun J. Dekker, "Desert, Democracy, and Consumer Surplus," *Politics, Philosophy, and Economics*, IX, 3 (2010): 315–338. Within economics, the idea goes back to John Bates Clark, *The Distribution of Wealth: A Theory of Wages* (New York: Kelley & Millman, Inc., 1956 [1899]). For a more recent statement, see N. Gregory Mankiw, "Spreading the Wealth Around: Reflections on Joe the Plumber," *Eastern Economic Journal*, XXXVI (2010): 285–298 and "Defending the One Percent," *Journal of Economic Perspectives*, XXVII, 3 (Summer 2013): 21–34. Ronald Dworkin's egalitarianism arguably combines the Contribution Principle with equality of resources (but with natural talents—"endowments"—treated as resources). See Ronald Dworkin, *Sovereign Virtue: The Theory and Practice of Equality* (Cambridge, MA: Harvard University Press, 2000), ch. 2. See also Karl Marx, "The Critique of the Gotha Program," in Robert C. Tucker, ed., *The Marx-Engels Reader*, 2nd ed. (New York: W. W. Norton & Company, 1978 [1875]), pp. 525–541, at pp. 529–30.

1.3 Disambiguating "Contribution"

The defender of the Inegalitarian Contribution Principle needs a conception of "productive contribution" according to which some workers contribute much more than others. Perhaps the most plausible conception that meets this criterion is a *subjunctive* or *difference-making* one.

The most prominent species of subjunctive contribution is the one from neoclassical economics, *marginal (revenue) product*. A worker's *marginal product* is the difference between output with the worker and output without them, where (a) the worker is not replaced by a new hire and (b) the other factors of production are efficiently re-arranged in their absence.[11] Their marginal *revenue* product is the market value of their marginal product.

The marginal-revenue-product reading of the Contribution Principle (from now on, the Contribution Principle$_{\mathrm{MRP}}$) plausibly entails, in any complex economy, the Inegalitarian Contribution Principle: some workers will, presumably, have much larger marginal revenue products than others. In particular, the Contribution Principle$_{\mathrm{MRP}}$ holds out the possibility of vindicating precisely those inequalities that would, per the neoclassical theory of wages, arise in an idealized free market for labor. This is part of the conception of justice that Samuel Freeman argues is characteristic of *classical liberalism*.[12] But the principle can also be used in an attempt to vindicate labor market inequalities in societies that otherwise depart radically from the classical liberal ideal, like market socialist ones.[13]

1.4 Motivating Marginal Revenue Product

I have just suggested that the Contribution Principle$_{\mathrm{MRP}}$ entails the Inegalitarian Contribution Principle. But why take the Contribution Principle$_{\mathrm{MRP}}$ seriously?

Here, I take it, is the best answer:[14] The point of an economy is, very

[11] Arthur Cecil Pigou, *The Economics of Welfare* (New York: Routledge, 2017 [1952]), pp. 133–4 and Robert Nozick, *Anarchy, State, and Utopia* (New York: Basic Books, 1974), p. 187n. Different definitions might do away with (b), but (a) is necessary for marginal revenue product to play its theoretical role within neoclassical economics.

[12] Samuel Freeman, "Capitalism in the Classical and High Liberal Traditions," *Social Philosophy and Policy*, XXVIII, 2 (July 2011): 19–55, at p. 37. Cf. Lister, "Wages, Talents, and Egalitarianism," *op. cit.*, pp. 37–43.

[13] See Miller, "Our Unfinished Debate about Market Socialism," *op. cit.*

[14] See generally Miller, *Principles of Social Justice*, *op. cit.*, pp. 184–8; Dekker, "Desert,

roughly, to allocate resources in a way that redounds to the benefit of its participants. What a worker "puts into" the economy, per Equity, is thus given by the degree to which their labor benefits others, the difference they make to something like aggregate preference satisfaction. And that is what marginal revenue product measures.[15]

This story faces some immediate problems; marginal revenue product is not a perfect measure of benefiting, even in an idealized market, and even understanding benefit in terms of preference satisfaction. First, goods and services of the same market value can be characterized by different levels of *consumer surplus*, the gap between what a consumer would be willing to pay and what they actually pay.[16] Second, a worker's marginal revenue product will (all else equal) be larger if their labor benefits those with more purchasing power. Marginal revenue product is a function of willingness to pay, which is in turn "a function not only of perceived values but also of resources available for bidding on those values. Poorer people show up as less willing to pay even if, in some other sense, they value the good as much."[17]

Democracy, and Consumer Surplus," *op. cit.*, p. 320; David Alm, "Desert and Aggregation," *The Journal of Political Philosophy*, XVIII, 2 (2010): 156–177, at p. 157; and Mulligan, *Justice and the Meritocratic State*, *op. cit.*, pp. 129–30.

[15]For a classic statement, see Clark, *The Distribution of Wealth*, *op. cit.*, pp. 392–3.

[16]Hsieh, "Moral Desert, Fairness, and Legitimate Expectations in the Market," *op. cit.*, pp. 96–9 and Dekker, "Desert, Democracy, and Consumer Surplus," *op. cit.*

[17]David Schmidtz, "A Place for Cost-Benefit Analysis," *Philosophical Issues*, XI (2001): 148–171, at p. 163. Cf. Miller, *Principles of Social Justice*, *op. cit.*, pp. 187–8. This second problem is related to Daniel Hausman's observation that changes in wages can lead to changes in marginal revenue products just as changes in marginal revenue products can lead to changes in wages: purchasing power, and thus consumer demand, is one mechanism by which wages can determine marginal revenue products. Daniel Hausman, "Supply and Demand Explanations and Their *Ceteris Paribus* Clauses," in *Essays on Philosophy and Economic Methodology* (Cambridge: Cambridge University Press, 1992), ch. 9. But I am not sure that I understand Joseph Heath's claim that this joint determination of wage and marginal revenue product in itself shows that marginal revenue product is not a normatively significant conception of contribution. Consider the example, meant to illustrate this claim, of workers in different countries who are paid different wages despite performing the same jobs. Either (a) these workers have the same marginal revenue products, or (b) they do not. If (a), the difference in their wages is not a counterexample to marginal revenue product as a conception of contribution but grist for its mill. If (b), which Heath must therefore intend, then either (i) their labor makes the same difference to aggregate preference satisfaction, or (ii) it does not. As far as I can tell it is only (i) that should worry the defender of the normative significance of marginal revenue product. Thus it is only when the joint determination of wage and marginal revenue product generates a gap between

I set these problems aside: I will assume that marginal revenue product is at least a rough proxy for a normatively significant conception of contribution. Philosophers and economists who are skeptical can read in its place the contribution to preference satisfaction for which I am treating it as a proxy, or indeed more or less any other subjunctive conception of contribution;[18] my argument does not rely on features that distinguish marginal revenue product from other subjunctive conceptions. In this sense marginal revenue product is my target both in its own right and as a representative of a class.

But let me note one final reason to take the Contribution Principle$_{\mathrm{MRP}}$ seriously. The difference that a worker makes to the value of output can be interpreted as measuring the *strength* or *importance* of their labor as a *partial cause* of that value—that is, their degree of *causal responsibility* for it. (I will use these terms interchangeably.)[19] This interpretation is invited by the view, articulated in a series of papers by Robert Northcott, according to which the importance of a partial cause is given by the difference that it makes to what it partly causes.[20]

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marginal revenue product and benefiting that it seems to me a problem. Cf. Joseph Heath, "On the Very Idea of a Just Wage," *Erasmus Journal for Philosophy and Economics*, XI, 2 (Autumn 2018): 1–33, at pp. 14–15. I thank an anonymous reviewer for pressing me to say more about Heath's claim. Finally, for an argument against the desert of profits in non-ideal markets that makes use of the gap between marginal revenue product and benefiting, see John Christman, *The Myth of Property: Toward an Egalitarian Theory of Ownership* (New York: Oxford University Press, 1994), ch. 5.

[18] Including, for example, the conception of a producer's contribution as the sum of the reservation prices of each consumer who buys the good or service in question. See Teun Dekker, "Just Wages, Desert, and Pay-What-You-Want Pricing," *Erasmus Journal for Philosophy and Economics*, XI, 2 (Autumn 2018): 144–162.

[19] Because talk of causation is redolent of libertarian accounts of justice in acquisition, let me flag that the present motivational story does not presuppose the thesis of *self-ownership*. It presupposes merely the denial of what T. M. Scanlon calls the strong interpretation of Rawls's idea of "arbitrariness from a moral point of view." According to this strong interpretation, "it is always objectionable for distributions to be determined by ... 'arbitrary' factors," like natural talents. (The weaker interpretation allows that distributions might legitimately "track" morally arbitrary factors as long as there is an independent justification for that tracking. This is just what the motivational story is trying to provide.) See T. M. Scanlon, *Why Does Inequality Matter?* (Oxford: Oxford University Press, 2018), pp. 46–7.

[20] Robert Northcott, "Comparing Apples with Oranges," *Analysis*, LXV, 1 (January 2005): 12–18; "Causal Efficacy and the Analysis of Variance," *Biology and Philosophy*, XXI (2006): 253–276; and "Degree of Explanation," *Synthese*, CXC (2013): 3087–3105. There is a wrinkle. Among the basic challenges facing any counterfactual analysis of causation is

In a discussion that has been influential among political philosophers, Amartya Sen seems to deny this causal interpretation of marginal revenue product: he argues that marginalist calculus does not tell us who "'actually' produced what."[21] But in fact the causal interpretation that I am floating is not the one Sen denies. Sen in effect denies conditionals like these: if a worker's marginal product is, say, a single chair, then there exists a chair that this worker built. Such conditionals will indeed often be false. But their falsity is no objection to the distinct claim that the difference that this worker makes—a single chair—measures their importance as a partial cause of output.[22] More generally, while Sen claims that causal contributions cannot be disentangled in cases of joint production, in the decades since he wrote philosophers have proposed several measures for doing just this;[23] Northcott's is one of them.

the issue of *(early) preemption*, going back to David Lewis, "Causation," this JOURNAL, LXX, 17 (1973): 556–567, at p. 567. Briefly: some events make no difference to what they (nonetheless) cause because they preempt their would-be replacements. Because I assume that the issue of preemption carries over from these analyses to the difference-making measure of causal strength, I assume that the restrictions that here define marginal revenue product drive a wedge between it and this measure: those restrictions account for the preemption of workers outside a company, via (a), but not inside. I ignore this in the main text. The issue of replaceability comes up in only one place in my argument, and not where one might expect: compare note 45 with note 60.

[21]Amartya Sen, "The Moral Standing of the Market," *Social Philosophy and Policy*, II, 2 (Spring 1985): 1–19, at pp. 15–7. See also Amartya Sen, "Just Deserts," *The New York Review of Books*, XXIX, 3 (March 4 1982); Nozick, *Anarchy, State, and Utopia*, *op. cit.*, p. 187n; Alan Wertheimer, *Exploitation* (Princeton: Princeton University Press, 1996), p. 229; and, perhaps, Scanlon, *Why Does Inequality Matter?*, *op. cit.*, pp. 128–9.

[22]This also explains the problem with the common objection that there is something unfair about the wages of all workers being set by the marginal revenue product of the "marginal" worker, or the "final unit of labor." See, for example, Von Platz, "The Principle of Merit and the Capital-Labour Split," *op. cit.*, p. 10. The problem is that every worker is the marginal worker in this context: to ask what difference a worker makes is to ask what would happen if they, and they alone, stopped working. See Heath, "On the Very Idea of a Just Wage," op. cit., pp. 11–12.

[23]For an overview, see Alex Kaiserman, "'More of a Cause': Recent Work on Degrees of Causation and Responsibility," *Philosophy Compass*, XIII, 7 (July 2018): e12498.

2 A Counterexample

2.1 The Aboutness Principle

I have been suggesting that the Contribution Principle$_{\mathrm{MRP}}$ is worth taking seriously. I now argue that it is, nonetheless, false. This is because, in complex economies, the size of a worker's marginal revenue product is mostly about other workers. The basic idea: individual workers are made enormously more productive by how their specialized labor fits together with what other workers only together do; the size of their contribution is mostly a matter of what John Rawls calls "complementarities between talents."[24]

In this way, I argue, the Contribution Principle$_{\mathrm{MRP}}$ violates what Mulligan dubs the Aboutness Principle, a conceptual constraint that originates with Joel Feinberg and says, very roughly:

Aboutness Principle A desert subject can deserve on the basis of something only to the extent that it is about them.[25]

I assume, with my interlocutors, that some version of this principle must be true, and indeed that it distinguishes a desert-based rationale for economic reward from, say, an instrumental one. But as part of avoiding premises that those interlocutors might reject, I do not defend a particular interpretation of "aboutness." Instead I argue that, on *any* interpretation, the size of a worker's marginal revenue product is mostly about others.

This argument is inspired by Elizabeth Anderson's and Samuel Scheffler's comments about the interdependence that characterizes complex economies.[26] T. M. Scanlon, picking up on their comments, states something like my thesis:

> [An individual's marginal productivity] depends on the overall productive system ... Contribution in this sense is therefore not

[24] John Rawls, *Justice as Fairness: A Restatement* (Cambridge, MA: The Belknap Press of Harvard University Press, 2001), p. 76.

[25] Mulligan, *Justice and the Meritocratic State*, *op. cit.*, p. 66 and Feinberg, "Justice and Personal Desert," *op. cit.*

[26] Elizabeth Anderson, "What is the Point of Equality?," *Ethics*, CIX, 2 (January 1999): 287–337, at p. 321 and Scheffler, "Justice and Desert in Liberal Theory," *op. cit.*, p. 191.

a distinct property of the individual that is a basis for a claim of desert.[27]

But Scanlon says this almost in passing, and an argument for the thesis has never been worked out.[28]

2.2 Constructors

I now present a counterexample to the Contribution Principle$_{\mathrm{MRP}}$. It is a case in which, because of a particular kind of interdependence, the sizes of workers' marginal revenue products are not, intuitively, wholly "about" them. This causes the Contribution Principle$_{\mathrm{MRP}}$ to generate implausible verdicts. In the next subsection (2.3), I identify more precisely the two features of the case that cause the principle to misfire. I then argue (Sections 3 and 4) that complex economies share these features.

The case:

Constructors One hundred workers come together to construct a house. The house is special, and this is why they build it: it will, when finished, multiply whatever is placed inside. The house is made of mud and thatch. Each worker brings a bit of one or the other. Without any

[27] T. M. Scanlon, "Giving Desert Its Due," *Philosophical Explorations*, XVI, 2 (2013): 101–116, at p. 114. See also L. T. Hobhouse, *The Elements of Social Justice* (Longdon: George Allen and Unwin Ltd., 1922), p. 162. I interpret both Scanlon's and Hobhouse's comments, and my own argument, as distinct from the so-called "disentanglement problem," the problem of disentangling individual contributions in cases of joint production. See Von Platz, "The Principle of Merit and the Capital-Labour Split," *op. cit.*, p. 11. I am less impressed by this problem than some others. For example, in a case where two factor inputs are both necessary for production, I am happy with a "disentangling" according to which each makes a contribution equal to all of output. The problem I am interested in is whether workers can take credit for what are, I concede, their contributions.

[28] In a recent article, Sean Aas offers a different interdependence argument: those who contribute more "are responsible for the conditions that lead others to contribute less. Because of this responsibility, it is in a certain sense 'their fault' that they contribute more and others contribute less; thus, I propose, they cannot claim more on the basis of this difference in contribution." Aas, "You Didn't Built That: Equality and Productivity in a Complex Society," *op. cit.*, at p. 79. I am making in some sense the reverse the point, which is compatible with Aas's: those who individually contribute less are together partly responsible for the contributions of those who individually contribute more. Thus those who contribute more could not on that basis claim more even if they were not responsible for the conditions that lead others to contribute less.

> given bit, the house still would have gotten built: no individual makes a difference to its construction. Having finished, each worker brings to it the wheat they could produce on their own. All but one of the workers are equally productive, each able to produce one bushel. The last is more productive, able to produce ten. The house multiplies their offering a hundred times over, leaving them with nearly 11,000 bushels.

The Contribution Principle$_{\mathrm{MRP}}$ says that the last worker deserves the value of one thousand bushels ($= 10 \times 100$), while the rest each deserve the value of one hundred ($= 1 \times 100$).

This is, it seems to me, intuitively the wrong result. While the last worker does make a difference of one thousand bushels, the difference is a function of two things: the number of bushels that the worker produces on her own, and the multiplicative effect of the house. But she did not create the house herself. The other workers are in this sense co-authors of the difference that this last worker makes. The Contribution Principle$_{\mathrm{MRP}}$ generates a counterintuitive result because it is blind to this co-authorship: the construction of the house is something that the workers do only together; workers' contributions to its construction do not show up in their individual marginal revenue products. I say more precisely what I mean by "only together" in a bit.

First, note that "deserve" can take a non-comparative or comparative reading. When a person non-comparatively deserves something, they deserve it no matter what anyone else gets. When they comparatively deserve something, what they deserve essentially involves what some others get.[29] These can come apart. Consider:

	Non-comparatively deserves	*Comparatively deserves*
A	4	twice what B gets
B	2	half of what A gets

If B gets 4, then A continues to non-comparatively deserve 4, but A comparatively deserves 8, because that is twice what B gets.

In my view the comparative reading does not even get off the ground in this case. Because each worker's contribution depends on others' labor, it is implausible to claim, as non-comparative desert would have us do, that any

[29] Joel Feinberg, "Noncomparative Justice," *The Philosophical Review*, LXXXIII, 3 (July 1974): 297–338, at pp. 299–300 and Shelly Kagan, *The Geometry of Desert* (Oxford: Oxford University Press, 2012), pp. 349–353.

of the workers deserve a reward on the basis of their contribution no matter what the others get. Non-comparative desert denies that the normative fates of the deserving are intertwined, and that seems inappropriate when the very things that set their fates are intertwined.[30]

So we are left with the comparative reading. Consider then this more precise description of the verdict rendered by the Contribution Principle$_{\mathrm{MRP}}$: the last worker deserves the value of one thousand bushels, and the others the value of one hundred, as a way of satisfying her comparative claim to ten times what they get. The problem, as I suggested, is the co-construction of the house. While the last worker brings ten times more wheat than each of the others, they all of them contribute equally to that construction. So whatever the right ratio of their deserved rewards, it must be less unequal than ten to one.[31]

[30]This is to rehearse one rationale for what Scheffler calls *holism about distributive justice*. Scheffler, "Justice and Desert in Liberal Theory," *op. cit.*, p. 191; "Distributive Justice and Economic Desert," in *Desert and Justice*, *op. cit.*, pp. 69–92, at p. 82; and "Rawls and Utilitarianism," in Samuel Freedom, ed., *The Cambridge Companion to Rawls* (Cambridge: Cambridge University Press, 2003), pp. 426–459, at pp. 445–6.

[31]This might seem too quick. After all, there is a sense in which each worker benefits equally from the house: they enjoy the same multiplicative effect. This invites the thought that the multiplicative effect "cancels out," such that ten to one is the right ratio after all. (I thank an anonymous reviewer for pressing this objection.) But this thought embeds a mistake that is exposed by the following argument, which anticipates what I say in the next section. Begin again with the intuitive claim that the group, *qua* constructors, are co-authors of each individual's marginal revenue product. Now ask: how important is the group for the size of a given worker's marginal revenue product? Roughly as important as the worker in question. Both the group *qua* constructors and the worker in question make nearly all the difference to the size of that worker's marginal revenue product. For example: without the last worker's labor, her own marginal revenue product would, of course, be zero; but without the house, her marginal revenue product would be almost zero—only ten. She makes all the difference to her own marginal revenue product ($1,000 = 1,000 - 0$); the house makes nearly all the difference ($990 = 1,000 - 10$). If roughly half the credit for each marginal revenue product goes to the group *qua* constructors, then the correct ratio of rewards must be less unequal than that called for by Contribution Principle$_{\mathrm{MRP}}$. The application of the multiplicative effect to the last worker's offering is more valuable than its application to the other workers' offerings, and any case for the claim that some of this greater value should redound to the last worker is also a case for the claim that some of it should redound to the group *qua* constructors. Put another way, the workers are not just beneficiaries of the house's multiplicative effect; they are also its authors, and as its authors they have a claim to some of each worker's marginal revenue product for the very same reason that the worker does: because of the difference that they make to it.

This response generates a distribution only about half as unequal as reward according

2.3 Diagnosing the Problem

Why does the Contribution Principle$_{\text{MRP}}$ misfire in Constructors, and why does it misfire in an inegalitarian direction? It is not the mere fact of interdependence. It is, as I suggested, because what each worker's contribution depends on—the construction of the house—is something that workers do only together. When I say that they do it "only together" I mean this: they make a difference together that is greater than the sum of the differences they make individually. The limiting case of this phenomenon is a case of *collective impact*, where "people can collectively cause some ... significant outcome ... but no individual act seems to make a difference."[32] This is a limiting case in that individuals (seem to) make *no* difference, rather than merely differences that sum to less than the difference they together make. The construction of the house is such a limiting case; it is, to use another piece of jargon, a case of *symmetric overdetermination*.[33] As we will see, complex economies instance only the weaker version of the phenomenon. In other words, I do not claim that individual workers make no difference to what drives the productivity of complex economies, as in Constructors; I claim only that the difference they make together outruns the sum of the differences they make individually. This will be enough to undermine the Contribution Principle$_{\text{MRP}}$.

But let me begin by diagnosing the more extreme situation in Constructors. There, two things are true of each worker:

Significance of Others The size of their marginal revenue product depends on what other workers do.

to marginal revenue product. Some political philosophers will be drawn to the more egalitarian claim that the workers should divide equally the entire *cooperative surplus*, the difference between what they produce together and the sum of what they could produce apart. But the reasoning in this response will be enough to generate a more egalitarian conclusion in actual economies.

[32]Julia Nefsky, "How You Can Help, Without Making a Difference," *Philosophical Studies*, CLXXIV, 11 (November 2017): 2743–2767, at p. 2744. For an overview of the main puzzle presented by such cases, see Julia Nefsky, "Collective Harm and the Inefficacy Problem," *Philosophy Compass*, XIV, 4 (April 2019): e12587.

[33]There are cases of symmetric overdetermination in which some of the overdeterminers seem more causally important than others, despite none making any difference. See Kaiserman, "'More of a Cause,"' *op. cit.* But, as I explain in note 60, the models of causal importance that can capture the differential importance of overdeterminers do not generate inegalitarian results in complex economies.

Insignificance of the Individual The sizes of others' marginal revenue products do not depend on what the one worker does.

These schematic claims jointly entail that the size of each worker's marginal revenue product depends on what workers only together do: because no individual worker makes a difference to others' marginal revenue products, per the Insignificance of the Individual, the Significance of Others must be capturing the dependence of an individual's marginal revenue product on a collective.

It is because individuals depend on others without others depending in turn on those individuals that the Contribution Principle$_{\text{MRP}}$ misfires, and in an inegalitarian direction. Take some worker whose marginal revenue product is larger than others'. Per the Significance of Others, other workers are in some sense co-authors of this one worker's marginal revenue product; it is less than wholly about the one worker, and they cannot take full credit for it. (Or so I argue below.) Call this the *prima facie* challenge to the Contribution Principle$_{\text{MRP}}$. It is merely *prima facie* because, in some cases, it is vulnerable to a simple reply: while the size of the one worker's marginal revenue product depends on others, the sizes of others' marginal revenue products depend on the one worker. More to the point, if others are much more dependent on this one worker than they are on other individual workers, then the simple reply would seem to offer a route back to the Contribution Principle$_{\text{MRP}}$, or at least some nearby version of the Inegalitarian Contribution Principle. But the Insignificance of the Individual blocks this. How can others be much more dependent on the one worker if they do not depend on the one worker at all? So: workers lose credit for their own (unequal) marginal revenue products, but they do not gain unequal credit for the marginal revenue products of others.

That story focuses on an individual worker. Another way to see that collective impact causes trouble for the Contribution Principle$_{\text{MRP}}$ is by retelling the story from the perspective of the other workers, the ones on whom the above protagonist depends. These others make a difference to the one worker's marginal revenue product. So they should, it would seem, get some credit for it. In simple cases, reward according to marginal revenue product might give them this credit: if they make the individual's marginal revenue product bigger, that can make their own bigger, too. But not when the Insignificance of Others holds. When they only together help another contribute, that is nowhere reflected in their own marginal revenue products.

Let me say a little more about this. Define an *interaction effect* as the quotient of what a group can make cooperatively and the sum of what each member would make non-cooperatively. In cases with large interaction effects, reward according to marginal product often has egalitarian, rather than inegalitarian, implications. Consider Northcott's version of a stock example:

> Imagine ... that adding one bag of Green fertilizer increases a plant's height by 2 inches, that adding instead a bag of Blue fertilizer increases it by 4 inches, but that adding both the fertilizers together does not increase the plant's height by 6 inches, as we might expect, but rather by 14 inches.[34]

Though Green is only half as effective as Blue when they are each on their own, when brought together, Green's marginal product ($10 = 14 - 4$) is similar to Blue's ($12 = 14 - 2$). The larger the interaction effect, the more similar their marginal products.

There is a very large interaction effect in Constructors. But in that case, unlike in the case of the two fertilizers, reward according to marginal revenue product has implausibly inegalitarian implications. Why? Because workers generate the interaction effect only together. This *hides* the generation of the interaction effect from the Contribution Principle$_{\text{MRP}}$. This is why that principle and the two schematic claims above point in different directions: the latter identify a collective achievement that the former cannot see.[35]

I am going to claim that complex economies are like Constructors in this respect. Those economies are likewise characterized by very large interaction effects: we make dramatically more together than we would apart; we live in a world built on the alchemy of superadditivity. And yet the Contribution Principle$_{\text{MRP}}$ likewise has implausibly inegalitarian implications in those economies, because workers generate the interaction effect only together.[36]

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[34]Northcott, "Degree of Explanation," *op. cit.*, p. 3100.

[35]An anonymous reviewer points out that one can think of collective impact as playing two distinct roles in a case like Constructors. First, it explains why the Contribution Principle$_{\text{MRP}}$ generates inegalitarian results—more precisely, results exactly as inegalitarian as the workers' offerings of wheat. Second, it explains why that result is implausible. But note that the explanations on offer are the same: the Contribution Principle$_{\text{MRP}}$ fails to capture what is responsible for workers' productivity because it is something that they do only together.

[36]The experiments from which support for Equity is inferred seem to testify to the intuitive appeal of distribution according to marginal product. But the games that feature

This line of thought can be understood as a development of Rawls's widely misunderstood claim that we should "regard the distribution of native talents as in some respects a common asset."[37] Here is what he says to clarify that claim in *Justice as Fairness*: "What is to be regarded as a common asset, then, is the distribution of native endowments, that is, the differences among persons… This variety can be regarded as a common asset because it makes possible numerous *complementarities between talents*."[38]

It is in light of these complementarities that the combination of Equity and subjunctive contribution, at first glance compelling, is in fact quite strained. Equity tells us to pattern outputs on inputs, on what workers put into the economy. But a worker's subjunctive contribution is not what they put into the economy. It is what results from what they put into the economy—the difference made by their skills and effort. The size of this difference is a consequence of cooperation, not an input to it. The view that Robert Nozick once entertained only dismissively is more or less right: given cooperative production, "everything is"—as Anderson puts it—"everyone's joint product."[39]

3 Economies Are Like Constructors: The Significance of Others

I now argue that complex economies are relevantly analogous to Constructors. In this section, I argue that the Significance of Others is true of any

in these experiments almost never have interaction effects, let alone interaction effects that are generated only together. (See Karagözoğlu, "Bargaining Games with Joint Production," *op. cit.*, p. 369.) The only even partial exception of which I am aware is Urs Fischbacher, Nadia Kairies-Schwarz, and Ulrike Stefani, "Non-additivity and the Salience of Marginal Productivities: Experimental Evidence on Distributive Fairness," *Economica*, LXXXIV, 336 (October 2017): 587–610.

[37] Rawls, *A Theory of Justice*, *op. cit.*, p. 101.

[38] Rawls, *Justice as Fairness*, *op. cit.*, pp. 75–6. Emphasis mine.

[39] Anderson, "What is the Point of Equality?," *op. cit.*, p. 321; Nozick, *Anarchy, State, and Utopia*, *op. cit.*, p. 186. Nozick argues that anyone who (like Rawls) accepts incentivizing inequalities must accept that we can disentangle individual contributions to the social product. *Ibid.*, p. 188. But "everything is everyone's joint product" in (for example) Constructors not in the sense that we cannot in principle identify the difference that an individual worker makes but in the sense that the size of each worker's difference depends on what others only together do.

such economy, and that, in virtue of the dependence it captures, a worker's marginal revenue product is mostly about other workers. This is the *prima facie* challenge to the Contribution Principle$_{\mathrm{MRP}}$. In the next section, I argue that something weaker than but similar to the Insignificance of the Individual is true, and that this undermines the simple reply to the *prima facie* challenge. It is weaker in that, as I mentioned above, I will not claim that workers make no difference to the productivity of others; I will claim only that the difference workers make together is greater than the sum of the differences they make individually.

3.1 Interdependence

The Significance of Others says that, for each worker,

Significance of Others The size of their marginal revenue product depends on what other workers do.

That this is true of complex economies is, I suppose, obvious. But it will be important for the normative conclusions that I draw to characterize the nature and extent of this dependence.

Marginal revenue product has us compare the actual world, at a given time, with a possible world in which an individual worker is absent. It is easier to get a grip on the kind of interdependence that characterizes complex economies by starting with a diachronic sequence of events (of which marginal revenue product is a kind of palimpsest). So: take the two situations (actual and counterfactual) that define marginal revenue product and smear them across time in the actual world. Imagine that a company hires a worker, W, and that output then goes up by some amount a. Now consider this claim: the new worker's labor *caused* output to increase by a. If this claim sounds plausible, it is because of the plausibility of the sufficiency, in cases like this, of the simplest counterfactual test for causation: if the putative cause had not occurred, then the effect would not have occurred.

But is W the only cause of output increasing by a? In a normal case, no: some of the other workers will also be causes of output increasing by a. The same kind of subjunctive conditional will be true of them: had they not performed their labor, output would not have increased by a. This is because, we assume, W increased output by *joining* their labor with the other workers' labor.

Now consider the synchronic version of this case. W's marginal revenue product is a: without W, output would be smaller by a. According to the difference-making measure of causal strength, a gives us the importance of W's labor as a partial cause of total output.

But, just as in the diachronic example, a depends on what other workers do. In the absence of these others, W's marginal revenue product would not be a. They make a difference to the difference that W makes.

Thus it is not just total output that is a joint product. Each worker's contribution to that joint product is a kind of joint product, too.

3.2 The Extent of Interdependence

If each worker's contribution is a kind of joint product, how important is their own labor for the size of their contribution, relative to the importance of the labor of other workers?

A natural strategy for answering, and one that the proponent of the Contribution Principle$_{\text{MRP}}$ should accept: simply re-use (something like[40]) the difference-making notion of causal strength. That is, define the importance of some labor for a given worker's marginal revenue product as the size of the difference that the former makes to the latter.[41]

[40]A worker's marginal revenue product is plausibly not an *event*, and thus plausibly not something that can be caused. So the difference that a worker makes to another's marginal revenue product does not seem to measure its importance as a partial *cause* of the latter. How then should we think about it? In standard cases of joint causation, each cause is—in Bradford Skow's helpfully neutral formulation—a *reason why* the other cause is a reason why the outcome occurred: "The fact that I struck the match, and the fact that there was oxygen in the room[,] is a first-level reason why the match lit, and also a second-level reason why the other fact is a first-level reason why the match lit." Bradford Skow, *Reasons Why* (Oxford: Oxford University Press, 2016), p. 76. Roughly speaking, my proposal stands to second-level reasons why and first-level reasons why (here, causes) as the original difference-making notion of causal strength stands to first-level reasons why (causes) and outcomes. Since it is hard to characterize second-level reasons why (see, for example, *ibid.*, ch. 4 and David Mark Kovacs, "The Question of Iterated Causation," *Philosophy and Phenomenological Research*, CIV, 2 [2022]: 454–473), from now on I will talk neutrally of "importance" and "responsibility" rather than "causal importance" and "causal responsibility."

[41]I would like to interpret this proposal in concessive way. So I confine myself to the differences that others make to some worker's marginal revenue product holding fixed that worker's labor. (Except in the case of assessing the difference that the worker makes to their own marginal revenue product.) Cf. the dependence of "breadwinning" on "caregiving": Nancy Fraser, *Justice Interruptus: Critical Reflections on the "Postsocialist" Condition*

This proposal, I claim, generates the following result: in complex economies, for each worker, their own labor is not very important for the size of their own marginal revenue product, relative to the importance of the labor of other workers.

This may seem counterintuitive. After all, each worker's labor makes all the difference to their marginal revenue product: without their own labor, their marginal revenue product would be zero. But they are not the only ones who make all the difference to their own marginal revenue product. In particular, I claim that, in complex economies,

Interdependence Conjecture For each worker, there are many (non-overlapping) groups of workers such that, if the group stopped working, the marginal revenue product generated by that worker's labor would be zero.

Let me first explain why the Interdependence Conjecture would vindicate the claim that a given worker's labor is not very important, relative to other workers' labor, for the size of their own marginal revenue product. I will then defend the conjecture.

Suppose once again we have a worker, W, whose marginal revenue product is a. W makes all the difference to their own marginal revenue product: the difference between a and zero. So their importance for their own marginal revenue product is given by a. But, per the Interdependence Conjecture, there are many groups of workers for whom the same is true: the importance of their contribution to W's marginal revenue product is likewise given by a. Suppose for concreteness that there are ten such groups. If we add up the differences they make to W's marginal revenue product, we get $10a$. The sense in which W's labor is not very important for the size of their own marginal revenue product, relative to other workers' labor, is just the sense in which a is smaller than $10a$.

If this line of thought seems suspicious, it is because it might look like I am committing what Alex Kaiserman calls the *pie fallacy*. This is the fallacy of assuming that "there is some fixed 'quantity' of responsibility available for every outcome, to be distributed among all those, if any, who are responsible

(New York: Routledge, 1997), p. 65 n. 25 and Carol Pateman, "Democratizing Citizenship: Some Advantages of a Basic Income," *Politics and Society*, XXXII, 1 (March 2004): 89–105, at pp. 98–9.

for it."[42] But what is ultimately at issue in the present context is the distribution of money—a scarce, rivalrous good. I do not claim that one's degree of responsibility is necessarily sensitive to others' degrees of responsibility. But if, as I suggest below, output is to be distributed on the basis of this responsibility, then I do claim that one's share of output is sensitive to others' degrees of responsibility, at least when the sum of responsibility (as it were) exceeds the output to be distributed on its basis.[43]

I have just explained why the Interdependence Conjecture would, if true, vindicate the claim that a worker's labor is not very important for the size of their own marginal revenue product, relative to others'. But why think that the conjecture is true? Recall that marginal *revenue* product is the market value of a worker's marginal product. Think of all the things that need to be in place for some generic consumer good, like a television, to have any value (*qua* television, not *qua* re-sellable raw materials arranged television-wise). These include: a mechanism for selling it; the infrastructure required to receive payment; transportation networks, and the shipping systems that

[42] Alex Kaiserman, "Responsibility and the 'Pie Fallacy,'" *Philosophical Studies*, CLXXVIII (2021): 3597–3616, at p. 3598. See also Derek Parfit, "What We Together Do," unpublished manuscript, 1988, p. 31 and Northcott, "Degree of Explanation," *op. cit.*, p. 3101.

[43] Miller makes a similar claim in *Principles of Social Justice*, *op. cit.*, p. 154. Two further points. First, when the sum of responsibility exceeds the output to be distributed on its basis, distribution according to absolute responsibility is not possible. I do not make the more general claim that we should always distribute according to relative responsibility. See 4.3. Second, let me distinguish what I have just claimed from the central move in David Alm's argument against the Contribution Principle$_{\text{MRP}}$. My argument is similar in spirit to Alm's: his basic idea is that workers do not deserve their marginal revenue products because of a kind of dependence, in his case our dependence on the workers who have come before us. The argument goes like this. First add up all the differences that each worker, past and present, has made to (current?) output. Now—and here is the central move—define each worker's contribution as their fractional share of this sum, where the reward they deserve on this basis is a concomitant share of output. The living's contributions will be a *proper fraction*, a fraction smaller than one, and so they together deserve less than total output. The problem is that expressing contribution as a fractional share of the sum of all contributions commits the pie fallacy: it assumes that there is a fixed quantity of responsibility for output, such that the existence of another's contribution diminishes my own. What I have just claimed, by contrast, is that the existence of another's contribution can diminish not my responsibility but what I deserve on its basis. The difference is that this latter kind of diminishment only happens when the other has a claim to output, and the dead have no such claim. (The foregoing can be understood as backing up the objection that Alm considers in note 18.) Alm, "Desert and the Control Asymmetry," *op. cit.*

use them; the generation and distribution of electricity; and the industries required to produce the content that televisions are used to watch. We could produce a similar list about marginal product itself—that is, a list of the things that need to be in place for some bit of labor to make a difference of any number of televisions at all.

The Interdependence Conjecture is plausible because it is plausible that all other goods and services in a complex economy are in this respect like televisions.[44] To put the point in terms made more salient by recent events: there is for each individual's contribution others who are essential workers.[45]

3.3 Interdependence and Aboutness

I have thus far been describing the kind of interdependence that characterizes complex economies. In short: each worker's contribution is itself a kind of joint product, and one that involves many other workers. I now defend the main claim of this section: given this interdependence, and in particular given the Interdependence Conjecture, the size of a worker's marginal revenue product is mostly about other workers. This claim is what I above called the *prima facie* challenge to the Contribution Principle$_{\mathrm{MRP}}$.

A preliminary point. I glossed the Aboutness Principle as saying that a desert subject can only deserve on the basis of something to the extent that it is about them. The present claim is not, on its face, about the extent to which the size of a worker's marginal revenue product is about them; it is about the extent to which it is about others. However, per the point about the inapplicability of the pie fallacy, in a rivalrous context these two come to the same. This is an important difference between, for example, the desert of

[44] There might be some goods and services that can be produced by one person alone, like singing. Or that somewhat ghastly left-libertarian classic, clothing woven out of one's own hair: Michael Otsuka, "Self-Ownership and Equality: A Lockean Reconciliation," *Philosophy and Public Affairs*, XXVII, 1 (Winter 1998): 65–92, at p. 72. But the value of even these goods and services will still depend on others' collective labor.

[45] An objection: The groups picked out by the Interdependence Conjecture are essential only if they are not replaceable. But almost all of them are replaceable. In reply: Even if there is some time at which they are replaceable, such that the contribution of the worker in question does not counterfactually depend on their labor, there will be some later time at which they are not replaceable. (This is the same observation that underlies Lewis's original response to the issue of early preemption, where we define causation as the *ancestral*—the transitive closure—of counterfactual dependence. Lewis, "Causation," *op. cit.*, p. 567.)

economic reward and the desert of reactive attitudes. I return to this point below.

A natural strategy for articulating the *prima facie* challenge goes like this. First, argue for a particular interpretation of "aboutness," and so the Aboutness Principle. Second, show that, per this interpretation, each worker's marginal revenue product is mostly about others. I do not adopt this strategy. Instead I claim that, on any interpretation, each worker's marginal revenue product is mostly about others. This is because the size of a worker's marginal revenue product depends on what these others do *in the same way* that it depends on what the worker does. So any argument that the size of a worker's marginal revenue product is (partly) about them is at the same time an argument for it being (partly) about others—and, given the Interdependence Conjecture, mostly about others.

It is easiest to illustrate this symmetry by way of contrast. Consider this different interdependence objection to the Contribution Principle$_{\text{MRP}}$: the size of a worker's contribution depends on the *supply of labor* and *consumer demand*.[46] A weak version of this objection claims that this is a problem because it makes the size of each worker's contribution partly a matter of *brute outcome luck*.[47] That version is weak because the Contribution Principle$_{\text{MRP}}$ can be revised to address it. The revised principle says that workers deserve income commensurate with their productive contributions to the extent that those contributions are not a matter of brute outcome luck. But there is a stronger version of the objection according to which the dependence of contribution on supply and demand means that the size of a worker's contribution is not about them (even if it is not a matter of brute outcome luck).[48] Though stronger, this version of the objection is vulnerable to a symmetry-breaking strategy, whereby the defender of the Contribution Principle$_{\text{MRP}}$ identifies a normatively relevant difference between the dependence of the size of a worker's marginal revenue product on their own labor and its dependence on

[46]See for example Rawls, *A Theory of Justice*, *op. cit.*, §47 and Mark Blaug, *Economic Theory in Retrospect*, 5th ed. (Cambridge: Cambridge University Press, 1997), p. 409.

[47]For this notion, see Peter Vallentyne, "Brute Luck, Option Luck, and Equality of Initial Opportunities," *Ethics*, CXII, 3 (April 2002): 529–557, at p. 538. On desert and luck, see Miller, *Principles of Social Justice*, *op. cit.*, pp. 143–9; Peter Vallentyne, "Brute Luck Equality and Desert," in *Desert and Justice*, *op. cit.*, pp. 169–85; Olsaretti, "Justice, Luck, and Desert," *op. cit.*; and Brouwer and Mulligan, "Why Not Be a Desertist?," *op. cit.*

[48]This is how I interpret Sadurski, *Giving Desert Its Due*, *op. cit.*, p. 117.

the putative threat to aboutness—in this case, supply and demand.

Start with supply. It is by *not* performing labor that other workers make the one worker's labor scarcer, increasing their marginal revenue product. This is a kind of omission, and it is plausible that omissions are distinctive—for example, distinct from events, and perhaps distinct from actions.

Next consider demand. There are many normatively relevant differences between the dependence of marginal revenue product on a worker's labor and its dependence on consumers having certain preferences. Perhaps most importantly, merely having certain preferences is not itself plausibly taken to be an economic desert base.

For these reasons, if we reward a worker according to their marginal revenue product, it is not obvious that the dependence of its size on supply and demand means that the worker, in being rewarded, is taking credit from anyone—either from the workers whose omissions made their labor scarcer or the consumers whose preferences it helped satisfy.

Compare all of this with the different kind of dependence that features in my argument—not the dependence of the size of a worker's contribution on supply and demand but on the labor that others perform. With this kind of dependence, we do not have any obvious symmetry-breakers.

Here is, I think, the most promising candidate, but one that we should nonetheless reject. While a worker's marginal revenue product depends on both that worker and on groups of others, that worker is an individual; the groups are groups. In particular, the groups are *unstructured* or *diffuse collectives*—roughly, collectives that are not agentially united.[49] (A classic example: "polluters.") And what unstructured collectives make happen, the thought goes, in no way bears on what their members deserve. A similar point can be put in terms of brute outcome luck: crudely, the difference that I make to my own marginal revenue product is not an accident, whereas the difference that they together make is.

It is easiest to see that something is wrong with this symmetry-breaking strategy if we set aside the jargon for a moment. Imagine a low-wage worker who says: "It's not fair that you're paid so much more than us. You depend on us. We deserve more." Here is what the other person should not say: "I do depend on you. But you all cannot take credit for that, because that's

[49] Nefsky, "Collective Harm and the Inefficacy Problem," *op. cit.* and Stephanie Collins, "Collective Responsibility Gaps," *Journal of Business Ethics*, CLIV, 4 (February 2019): 943–54.

something you do together."

What has gone wrong? First, the symmetry-breaking strategy relies on a skeptical, revisionist approach to unstructured collectives. The collective impact literature is in large part an attempt to avoid just such an approach, so that we can vindicate the intuition that, for example, individual polluters can be blamed for polluting, and have reasons not to pollute, in ways that are connected to the harms that polluters only together generate. The proponent of this symmetry-breaking strategy needs to explain why we are in fact forced to take the skeptical approach.

But even if we were, it does not seem that all of the groups picked out by the Independence Conjecture are unstructured collectives. Many look more like *teleological collectives*—roughly, groups united by shared ends.[50] Sometimes the members of these groups will be co-workers, e.g., the employees of the local power company. Sometimes they will be members of the same trade who work for different companies, e.g., truckers. In either case they will usually share ends, and it will at least sometimes be the case that the effect they have on a given worker's marginal revenue product is not an accident: as I noted at the outset, one of the basic presuppositions of trade unionism is something like *they could not do this without us*.[51]

Until another symmetry-breaking strategy is offered, then, I suggest that we can infer from the Interdependence Conjecture that workers' marginal revenue products are mostly not about them. That is the *prima facie* challenge to the Contribution Principle$_{\mathrm{MRP}}$.

The dialectic has gotten complicated. So let me emphasize that this *prima facie* challenge is meant to be intuitive. Think of, for example, an analyst at an investment bank. Suppose they make financial models. There is, I assume, no doubt that this is difficult. But why is it so highly remunerated? Why does that labor in particular make such a big difference (assuming, credulously, that it does)? As soon as we ask these questions, we can see that the answers are going to have almost everything to do with the complex economic

[50] *Ibid.*

[51] Collins lays out a schematic challenge for the intuition that the kind of weak shared agency that characterizes teleological collectives is sufficient for deservingness: if a group can deserve blame, then they earlier had an obligation not to do the thing for which they are now blamed; but having an obligation requires more than weak shared agency. *Ibid.*, p. 951. But this does not apply in the present case: economic deservingness is not tied to reasons for action on the part of the desert subjects—let alone obligations—in the way that moral deservingness is taken to be.

system that the analyst's labor fits into. Doing math in spreadsheets is not economically valuable in the absence of others' labor. That is not to say that it is not, in the end, valuable. But its value does not seem to belong to the analyst.

3.4 An Overgeneralization Worry

Does the argument of this section overgeneralize? After all, everything that we do is in some way dependent on what other people do.[52] In particular: does my argument generate a parallel challenge to the claim that we deserve (say) blame or praise commensurate with the (dis)value of the consequences of our actions when our actions having those consequences depends on what other people do?

No. Reactive attitudes are not rivalrous goods. For all that I have said, if an individual makes all the difference to some outcome, they may deserve blame or praise commensurate with the (dis)value of this outcome, even if others make all the difference to the individual's difference-making, and so, in the absence of symmetry breakers, deserve the same. This is because, in a non-rivalrous context, the fact that one's desert base is (also) about others does not, in itself, necessarily bear on what one deserves. To assume otherwise is to commit the pie fallacy.

Let me make three more general points. First, even in the rivalrous context, I have claimed that the dependence of a desert base on others bears on what the desert subject deserves only when it depends on these others in the very same way that it depends on the desert subject. Second, my target is the claim that some workers deserve much more than others on the basis of contributing much more; the interdependence highlighted in this paper does not straightforwardly undermine other justifications for distributive inequality.[53] Third, I emphasize that the challenge articulated in this section

[52] I thank an anonymous reviewer for pressing me to say more about this worry. For relevant discussion, see David Schmidtz, "How to Deserve," *Political Theory*, XXX, 6 (December 2002): 774–799, at pp. 775–8. See also the overgeneralization objection to Rawls's apparent claim that we can only deserve on the basis of things themselves deserved: Alan Zaitchik, "On Deserving to Deserve," *Philosophy and Public Affairs*, VI, 4 (Summer 1977): 370–88 and Nozick, *Anarchy, State, and Utopia*, *op. cit.*, pp. 216–17. Cf. Scheffler, "Justice and Desert in Liberal Theory," *op. cit.* and Scanlon, "Giving Desert Its Due," *op. cit.*, p. 112.

[53] This is not to say that there is no interaction with these other justifications. Consider first the following objection to an incentives-based justification. While inequality might

is merely *prima facie*. As I am about to explain, in many cases, unlike in the present case, it is vulnerable to a simple reply.

4 Economies Are Like Constructors: The Insignificance of the Individual

The Contribution Principle$_{\text{MRP}}$ misfired in Constructors. I suggested the cause of its misfiring was captured by two claims, the Significance of Others and the Insignificance of the Individual. These say that, for each worker:

Significance of Others The size of their marginal revenue product depends on what other workers do.

Insignificance of the Individual The sizes of others' marginal revenue products do not depend on what the one worker does.

In the previous section, I argued that the Significance of Others, as cashed out by the Interdependence Conjecture, is true of complex economies. I now argue that something weaker than but similar to the Insignificance of the Individual is true.

The Significance of Others, and in particular the Interdependence Conjecture, generates a *prima facie* challenge to the Contribution Principle$_{\text{MRP}}$. The challenge is merely *prima facie* because it only focuses on one direction

maximize the prospects of the worst off, given the motives of the "naturally talented," those motives are objectionable: it is objectionable for them to refuse to put their talents to use unless they are paid its market value, and thus paid more than others, when its value depends on these others. This is like G. A. Cohen's (2008: ch. 1) *incentives argument*, but it does not require the premise that the naturally talented in Rawls's well-ordered society accept the moral-arbitrariness-of-talents rationale for the difference principle. G. A. Cohen, *Rescuing Justice and Equality* (Cambridge, MA: Harvard University Press, 2008), ch. 1.

And against luck egalitarian views according to which the neutralization of brute luck is sufficient for distributive justice (for example, Eric Rakowski, *Equal Justice* [Oxford: Oxford University Press, 1991] and perhaps G. A. Cohen, "On the Currency of Egalitarian Justice," *Ethics*, XCIX, 4 [July 1989]: 906–944), imagine low-wage workers saying: maybe it's our fault that we're in this job, but it's still true that our labor is together necessary for the contributions of those who, on the basis of those contributions, make more than us. (Contribution-based considerations are here entering as a *principle of stakes*, to egalitarian effect. For this notion, see Serena Olsaretti, "Responsibility and the Consequences of Choice," *Proceedings of the Aristotelian Society*, CIX, 2 [2009]: 165–88.)

of dependence. The simple reply to which it is vulnerable is one that it itself supplies the resources for: if a given worker loses credit for their own marginal revenue product to the extent that it depends on others, they should gain credit for others' marginal revenue products to the extent that they depend on the given worker. It is in light of this reply that egalitarians need more than Scanlon's observation that "[an individual's marginal productivity] depends on the overall productive system," or that—as Barbara Fried put it in another context—"society is the but-for cause of all market incomes."[54]

I will understand the reply as proposing, in particular, that in addition to whatever (small) reward they deserve on the basis of their own marginal revenue product each worker deserves reward commensurate with the size of the difference they make to others' marginal revenue products.

In some cases the sum of the differences that a worker makes to others' marginal revenue products will equal their own. But my concern is whether the reply can vindicate the Inegalitarian Contribution Principle in general. So I will treat it as implying simply that some workers deserve much more than others, whether or not they deserve their marginal revenue product in particular, and argue against that implication.

If the Insignificance of the Individual were true of complex economies, that would block the simple reply. But it is not plausible that in complex economies no individual worker makes a difference to others' marginal revenue products.

I claim instead that:

Relative Insignificance of the Individual In general, the differences that individual workers make to others' marginal revenue products are small.

First I will argue for this claim, saying what I mean by "small." Then I will explain how it is meant to undermine the inegalitarian force of the simple reply.

[54]Barbara Fried, "Left-Libertarianism: A Review Essay," *Philosophy and Public Affairs*, XXXII, 1 (Winter 2004): 66–92, at p. 86. I thank Patrick Wu for getting me to see this.

4.1 Arguing for the Relative Insignificance of the Individual

To state the argument, we need a way to collect the differences that an individual worker makes to other workers' marginal revenue products. I will use the difference that a worker makes to the average of their marginal revenue products. (We could use the total instead; it does not matter.) Call this their *(marginal) contribution to (others') productivity.*

Now here is the main portion of the argument:

1. At any given time, contributions to output—marginal revenue products—are, in general, not characterized by increasing marginal returns.

2. If contributions to output are not characterized by increasing marginal returns, then contributions to productivity are either zero or even outright negative.

3. So, at any given time, contributions to productivity are, in general, either zero or negative.

The main reason to accept the first premise is that it is, I take it, uncontroversial within economics. The textbook reasoning goes like this. Capital and labor are both rivalrous: capital can only be worked by so much labor, and labor can only work so much capital. As the number of workers goes up, capital is spread thinner, and the marginal product of labor goes down. So standard production functions exhibit constant returns in capital and labor together and decreasing returns in each alone. If doubling capital and labor doubles output, then doubling only one without doubling the other will not, typically, do the same. Even models that allow for increasing returns (to explain—"endogenize"—the fact that output per worker grows over time) retain the assumption that, at a given time, output is decreasing in labor alone.[55]

The second premise is mechanically true. Consider first the case in which contributions to output are characterized by constant returns. This means

[55]Note that this is consistent with the claims that, *over time*, population growth can affect the level or growth rate of output per worker, on which see Charles I. Jones, "Growth: With or Without Scale Effects?," *American Economic Review*, LXXXIX, 2 (May 1999): 139–144.

that average marginal revenue product is unchanging. And that means, in turn, that contributions to productivity are sitting at zero: each additional worker makes no difference to the average of other workers' marginal revenue products. Next consider the standard case in which contributions to output are characterized by diminishing returns. Now the average is going down: each additional worker may continue to increase output, but by less than the previous worker. So each additional worker is making a negative difference to the average of other workers' marginal revenue products.

What is the significance of this conclusion, the conclusion that, in general, workers' contributions to productivity are zero or negative? It is that it makes it extremely likely that contributions to productivity are small, in this specific sense: their sum is less than the overall level of productivity—output per worker.[56] This does not mean that workers do not depend on one another. It means that workers mainly depend on collectives. (It is not a coincidence that the Independence Conjecture is about groups.)

I do not want to put too much weight on the textbook economic reasoning on which the above argument relies. And indeed the claim that contributions to productivity are small in the above sense is very plausible even if we set that reasoning aside completely. Consider perhaps the most foundational feature of a complex economy: the division of labor. The division of labor makes workers enormously more productive. But what is important is not that there is some specific number of engineers, waiters, janitors, doctors, and so on. What is important is that there is some number or other. Consider, for example, the workers who maintain roads. Of course they make an enormous difference to the productivity of other workers. But they make this difference only together: we do not reach the disaster that would be their collective abdication by adding up the differences they make as individuals. Thus the literal structure in Constructors—the house—is a metaphor for the deep structure of a complex economy, the division of labor itself. Both are things workers realize only together.

[56]Even for a range of situations in which contributions to output are characterized by increasing returns, contributions to productivity are, though not zero or negative, generally characterized by decreasing returns. And that likewise makes it very likely that their sum is smaller than the overall level of productivity.

4.2 The Relative Insignificance of the Individual and the Simply Reply

The Insignificance of the Individual claims that individual workers make no difference to the marginal revenue products of others. The Relative Insignificance of the Individual says that, in general, these differences are small, in the sense that their sum is smaller than the overall level of productivity. (From now on, I will ignore for the sake of argument the possibility that these contributions are outright negative.)

This blunts the inegalitarian force of the simply reply, the proposal that we reward contributions to productivity. The reason is simple: if we add up those contributions to productivity, there will be a lot left over. This surplus is, even by the lights of the proposal, manna from heaven—superadditive alchemy once again. There is, I suggest, no successful contribution-based objection to an egalitarian (or sufficientarian, prioritarian, etc.) distribution of this manna.

I now consider three objections to this deployment of the Relative Insignificance of the Individual.

4.3 The Normalization Objection

The Normalization Objection accepts that contributions to productivity are, in general, small. But it asserts, against what I have just claimed, that we should distribute the manna-surplus *in proportion* to workers' contributions to productivity.[57]

The problem with the Normalization Objection is that it invests infinitesimal departures from a situation in which no one makes any difference with enormous significance. In Constructors, the workers make no difference to the house's construction, and so to its multiplicative effect. Suppose instead that they each make some infinitesimal difference: say, all but one of the workers makes a difference equal to 0.001 percent of the size of the total effect, while the last worker makes a difference equal to 0.1 percent. These individual contributions sum to less than 0.2 percent of the total. Yet distributing the social product in proportion to these workers' contributions to productivity would mean giving one half of the entire social product to this last worker. We should not accept the claim that the shift from making

[57] Mulligan, *Justice and the Meritocratic State*, *op. cit.*, p. 132.

no difference to making such a tiny difference is attended by such radical distributive consequences.

4.4 The Inframarginal Objection

The Relative Insignificance of the Individual says that, in general, marginal contributions to productivity are characterized by decreasing returns. The Inframarginal Objection asserts (a) that we can and should assess contributions to productivity *away from the margin* and (b) that, when we do, they will not be small. It is not easy to say in a precise way what it means to assess contributions away from the margin. But the rough idea is that we should, somehow, assess them in a way that does not hold fixed what everyone else is doing.

The best way to press this objection is with a version of the *Shapley value*.[58] To calculate a worker's Shapley value, we first imagine the different sequences by which a group of workers might be assembled. Mulligan provides a helpful illustration:

> Suppose ... that we have a capitalist, *c*, who provides the tools necessary for production. We also have two homogenous workers, *w1* and *w2*. The tools can produce nothing on their own. The workers, without the tools, can produce nothing. But with the help of the capitalist, the first worker can produce \$10 worth of product, and the second worker, \$7 worth of product... One way [the group] can be built up is with *c* entering first, followed by *w1*, followed by *w2*. Here, *c*'s marginal contribution is \$0, ... *w1*'s is \$10, and *w2*'s is \$7. Another possible order is *w1* followed by *w2* followed by *c*...[59]

And so on, for all of the possible sequences. We then average each person's marginal contribution in each sequence. The average is their Shapley

[58] L. S. Shapley, "A Value for n-Person Games," in H. W. Kuhn and A. W. Tucker, eds., *Contributions to the Theory of Games*, vol. II (Princeton: Princeton University Press, 1953). See also Samuel Ferey and Pierre Dehez, "Multiple Causation, Apportionment, and the Shapley Value," *The Journal of Legal Studies*, XLV, 1 (January 2016): 143–171 and Meir Friedenberg and Joseph Y Halpern, "Blameworthiness in Multi-Agent Settings," *Proceedings of the AAAI Conference on Artificial Intelligence*, XXXIII, 1 (2019): 525–532.

[59] Mulligan, *Justice and the Meritocratic State*, *op. cit.*, p. 132.

value.[60] (Mulligan's illustration includes a capitalist; I ignore this.) For the purposes of the Inframarginal Objection what we actually want is a nearby measure—call it Shapley value$_{\mathrm{P}}$—that averages contributions to productivity.

The most immediate problem with calculating Shapley values$_{(\mathrm{P})}$ for an entire economy is that it is impossible. But there is a deeper problem. Suppose that we are trying to assess the contribution of the investment bank analyst from above. How much would the analyst's labor contribute to productivity if they were the first and only person in the economy? The thousandth? The millionth? These questions do not make sense. The labor that the analyst performs would not be possible in an economy with one person, or a thousand people, or (maybe) even a million. In imagining different sequences by which we might build up the economy, we have imagined out of existence the labor whose contribution we were trying to assess.

When labor is specialized, a large number of other workers are together a condition of its possibility. This undermines the Inframarginal Objection.

[60] I noted earlier, in note 33, that in certain cases of overdetermination some overdeterminers seem more important than others. There are models of causal strength that can capture such intuitions. These models and the Shapley value are motivated by roughly the same idea, namely that differences made at the (actual) margin can fail to tell the whole story of causal responsibility. But most of these models can generate results more inegalitarian than a simple difference-making model only in cases of true overdetermination. See, for example, Hana Chockler and Joseph Y. Halpern, "Responsibility and Blame: A Structural-Model Approach," *Journal of Artificial Intelligence Research*, xxii, 1 (2004): 93–115 and Matthew Braham and Martin van Hees, "Degrees of Causation," *Erkenntnis*, lxxi, 3 (November 2009): 323–344, at pp. 332–335 (α and β). It is, however, implausible that in the economic case we have true overdetermination: I assume that most workers make at least some difference to the productivity of others. Thus the most promising resource for the inegalitarian is something like Kaiserman's "probabilistic extension" of Braham and van Hees's α, which can capture the differential importance of partial causes even in cases of non-overdetermination. Alex Kaiserman, "Causal Contribution," *Proceedings of the Aristotelian Society*, cxvi, 3 (2016): 387–394. But I think that Kaiserman's model in fact generates egalitarian results in the economic context. I do not have the space to explain in detail, but, briefly: the probability of productivity having its actual value conditional on some given worker's labor should be roughly equal to the probability conditional on any other worker's labor: in every case it should equal the product of the unconditional probabilities of all the other workers performing their labor. Crucial to this claim is the assumption that the background conditions that are part of these unconditional probabilities effectively hold fixed the inactivity of preempted backup workers; if that is not true, then differences in replaceability will lead to different conditional probabilities.

This is because, once the economy is complex enough for specialized labor to be performed, there will already be groups of workers that only together increase the productivity of others.[61]

4.5 The Entrepreneur Objection

The Relative Insignificance of the Individual begins with two words that I have thus far ignored: "in general." The Entrepreneur Objection asserts that there are exceptions that prove this rule, individual entrepreneurs whose contributions to productivity are enormous, and who deserve concomitant reward.

Two preliminary points. First, these contributions really do need to be enormous for the entrepreneurs in question to receive much more than other workers; if they are not, the difference between them and others will be swamped by the egalitarian distribution of the manna from heaven contemplated above. Second, and relatedly, while the Contribution Principle$_{\mathrm{MRP}}$ promised to vindicate the high salaries of a comparatively large labor aristocracy, the Entrepreneur Objection retreats to a much smaller group. But I set these points aside.

The problem with the Entrepreneur Objection is that it relies on the idea that a worker's contribution to productivity is wholly about them, in the sense relevant for economic desert. Until now, I have been implicitly granting the same. But we are now in a position to see that this is, crucially, untenable. That is because the inegalitarian appeal to contributions to productivity is vulnerable to almost the very same argument that I have pressed against the inegalitarian appeal to contributions to output.

Start with the Significance of Others, and the Interdependence Conjecture that cashes it out. A version of the conjecture that targets contributions to productivity seems undeniable:

Interdependence Conjecture* For each entrepreneur, there are many

[61] One might wonder whether we can avoid the present problem by asking not what the analyst's labor would contribute in the different counterfactual sequences but what the analyst herself would contribute (where "analyst" is now a name instead of a definite description). But the contribution that someone would make if they performed a different kind of labor in a counterfactual economy is not an answer to the question of how much they contribute by doing what they actually do in the actual economy. For what might be this same point, see Von Platz, "The Principle of Merit and the Capital-Labour Split," *op. cit.*, p. 19.

(non-overlapping) groups of workers such that, if the group stopped working, the contribution to productivity generated by that entrepreneur's labor would be zero.

Now consider the appropriately revised version of the Relative Insignificance of the Individual:

Relative Insignificance of the Individual* In general, the differences that individual workers make to others' contributions to productivity are small.

This follows mechanically from the textbook reasoning for the original version.[62]

This reply to the Entrepreneur Objection is very abstract. The Relative Insignificance of the Individual* is about the differences that workers make to the differences that workers make to the differences that workers make to output. This is not the kind of thing that it is easy to think clearly about. But once again what matters is the simple fact that these two revised claims jointly entail: that the differences that entrepreneurs make depend on what other workers only together do.

There is no escaping the interdependence of complex economies; any kind of difference that any worker makes is going to be one for which many others are together necessary.

I started this paper by quoting Bernie Sanders. But it is Elizabeth Warren who is best known for making something like this point:

> There is nobody in this country who got rich on his own—nobody. You built a factory out there? Good for you. But I want to be clear. You moved your goods to market on the roads the rest of us paid for. You hired workers the rest of us paid to educate. . .[63]

[62]If contributions to output are characterized by constant returns, then in general contributions to productivity are zero, and so are the differences that, in general, individuals make to others' contributions to productivity. If contributions to output are characterized by decreasing returns, then in general contributions to productivity are negative, and so are the differences that, in general, individuals make to others' contributions to productivity. What we have done is ascend from basically the second to the third derivative.

[63]Elizabeth Warren, Andover, MA, 2011. https://www.newyorker.com/video/watch/elizabeth-warrens-viral-video.

Warren (and, when he later paraphrased her, Barack Obama[64]) focused on our dependence on tax-funded government infrastructure. But the point generalizes: what we accomplish as individuals depends on others, and what they only together do. The subjunctive conception of individual contribution systematically misfires because it picks up on these accomplishments without picking up on this dependence. This is no less true in the case of entrepreneurs than in the case of other workers.

5 Conclusion

I have offered an internal critique of the inegalitarian appeal to contribution. Beyond its dialectical purpose, this generates a position that can, I think, more palatably be expressed to workers themselves, at both ends of the income distribution. The position does not deny that engineers at Tesla, for example, made a difference that matters in having created electric cars that people want, nor does it make the somewhat arid claim that these engineers should not get credit for making this difference because they are not responsible for the existence of the demand that they are meeting or the scarcity of the productive talents that they supply. More importantly, the position does not patronize to workers in other jobs who contribute less by saying only that it is not their fault that they do. Instead, the position denies that the difference that a worker makes tells the whole story about that worker, or, indeed, a story about only that worker. It recognizes that what we can produce in common we cannot produce alone, and it asserts that, once we see how far this truth extends, the inegalitarian appeal to contribution loses much of its power.[65]

[64] Aas, "'You Didn't Built That,"' *op. cit.*, p. 70, n. 5.

[65] Here I re-purpose the last line of Michael Sandel, *Liberalism and the Limits of Justice* (Cambridge: Cambridge University Press, 1982).