

SOCIALISM REVISED

By

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“Socialism revised”

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Abstract. Marxists have viewed the task of socialism as the elimination of exploitation, defined in the Marxian manner in terms the excess of labor expended over of labor commanded. I argue that the concept of Marxian exploitation commits both type-one (false positives) and type-two (false negatives) errors as a diagnosis of distributive injustice: it misses instances of distributive injustice because they do not involve exploitation, and it calls some economic relations characterized by exploitation unjust when they are not. The most important reformulators of Marx’s concept of socialism, which implicitly or explicitly attempt to correct the Marxian errors, are Oscar Lange, James Meade, John Rawls, Robert Nozick, Ronald Dworkin and G.A. Cohen. I trace this development, and argue for a re-definition of socialist principles based upon it.

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1. Why revise socialism?

The writings of Karl Marx, in particular *Capital*, elevated socialism from a utopian idea to a goal that seemed achievable to millions, inspiring two great revolutions, in Russia (1917) and China (1949). Two of Marx's theories were responsible for this massive political effect. First, historical materialism -- which Marx stated clearly only in one famous paragraph in his *Critique of the Gotha Program* -- proposed a logic in the evolution of class societies. In every class society, Marx wrote, a small class becomes wealthy by exploiting the large class of direct producers, but the end of the line of this sequence of modes of production (slave, feudal, capitalist) is capitalism. So Marx predicted because, he argued, the property relations defining a mode of production last only as long as they are capable of engendering further technological innovation. When the point comes at which the property relations act as 'fetters' on further technical change, then those relations are 'burst asunder,' and a new mode of production (that is, property relations and economic mechanism) becomes established. Marx claimed such a point comes in the life of every class society. Capitalism is unique, however, in engendering a consciousness among the working class that induces its members to abolish private property in the means of production when the revolutionary point comes, rather than replacing capitalism with some new form of private property in productive assets. Under socialism, these assets would be collectively owned by all producers, and the economic surplus, which in previous modes had been appropriated by the small class of exploiters, would be collectively owned¹.

The second theory Marx propounded, of great influence, was the theory of exploitation under capitalism. Marx motivates the need for such a theory by observing that in slave and feudal modes of production, there is no mystery as to the source of the economic surplus and its acquisition by a small class of slave owners or feudal lords and royalty. Direct military and police suppression of slaves and serfs enabled the lords to appropriate the surplus, leaving only a subsistence consumption for the producers. But capitalism is different: nobody forces the worker to sell his labor power to the capitalist; labor power is traded on a competitive market (at least in the ideal form). Because the

¹ The most careful explication and analysis of the theory of historical materialism is G.A. Cohen (1978).

system is based upon voluntary trade, with *de jure* personal freedom, it is somewhat of a mystery how vast wealth accumulates in the hands of a small class, while the direct producers remain impoverished. Marx proposed the theory of exploitation to solve the mystery.

That theory explained the mechanism with which capitalism accomplished the sleight-of-hand of concentrating the economic surplus in the hands of a small class of capitalists, under conditions of personal freedom, and freedom to contract, and the theory of historical materialism conjectured that class society would be eliminated, once and for all, when capitalist property relations became a fetter on the further development of the ‘productive forces.’ As is well known, Marx wrote almost nothing about socialism, and it was left for later Marxists to formulate the details of how the economy would be organized after the revolution.

Socialism, then, became defined in two ways: as consisting of property relations entailing collective ownership of society’s productive assets, and as a mode of production in which exploitation was eliminated. While Marx sometimes refused to admit that exploitation of workers was unjust, because he maintained the peculiar view that justice is the ideology that rationalizes any particular set of property relations, and is hence a completely relative concept, his use of the term ‘exploitation’ to describe the transfer of the economic surplus from workers to capitalists, and the vehemence with which he described capitalist exploitation, belies this claim. Virtually all socialists and Marxists in the century and a half since Marx wrote have taken the theory of exploitation to comprise not only an explanation of the source of ‘surplus value,’ but also as comprising an ethical condemnation of capitalism. (For a discussion of Marx’s views about justice, see N. Geras (1984).)

Why do I believe the Marxian conception of socialism must be revised? It is obvious to all that the form of public ownership that characterized the Soviet Union and China, at least until 1980 in the latter case, was fraught with problems; clearly, if one takes socialism to consist in the economic mechanism of those experiments, it must be revised. My claim, however, is that the conception of justice – as the elimination of exploitation, defined in Marxian manner (*malgré lui*) – is off-base. The theory of egalitarian justice flowered beginning in 1971 with publication of John Rawls’s *Theory of*

Justice, until roughly the end of the twentieth century, and we can now see that Marx's characterization of distributive injustice as exploitation erred in two ways. Marx committed both type-one and type-two errors. Some instances of distributive injustice under capitalism do not involve exploitation (so these instances of injustice are missed, a type-two error), and some instances of Marxian exploitation should not be considered unjust (these are false positives, a type-one error).

My purpose, then, is to revise socialism not principally by critiquing central planning under the control of a dictatorial party – that would be, today, beating a dead horse – but to argue that the *ethics* of socialism should be reformulated, from being characterized as the elimination of exploitation, to the elimination of distributive injustice, a conception that I will describe (after G.A. Cohen (2009)) as *socialist equality of opportunity*. That conception is born in the fertile discussion of egalitarianism, whose main formulators were the political philosophers John Rawls, Robert Nozick, Ronald Dworkin and G.A. Cohen in the last third of the twentieth century.

Some may wonder why I include Nozick, a radical libertarian, in this list. Nozick certainly had no truck with socialism. But he exposed, more clearly than others, Marx's type-one error – that some instances of (Marxist) exploitation are not unjust, and so he merits inclusion in my list².

The other characters of my story are writers who, in one way or another, reformulated Marxism in a direction in which I think reformulation was required, even though they did not couch their proposals as revisions of Marx's views on exploitation. These are Oscar Lange, the father of market socialism, and James Meade, the proponent of a property-owning democracy.

One could easily extend this list by another dozen or so writers: philosophers, economists, political theorists, historians and sociologists. I wish, however, to keep my story succinct, and so I will focus upon Marx and the six revisionists named above. Perhaps Friedrich Hayek would be an important addition to the list, but I will include him only as a critic of Lange. Each of my six revisionists makes primarily an important (and

² Cohen (1995) wrote he was 'shaken from my dogmatic socialist slumber' by Nozick (1974).

correct) revision of Marx, and secondarily commits an error (so I think) in his formulation.

I have not included *political* revisionists in my story, who have reformulated the Leninist conception of socialism (or communism) as the dictatorship of the proletariat. This is because the Leninist political invention was his, not Marx's, although the phrase came from Marx. In other words, I want to reformulate the *theoretical* conception of socialism as it has come down from Marx, not critique, as such, the experiments of what has been called 'really existing socialism.' There are some who claim that the political implementation of socialism by Lenin, Stalin and Mao flowed inevitably from Marx's theory, and if that were so, then the democratic revision of socialism should also be a part of my story. I need not adjudicate this claim, because even were it true, the misconception of socialism as communist-party dictatorship is now well understood. The point I wish to make is that many of those who are thoroughly committed to a democratic vision of socialism have not clearly seen the necessity to revise the ethical principles upon which socialism should be based.

There is an asymmetry in our conceptions of capitalism and socialism that is due in large part to the fact that capitalism did not emerge from the writings of a single or even several provocative theorists, while socialism did. Capitalism established itself on the ground before its ethical justification was clearly stated. (One may take Nozick (1974) to comprise the latest and clearest such justification, but there have many others, for centuries, notably Adam Smith (1776).) Socialism, as propounded by Marx, was still, in large part, motivated by an ethical condemnation of capitalism, before it was established in any state. (I say 'still' because there were socialist theorists before Marx including Fourier, Blanqui, Proudon and perhaps Rousseau, who condemned capitalism on an ethical basis.) Thus, with capitalism we have a precise definition in terms of property relations and markets, with a largely *ex post* ethical justification, while with socialism we have primarily an ethical justification with no consensus upon the economic mechanism.

Some readers may hope that I will here outline what that socialist economic mechanism is. Unfortunately, I cannot: I think the discovery of socialism's economic mechanism will come only through experimentation. But that experimentation must be

guided by the right ethical conception, which is not, so I will claim, the elimination of Marxian exploitation.

2. Karl Marx and exploitation

I begin by explaining Marx's conception of exploitation, using a simple economic model³. Suppose there is a society of 1000 peasants. Together, these peasants own collectively 500 bushels of seed corn, their capital stock. There are two technologies peasants can use to produce corn. The first I will call the 'Factory Farm;' on the Factory Farm, one bushel of seed corn tended with one day of labor will produce, at the end of a week, two bushels of corn. This technology can be sustained at any positive level: that is k bushels of seed corn combined with k days of labor produces $2k$ bushels of seed corn at the end of a week, for any positive number k . The second technology is the Forest: peasants may glean wild corn in the Forest. Three days of labor in the Forest (using zero capital seed stock) produces one bushel of corn.

Members of this society have subsistence preferences: each desires to consume one bushel of corn per week; having that consumption, each desires to spend the rest of her time in relaxation, child-rearing and other non-economic activities. Peasants have no particular preference for working on the Factory Farm or in the Forest: all they care about is their consumption of corn and 'leisure.'

The members of this society wish to produce the necessary consumption of 1000 bushels of corn, while not reducing their capital stock of 500 bushels of seed corn, and subject to these requirements, taking as much leisure time as possible. There is a simple, egalitarian way of arranging their economy. 250 peasants will each work for two days on the Factory Farm, planting the 500 bushels of seed corn and harvesting 1000 bushels of corn at the end of the week. Of this product, 500 bushels replace the seed capital that has been used up. The other 750 peasants each work two days in the Forest: this 1500 days of labor produces 500 bushels of corn from Forest harvesting. The total product is pooled and divided equally. In total, this arrangement produces 1000 bushels of corn for consumption and reproduces the capital stock. Each peasant consumes one bushel of corn per week, and work two days per week. The result is egalitarian and Pareto

³ This model was presented in Roemer (1988), with somewhat different nomenclature.

efficient. (That is, there is no feasible arrangement that will increase the welfare of any peasant without decreasing the welfare of some others, subject to reproducing the capital stock.) Call this arrangement ‘egalitarianism with common ownership of capital.’

Marx calls 2000 days of labor ‘socially necessary labor time’ for this society: it is the labor time needed for the society to produce the necessary or subsistence consumption for its members *given* the capital stock and the technologies, and replacing the depreciated capital. We might say this differently: given the preferences of its members, 2000 days of labor is the unique egalitarian, efficient and sustainable solution to the peasants’ preference satisfaction.

Now suppose, in contrast to common ownership of the capital stock, that 10 members of this society each own 50 bushels of seed corn capital (the same total capital stock of 500 bushels), while the other 990 own only their labor power. We need to slightly amend (or rather extend) the preferences of these ten ‘capitalists.’ Suppose each capitalist also wishes to maximize his leisure time subject to consuming one bushel of corn per week, and replacing his capital stock. However, if he can accumulate more capital, so much the better, so long as no more labor is required of him.

Now let there be a labor market at which the capitalists can hire peasants to work up their capital stock on the Factory Farm. What will be the equilibrium real wage w in this market economy? The wage will be denominated in bushels of corn per day of labor. (This makes w the real, as opposed to nominal, wage.) If w were below one-third bushel per day, no peasant would sell his labor power on the market: for the real wage he can earn in the Forest, which is accessible to all, is one-third bushel of corn per day. But the demand for labor by capitalists is 500 days, enough to work up their capital stock. So there would be a large *excess demand* for labor, were w less than one-third. The wage would be driven up.

If w were greater than one-third bushel per day, then *all* peasants would desire to sell their labor to capitalists, because they could earn one bushel of corn in less than three days of labor, what would be required in the Forest alternative. Indeed, each peasant would offer to supply $\frac{1}{w}$ days of labor on the Factory-Farm labor market, because in so doing, she would earn $w \times \frac{1}{w} = 1$ bushel of corn, precisely what she needs for the week.

Hence the *supply of labor* to capitalists if w were greater than one-third, would be

$\frac{1}{w} \times 990 = \frac{990}{w}$ days of labor. Capitalists, however, demand only 500 days of labor –

enough to work up their capital stock. Note that $\frac{990}{w} > 500$, for any value of w greater than one-third and less than one. So at such a wage there is a large *excess supply* of labor. The wage would be driven down. Capitalists would never offer a wage greater than one, because they would then make negative profits.

The equilibrium wage is the wage that exactly clears the labor market, the wage at which there is neither an excess demand nor excess supply of labor. The only such wage,

by elimination, is $w = \frac{1}{3}$ bushel per day. At this wage, the 990 peasants are each

indifferent to working on the Factory Farm or in the Forest: for each labor choice gives them the consumption of one bushel of corn for three days' labor. Thus, capitalists will

hire $\frac{500}{3} = 166.7$ peasants who will collectively work up 500 bushels in seed corn in

three days labor, each receiving a total of one bushel of corn in wages, and the other

$990 - \frac{500}{3} = 823.3$ peasants will hustle in the Forest for three days, each acquiring one

bushel of corn to consume. The wage rate $w = \frac{1}{3}$ is the unique market equilibrium.

At the equilibrium, each capitalist ends up with a product of 100 bushels; of this,

she pays out $\frac{50}{3}$ bushels in wages (50 days labor times the wage), uses 50 bushels to

replace her capital stock, leaving her with $100 - 50 - \frac{50}{3} = 33.3$ bushels of *profit* and for

her own consumption.

With capitalist arrangements, total labor time expended is 2970 days, but the corn consumption of the 990 peasants is exactly as in the egalitarian economy with common ownership. Whether the 10 capitalists consume exactly one bushel of corn or consume additional corn out of profits is indeterminate with our present specification of preferences, and does not matter at this point. Marx calls the extra 970 days of labor expended by peasants *surplus labor*, and its existence comprises *exploitation*. In other

words, with private and unequal ownership of the capital stock, peasants must work 50% longer for the same consumption they receive in the egalitarian economy with common ownership of capital.

Three conditions are necessary for exploitation to emerge in this model: (1) unequal ownership of the capital stock, (2) a labor market, and (3) scarcity of capital relative to the labor available for employment. *All three* conditions must hold for exploitation to occur. Let me comment on the third condition. Suppose instead of 500 bushels of seed capital there were 3000 bushels of seed capital, with each capitalist owning 300 bushels. Now at any wage w less than one bushel per day, capitalists will earn a profit (since one day's labor produces two bushels, one of which replaces the capital used), and profit-maximizing capitalists will in total demand 3000 days of labor. But if w is greater than one-third, each peasant will desire to work only in the Factory farm, and he will offer to supply $\frac{1}{w}$ days of labor, because that suffices to earn his one bushel of consumption, after which he takes leisure. So the total supply of labor will be $\frac{990}{w} < \frac{990}{1/3} = 2970$. Thus, for any w greater than one-third and less than one, there is an excess demand for labor (since $3000 > 2970$). No such wage can be an equilibrium. The equilibrium wage in this economy is $w = 1$ bushel per day. At that point, capitalists are indifferent as to how much labor they demand, because they make exactly zero profits from labor. A capitalist might just work up one bushel of corn with his own labor, consuming one bushel of the product, and hire as many peasants as she can to work up her remaining capital stock at the wage of $w = 1$. In this economy, total labor time is 1000 days, total consumption is 1000 bushels, there are no profits and labor is scarce relative to the capital available to employ it.

Let me comment on the second condition, the existence of a labor market. A labor market *itself* will not engender exploitation, as the latest example shows, where there is capital abundance. A second example is the common-ownership economy studied above. Indeed, we could allocate the 500 bushels of corn, giving one-half bushel to each of 1000 peasants (thus, an equal-division-private-ownership economy). Each peasant would work up his own capital stock with one-half day's labor, earning a surplus of one-half bushel, and then spend 1.5 days in the Forest gleaning the other half bushel

for his subsistence – thus, working two days for one bushel of consumption, while reproducing the capital stock. *Or*, we could open a labor market, where some peasants hire others to work up their capital stock, while these ‘capitalists’ glean in the Forest. I claim the equilibrium wage in this arrangement will be one-third bushel of corn per day. At this wage, any peasant is indifferent between selling his labor power to others, and gleaning in the Forest. Consider this arrangement: each of 250 peasants works only in the Factory Farm sector: he works up his own capital stock producing one-half bushel, net of capital replacement; then he works up the capital stock of three other peasants, requiring 1.5 days of labor, thus earning another one-half bushel (since the wage is $w = \frac{1}{3}$). Thus, each of these 250 peasants has earned one bushel for two days’ labor.

The other 750 peasants, who are ‘capitalists,’ glean in the Forest, each for two days. They collect $\frac{2}{3}$ bushel of corn in the forest, and earn $\frac{1}{3}$ bushel profit from the worker on their capital stock. Thus, we have the same result as in the economy without a labor market: each works two days for one bushel of corn, and capital is reproduced. There is no exploitation in the Marxist sense, despite the existence of a labor market, and the fact that some peasants hire others and profit from the exchange. This is because the first condition – unequal ownership of the capital stock – fails to hold.

I have shown that if ‘relative capital scarcity’ fails, but the other two conditions hold, exploitation will not occur. I have shown that if ‘unequal ownership of the capital stock’ fails, but the other two conditions hold, there is no exploitation. The third possibility is that there is no labor market but the other two conditions hold. Actually, in this case, *if there a rental market for capital*, then exploitation will occur. (See Roemer (1982) for the details.) So it is not precisely true that a *labor* market is necessary for exploitation: a rental market for capital, at which the wealthy peasants can rent their capital to the poorer ones, will suffice to bring about exploitation, if the other two conditions hold. This point is important: for it shows that unequal capital ownership can be parlayed into profit-making through renting capital as an alternative to hiring labor. At least this is true at the level of abstraction of the current discussion. In reality, the labor market has some real advantages to capital owners over the rental market: it is

easier to monitor one's workers than one's debtors. But that need not detain us at this level of abstraction.

These three conditions have been at all times characteristic of capitalism. It is an interesting question how the relative scarcity of capital has been maintained, for without such scarcity, competition for labor would drive the rate of profit to zero, and capitalism would disappear. (Keynes at one point envisaged such a 'euthanasia of the capitalist class.')

Marx wrote of the necessity for capitalism to maintain a 'reserve army of labor,' workers who were always ready to work in the Factory Farm if the wage were to rise above subsistence (which is one-third bushel per day in our set-up). Rosa Luxemburg (1913) wrote in *The Accumulation of Capital* that capitalism must constantly extend its orbit, pulling new peasants from the agricultural periphery into the world proletariat, in order to survive. Indeed, consider the version of the capitalist economy we have just discussed, where accumulation of capital is, say, 300 bushels per week. Each capitalist receives 33.3 bushels of profit; let's assume she consumes 3.3 bushels per week, leading to aggregate accumulation of 300 bushels per week. If this continues for nine weeks, the total capital stock will be $500 + 2700 = 3200$ bushels, and we will be in the situation of labor abundance, the wage will rise to one bushel per day's labor, and profits will disappear. Some mechanism must exist to prevent this from occurring. It could be imperialism à la Luxemburg; it could be conspicuous consumption by capitalists. Suppose each capitalist consumes all her profits each week. (This could take the form of hiring some workers from another town to build a castle; or capitalists may donate to the Church, which uses the funds to build cathedrals.) Then there will be no accumulation, and no crisis of labor abundance. But this is historically inaccurate: capitalism *is* characterized by accumulation of capital. A partial solution could also be an increase in workers' consumption: if workers preferences were such that they would offer more labor at any wage greater than one-third, because they desired to consume more than one bushel per week, the crisis could be forestalled, if not eliminated. Certainly workers' consumption has increased massively since the advent of capitalism, something that Marx did not predict.

We need not solve this problem of capitalist dynamics here, for our topic is not the long-run viability of capitalism. What's important, for our purposes, is to observe

that as long as the three conditions hold, three changes occur at the advent of capitalism from the egalitarian economy with common ownership: first, total labor expended is greater than socially necessary labor time, while the consumption of the masses remains unchanged; second, there is accumulation of capital; third, some few work less than socially necessary labor time (the capitalists) and the mass of peasant-proletarians work more. There may be as well differential consumption if capitalists consume more than one bushel per week out of profits.

Why should ‘exploitation’ so defined – that the masses of peasants work longer than they would if the capital stock were collectively owned, for the same consumption – be an instance of injustice? Marx was well aware of the standard justifications of unequal ownership of capital: that some people have lower rates of time preference than others, and these patient people save from their labor earnings and eventually accumulate enough to hire others as workers, or that those who become capitalists are entrepreneurs who have rare and valuable ideas that enable them to produce new goods for which there is a market demand, so it is false to characterize capitalists as not offering any input into production. He was scornful of these justifications, and wrote the last part of *Capital* volume 1, called ‘The primitive (or original) accumulation of capital,’ arguing, based upon his research in the British Museum on the history of British capitalism, that capital was accumulated not by hard work or entrepreneurial innovation, but by robbery, enclosure of the peasant common lands, and plunder. Marx evidently realized, in other words, that the *condemnation* of capitalism on grounds of (Marxian) exploitation depended upon the *process* by which capital was accumulated.

Non-Marxists -- in particular, most neoclassical economists-- interpret the existence of exploitation differently. They would not disagree with the above presentation of the economic equilibrium in the capitalist economy with 500 bushels of capital. Rather, they say that the extra day of labor that peasants supply to capitalists, over what they work in the economy with common ownership, is an implicit rent the worker pays to the capitalist for access to the technology that makes his or her labor more productive. (Strictly speaking, this explanation only holds if workers in the capitalist sector earn more than those who work in the back-stop Forest technology, and showing this can be the case requires a slightly amended model.) Thus, a neoclassical economist

would not deny the existence of the phenomenon Marx called exploitation, but she would call the ‘surplus’ labor the worker supplies a justifiable rental payment by the worker to the capitalist. Moreover, she might well argue that the egalitarian economy with common ownership is a fiction, because absent capitalists, capital will not be accumulated, and everyone would work in the Forest for three days a week. Indeed, this may be a good approximation to pre-agricultural hunter-gatherer society.

Today, we do see many instances of accumulation of capital through robbery, plunder and enclosure. Some of the most dramatic contemporary instances comprise what are effectively enclosures by local municipalities in China of peasant land, in order to build capitalist enterprises. (These enclosures have engendered some tens of thousands of protests by the expropriated peasantry.) There are many other such examples in the developing world. In the advanced capitalist countries, a major mechanism of capital acquisition is inheritance, and even if the original accumulation of such capital was due to someone’s hard work, one can question the right, through inheritance, to create a dynasty of descendants who live off profits of the patriarch for many generations.

But it must be admitted, contra Marx, that there are many instances of capital accumulation through hard work or inventiveness, and it is not obvious (at least from Marx’s arguments) why the hiring of workers to labor on this honestly accumulated capital, and their consequent exploitation, should be considered an instance of injustice. We have no argument that the existence of exploitation and profits are *as such* condemnable: and it is noteworthy that Marx was sensitive to this problem, for he spent many pages of *Capital* arguing that the accumulation of capital came about through robbery of one form or another, rather than honest hard work or ingenuity.

The revolutionaries who attempted to install socialism in the twentieth century took at least two lessons from Marx’s analysis: that one must abolish markets, and especially, the labor market, and that capital should be owned by the people collectively, represented by the state (and the party). Unfortunately, they did not have the model of the common-ownership economy with a labor market that I presented above, showing that the labor market as such does not produce exploitation, even if capital is scarce. (Of course, that model is simple, and there might be other reasons to fear that capitalism

would emerge with a labor market.) In the twentieth-century socialist experiments, *any* private profit-making private activity was condemned as exploitative. Thus, the Stalinist regime declared war upon the rich peasantry (kulaks) in 1929-1931, the peasants who had accumulated enough land or livestock, mainly through their own hard work, to hire other, poorer peasants. There were clearly some Russian revolutionaries who did not see profit-making activity per se as inimical to socialism. Bukharin exhorted the peasants ‘Enrichissez-vous,’ seeing the rich peasants as the vanguard of economic development of agriculture (see Allen [2003]). Bukharin, however, may have seen the enrichment of some peasants as an injustice necessary for the greater good of economic development, rather than questioning whether such enrichment, involving the profitable hiring of poorer peasants, should be viewed as injustice at all.

A further comment upon the model of exploitation presented above is in order. Some Marxists, especially in the 1970s and thereafter, view the *locus* of capitalist exploitation as being at the ‘point of production.’⁴ They focus upon the extraction of labor from the worker on the assembly line, and often upon the oppressive practices that bosses use to discipline workers, to keep them working at a fast pace. In the model I have presented, the locus of capitalist exploitation is in the unequal ownership of the capital stock. Indeed, as I pointed out, exploitation can be mediated through a rental market for capital, where no peasant works for anyone other than himself. In my view, the oppression that workers often suffer from capitalists in the workplace is due to the impossibility of writing a complete and costlessly enforceable contract for the exchange of labor and the wage. Conflict at the point of production exists because workers and capitalists bicker about the contractual working conditions, or because workers cannot immediately enforce the contract, given the power relations. Of course I do not deny that workers are often mistreated and oppressed at the point of production; what I deny is

⁴ Perhaps the work that argues most persuasively for the view that the labor process is the locus of capitalist exploitation is Braverman (1974). It is interesting that Marx viewed the locus of exploitation under slavery and feudalism as coercion at the point of production: slaves and serfs did not offer their labor voluntarily to lords (the latter, indeed, had their own means of subsistence from small plots). The ‘Braverman school’ extends this view to capitalism, while I have argued that Marx viewed the essential coercion under capitalism as the maintenance of property relations by the police power of the state, not coercion at the point of production.

that this comprises the essence of capitalism. I think my view was Marx's view, as he wrote in *Capital* that the problem was to explain capitalist accumulation *under perfectly competitive conditions*, not as a consequence of the capitalist cheating the worker.

Forcing workers to work faster or longer than what the contract (whether it is an explicit or implicit one) specifies is an instance of cheating.

As a consequence of Marx's writings, many twentieth century revolutionaries thought it necessary to eliminate both private, unequal ownership of capital *and* markets. As I have argued, the lesson should have been that eliminating the former would suffice. Moreover, I have argued that it did not follow that *any* instance of profiting from another's labor is unethical. There are two cases in point: first, it may be that some hire others, but in the overall accounts, there is no exploitation (as in the equal-ownership economy with a labor market and division of labor that I discussed above); or, some may accumulate capital through honest means, and in the Marxist argument, no reason has been offered to condemn the hiring of labor at a profit on such capital – at least, thus far in my account⁵.

3. Oscar Lange and market socialism

Oscar Lange (1936) was a Marxist economist who proposed that markets could be used extensively in a socialist economy. Firms would be state-owned, and profits would be used to finance public goods, for investment and for demogranants to households or families, which would be, he suggested, roughly proportional to family size. The heart of Lange's proposal, and the part that has attracted most attention, was the manner in which prices would direct firms to produce the right bundle of goods. Lange proposed what is known as a tâtonnement process. The central planners would announce a vector

⁵ A critic of this essay might argue that even I succeed in showing that Marxian exploitation was an off-base diagnosis of distributive injustice under capitalism, it remains the explanation of capitalist profits and accumulation. This, too, is incorrect. I showed in Roemer (1982) that every production input is 'exploited' when profits are positive; labor power is not unique in this regard. So exploitation of *labor* as the secret of the concentration of wealth under capitalism, from a purely positive viewpoint, is not correct. Although labor must be exploited to produce profits (in the sense of producing a surplus over what is required for its reproduction), so must be every other production input.

of prices for all inputs and outputs of all firms. (Today, this would involve many millions of prices.) Each firm manager would be instructed to compute its demand for all inputs and its supply of all outputs so as to equate the price of any output to the marginal cost of producing it, and report the results to the center. (If the technology is one of decreasing or constant returns, this is the condition for the firm's maximizing its profits, at the given prices.) Then the Center would, by adding up, compute the total supply of each good and the total demand for each good. For intermediate goods, that are both produced by some firm and used as inputs by other firms, the Center, at the next stage of the process, would *raise* the good's price if it were in excess demand, and *lower* its price if it were in excess supply. For final consumer goods, that are produced by some firms but demanded only by consumers, the Center would similarly adjust the price, depending upon whether the total supply of these goods was greater or less than the Center's goal for the total consumption of that good in the economy. This process would go on for several iterations, until, Lange assumed, equilibrium would be reached, a vector of prices at which all markets cleared (that is, prices at which in every market the supply of the good equals its demand). These prices would then be publicly announced, all firms would implement the production plans they had announced in the last iteration, and consumers (presumably) would demand goods that would realize the planners' predictions of final consumption demands. How the Center estimates the total demand for consumption goods is vague.

Evidently, Lange was not worried about the fact that some consumer-workers would be exploited in the Marxian sense: in the aggregate, at least, no exploitation would occur, because all firm profits would be returned to the population in the form of public goods, the demogrant, or investment in the capital stock, which would be owned collectively. The socialist aspects of the proposal were, first, that firm profits be distributed to the public in an egalitarian manner, and secondly, that the anarchy of the market be tamed by the central planning board's tâtonnement process.

The main critique lodged against Lange's proposal came from Friedrich Hayek (1935, 1940). Hayek argued that the process whereby planners demand responses from firms as to their profit-maximizing supplies and demands at each vector of prices was pie-in-the-sky. It is a fictional premise of general-equilibrium theory, so Hayek said, that

firm managers know the technologies that they will eventually use: in fact, managers learn about what they can produce with various inputs only in the cut-throat struggle of competition, where they are forced to invent new techniques to reduce costs. There is no competition among firms in Lange's model: they simply respond passively to prices. Hayek stood in a line of Austrian economists who had been critical of the French founder of general equilibrium theory, Léon Walras, because Walras's picture of the market was essentially Lange's picture: Walras proposed the analogy that an auctioneer calls out prices, all firms and consumer-workers react to them, and by a process of tâtonnement, prices adjust and eventually find the equilibrium⁶.

In addition, later developments in economic theory were to question the Lange model, even setting aside Hayek's critique. H. Scarf (1960) showed that the tâtonnement process does not necessarily converge to the competitive equilibrium: it might oscillate forever in cycles around the equilibrium prices. Even greater fragility was shown concerning tâtonnement – H. Sonnenschein (1972) proved that the dynamics induced by the tâtonnement process could do 'almost anything,' depending upon the parameters of the economy, and shortly thereafter R. Mantel and G. Debreu published similar results.

Why did Lange insist on such an important role for the central planners? Why would it not have sufficed to assign the demogrant to all citizens – each family's share of total profits, whatever they happened to be – and then let the *real* market rip, with cut-throat competition among firms? Profits could still escheat to the state Treasury. Perhaps for two reasons. First, Marxism emphasized the anarchy of the market process (and this was surely at the front of Lange's mind after the crash of 1929), and central planners would replace the anarchy. Second, Lange likely believed he would be excommunicated from the socialist community, were he to propose so limited a role for the central planning board.

⁶ The Austrian view of market equilibrium, as emerging from cut-throat competition, rather than from a Walrasian auctioneer, has been recently formalized by L. Makowski and J. Ostroy (2001). As they put it, in the Austrian vision, prices do not direct economic activity as in the Walrasian story, but rather emerge once the dust of the competitive brawl has cleared. Makowski and Ostroy (1993) discusses in more detail how the Austrian view of the market is inimical to market socialism as conceived by Lange.

Lange's proposal deserves a place in my story for broaching the possibility that markets and socialism could co-exist, although most economists today believe that Hayek won the round.

4. James Meade and property-owning democracy

James Meade (1965), a Nobel laureate in economics, proposed an economy for a 'property-owning democracy.' It would be a market economy, with substantially more invested in education than was usual at the time he wrote, and with taxes whose purpose would be to equalize the distribution of capital ownership. Educational finance would be governed by two principles, a principle of efficiency and one of distribution. The efficiency principle was to maximize the productivity of each student, and the distributional principle was to equalize the productivity of all students. Meade said that in the past, universal elementary education was probably the best policy for realizing both principles, but today (when he wrote), much more is required.

Meade proposed several policies to equalize ownership of capital. Each citizen would have an account monitored by the Treasury in which gifts would accumulate, both *inter vivos*, and inheritances. Gift taxes, levied on all gifts, would be paid by recipients, not by donors, and the marginal tax rate on each gift would be increasing in the total value of the recipient's account. This would incentivize donors to spread their gifts among many recipients, to avoid high taxation.

Importantly, this tax policy would apply only to gifts, not to wealth accumulated by the earnings of the individual. Earned wealth would also be taxed annually, but at a lower rate than the rate on gifts, because it would be important to encourage workers to accumulate from their own earnings.

Assuming that the educational system was operating properly, then all would have roughly equal opportunities for accumulation from earnings. But achieving this kind of equality would also require eugenics, to gradually eliminate genetically weak individuals from the population. This view grates today, although it was quite prevalent among progressive intellectuals of Meade's generation. In any case, Meade's eugenic policies were quite tame: the universal availability of birth control, and tax incentives to induce productive people to have larger families.

Meade was not a Marxist, and saw no reason to worry about exploitation, although his goal was a society in which exploitation would disappear, if productivities and wealth became roughly equal across citizens. His view of education was radically compensatory. Meade did not go into any detail on the ethical principles behind his proposal; Rawls was to view it quite favorably.

5. John Rawls and the difference principle⁷

Neither Lange nor Meade contributed to the ethics of distributive justice. Lange was a Marxist economist who presumably endorsed Marx's theory of exploitation and the ethics it implied. Meade was an egalitarian, but not explicitly Marxist. Their contributions were, respectively, to introduce the possibility of using markets under socialism, and mechanisms for equalizing capital ownership without state ownership. The next important figure in my story is John Rawls, whose relevant contribution was to propose an egalitarian alternative to the conception of distributive injustice as exploitation⁸. Rawls (1971) argued for the 'difference principle,' under which the just distribution is that which delivers the maximum possible basket of 'primary goods' to that group whose members receive the least or smallest such basket. Economists call this the maximin principle. What's important about Rawls's contribution is that it is based upon a premise that many attributes of persons are 'morally arbitrary,' which means people have these attributes as a consequence of luck, and do not deserve to benefit or suffer from them. It is this *premise* of Rawls that motivates his argument for the difference principle, a thought experiment known as the original position, in which souls who represent members of a society must decide on the just distribution of income, without knowing who they will become when the birth lottery occurs. I now argue that although Rawls's premise of the moral arbitrariness of many aspects of persons was a critically important contribution, his argument for the difference principle using the original position was replete with errors.

⁷ Here, I propose a quite detailed critique of Rawls's argument, because its weaknesses engendered the important contributions that followed it, by Nozick, Sen, Dworkin and Cohen.

⁸ Rawls, of course, did not see his antagonist as Marx, but as the utilitarian philosophers.

Rawls's construction of the original position was intended to provide an argument for the difference principle, based on the assumption that individuals were *rational, self-regarding, and impartial*. Such individuals would agree to a constitution that mandated social institutions that would distribute resources so as to maximize the bundle of primary goods received by the worst-off group in society. A rational, self-regarding individual will attempt to maximize the satisfaction of his own interests. Impartiality is achieved, for Rawls, by limiting the information available to souls about the morally arbitrary aspects of their in life that would influence how they contract to allocate resources in the society. The original position is an imaginary forum where participants are deprived of information of many aspects of who they will become in the 'birth lottery,' in order to ensure impartiality.

Of what information does Rawls deny the denizens in the original position? They do not know the *preferences* of their principals, or what Rawls calls their *life plans*, nor do they know those resources their principals receive by virtue of the *luck of the birth lottery* (chiefly, the families into which they are born, and their own natural talents and intelligence), which are deemed to be morally arbitrary. Nor do they know the *distribution* of these traits in society, that is, the joint distribution of preferences (or plans of life) and resources assigned by the birth lottery. To say that the latter of these are morally arbitrary is to say that a person has no right to benefit (or suffer) by virtue of the advantages (or disadvantages) that are associated with the family into which he or she is born, or the natural talents with which he or she is endowed. Preferences (or plans of life), however, are not morally arbitrary: Rawls views persons as responsible for their preferences, although he only used this phraseology ten years after the publication of *A Theory of Justice*, when he wrote, "The use of primary goods, however, relies on a capacity to assume responsibility for our ends. Thus it is public knowledge that the principles of justice view citizens as responsible for their ends.. In any particular situation, then, those with less expensive tastes have presumably adjusted their likes and dislikes over the course of their lives to the income and wealth they could reasonably expect; and it is regarded as unfair that they now should have less in order to spare others from the consequences of their lack of foresight or self-discipline (Rawls, 1982)." This is an argument against compensating those with expensive tastes that will be more fully

developed by Ronald Dworkin (1981a). Those with expensive tastes are responsible for having them, and are due no special compensation at the bar of justice in order to realize them.

Why should the ‘souls’ who are contemplating the features of justice in the original position not know the preferences of those whom their principals if preferences are *not* morally arbitrary? The original position is a thought-experiment whose purpose is to guarantee impartiality of the deliberators, where impartiality means a decision maker is not biased by having knowledge of the *morally arbitrary* characteristics that he/she will come to have. It seems that Rawls did not allow souls to know the preferences of their principals because, if they possessed such information, each soul would demand more resources for those in the actual world who possessed those preferences. In other words, if a soul knew the preferences of its principal, it could partially identify who its principal is, narrowing down the class of individuals that contains its principal, and self-interest would induce the soul to attempt to bias the distribution towards members of this class⁹. Indeed, it is because souls do not know the preferences (life plans) of their principals that Rawls requires them to focus on *primary goods*. For primary goods are, by assumption, those goods that are needed to further *any* life plan. So every soul, regardless of its principal’s life plan, will desire more of these goods rather than fewer.

I believe it is a mistake not to allow preferences of principals to pass through the veil of ignorance, for I agree with Ronald Dworkin (1981b) that the purpose of restricting information to souls who contemplate the social contract is to deprive them of morally arbitrary information, and *only* of such information. If an individual is deemed responsible for his plan of life, as Rawls insists, then those plans should be known by the souls in the original position.

But it is even more compelling to say that the souls should know the *distribution* of preferences and other circumstances in the real world that are morally arbitrary. For this distribution is not a characteristic of any individual: it is a fact about society, which I believe has, for the purposes at hand, the same status as the laws of economics, which

⁹ The soul would not be able to identify exactly who his principal is, because there would presumably be many persons with these particular preferences, but who differed with respect to their family positions and talents (i.e., with respect to morally arbitrary characteristics).

Rawls does permit the souls to know. Now if, as I say, souls should know both the preferences of their principals and the joint distribution of preferences and morally arbitrary circumstances, then a soul could deduce something about the morally arbitrary circumstances its principal possesses (say, the wealth of the family into which he/she will be born) from knowledge of his preferences. This must be avoided, because it is a necessary ingredient of the thought experiment that souls should not be able to deduce anything about their morally arbitrary circumstances: impartiality requires that.

Therefore, I would weaken the informational requirement I stated above to say that souls should know the preferences of their principals and the distribution of morally arbitrary characteristics, but should not know the *joint* distribution of preferences and morally arbitrary characteristics. This would prevent them from deducing anything about, for example, the wealth of the families that the birth lottery will assign them, from knowledge of their principals' preferences. They will, of course, know the probabilities of landing in any particular kind of family, and with any particular genetic endowment.

Why did Rawls deprive the souls of so much information? Indeed, as Rawls himself remarks, the souls are all identically situated – they are so denuded of characteristics that there is *nothing* to distinguish them from each other in the original position. Hence, the social contract or constitution that is conceived in the original position is really no such thing: it is as if there were a single soul solving a decision problem¹⁰. Making the information available to souls so sparse takes all the teeth out the contracting process. As I said, I conjecture that Rawls constructed the original position in this way because he felt that, were souls to know the life plans of their principals, they would try to bias the resource allocation towards the class of principals with their life plan. *But this is exactly the conflict with which a social contract must grapple*. In other words, given the paucity of information in Rawls's formulation of the original position, there is no scope for *bargaining or arguing*, and bargaining and arguing are the techniques through which social contracts are constructed. Rawls has diminished to the

¹⁰ Rawls recognizes this, when he writes “ Therefore, we can view the agreement in the original position from the standpoint of one person selected at random (Rawls, 2003, p. 120)”

vanishing point the contractarian part of his construction by depriving the denizens in the original position of so much information. (See J. Elster (2000) for the role of arguing and bargaining in constitutional assemblies.)

It is certainly true that if there were (let us say) only two plans of life – one, to climb Mount Everest, and one to become a consummate musician – and each soul knew which plan its principal possessed, then self-regarding souls would try to shift resources to either the Everest class or the musician class. And the souls would have to bargain! They would not know the wealth of the families into which they would be born, for although they would know the distribution of family wealth, they would be ignorant of the *joint* distribution of wealth and plans of life. But that bargaining problem, for Rawls, who renders all souls identical, disappears. The generic soul must just decide how it would allocate resources among persons, assuming it were equally likely to become anyone.

Were Rawls not to have so diminished the role of bargaining and arguing in the original position, he would have had to stipulate the rules by which souls must abide in arguing for their views. This, indeed, is what Thomas Scanlon (1999) does, when ground rules of debate must pass the ‘reasonable rejection’ criterion.

Since Rawls’s difference principle requires that we be able to compare the bundles of primary goods of different people, we require some way of aggregating these bundles and indexing them with numbers that can be compared. This is the well-known index problem. Actually, something less than an index of primary goods is required: we need to have a complete order over bundles of primary goods so that we can say when one bundle is better (or bigger) than another. If this order is continuous (a concept that we need not define here), then a well-known theorem tells us there will exist a continuous ‘utility function’ that is, in Rawlsian terminology, just an index of primary goods, representing this preference order¹¹. (‘Utility function’ is the term of art that means an

¹¹ Absent the assumption that the complete order over bundles of primary goods is continuous, there may exist no such index – not even a discontinuous one! The classical example of an ordering on bundles that has no representation as an index (utility function) is the lexicographic minimum order (leximin).

assignment of real numbers to bundles of commodities, such that bigger numbers are associated with preferred bundles of commodities. It need not connote utility in the nineteenth century or philosophical sense of term. And indeed modern economic theory insists that the utility function only tells us how people will choose among alternatives, not anything about their subjective satisfaction or even their interests.) We have no instruction as to where this ordering of bundles of primary goods comes from.

Indeed, let us suppose that there is such an ordering of primary-goods bundles, call it R , and we say of two bundles of primary goods, x and y , that xRy just in case x is at least as good or big as y . Now suppose that each individual (in the world) has a plan of life, and the extent to which he or she will realize this plan is a function of the bundle of primary goods that is available to him or her. (We ignore, for simplicity, uncertainty in the realization of life plans from primary goods endowments.) Thus, we can represent person i 's plan of life by a preference order Q^i on bundles of primary goods: we say xQ^iy if and only if the prospects for i 's realizing his plan of life are at least as good with the bundle of primary goods x as with the bundle y . Now Rawls assumes that all plans of life go better, the 'bigger' is the bundle of primary goods the person has. (We could relax this to say that the plans go 'at least as well' the bigger the bundle of primary goods.) This means precisely:

$$\text{for any two bundles of primary goods } x \text{ and } y, \quad xRy \Leftrightarrow xQ^iy. \quad (*)$$

But (*) means precisely that *the orders R and Q^i are identical!* Hence, all plans of life are equivalent, in the sense of the desires over bundles of primary goods they generate in persons.

But this is surely false. Musicians and Everest-hopefuls will order bundles of primary goods in *different ways*. This, I believe, must be the case if life plans are sufficiently different. This contradiction means that *there can be no single ordering R (or index) of primary goods*.

Now the contradiction does not occur if there is only one primary good, and sometimes Rawls assumes (for the sake of argument) that money is the unique primary good. But if we wish to consider his full theory, with a variety of primary goods, then we must conclude that the following three claims are together inconsistent:

- (1) there is a single index of primary goods,
- (2) all plans of life go better (or weakly better) with more primary goods, as measured by the index, and
- (3) plans of life vary sufficiently that individuals will not order bundles of primary goods in the same way.

In other words, Rawls's attempt to use primary goods as the maximandum, since he denies souls of the knowledge of their principals' life plans, only works in a very special case, where there is exactly one primary good.

One escape from the contradiction is to deny (1), that is, to suppose that there are *different* indices of primary goods for different individuals. But then primary goods lose the character of universal needs, reflecting some deep human nature that we all share. Indeed, the natural move would simply be to let a person's index of primary goods be given by his ordering Q^i over bundles of primary goods. In other words, let souls know the *preferences* of their principals, defined on the space of primary goods¹².

Let us, however, now ignore this problem, and assume that there is a single primary good, monetary wealth. There is no index problem. How does Rawls deduce that the allocation of wealth should conform to the difference principle, that it should be

¹² Another escape from the contradiction is to take a cue from Amartya Sen (1980), and say that a person's index of primary goods is a function that aggregates his bundle of primary goods into a *vector of functionings*, and life-plan fulfillment is given by another function whose arguments are vectors of functionings. Thus i and j have different ways of transforming primary goods into functionings, since they have different constitutions. We may then preserve the fact that people have different plans of life, defined as different ways of transforming vectors of functionings into life plans. This route would render Rawls immune to Sen's criticism that his focus on primary goods was 'fetishist,' for he would have inserted Sen's functionings in an intermediate position between primary goods and life-plan fulfillment. Rawls, however, would then have to face the question whether souls know the functions that transform primary goods into vectors of functionings, for their principals. The aim of the theory would then be to show that 'maximin functionings' comprises justice.

the ‘maximin’ distribution, or if there are several maximin distributions, then it should be the ‘leximin’ distribution? We follow Rawls in saying souls do not know the preferences (or plans of life) of their principals. Every soul wants as much wealth as its principal would need to maximize his probability of succeeding in his life plan. The decision problem, however, requires that souls know the preferences of their principals over lotteries. For the uncertainty that the souls face is the *birth lottery* which assigns souls to persons. Rawls writes that souls do not know the probabilities of becoming various persons. But impartiality requires that the probability of a soul’s becoming any person be the same (or, in my revision, where souls know the life plans of their principals, the probabilities of becoming any person in that life-plan class be the same). The original position and birth lottery never occurred: they comprise a thought experiment, in which impartiality is enforced by stipulating that each soul has an equal probability of becoming any person. Now if souls know that they have an equal probability of becoming any person, they face a lottery, and to choose among lotteries (recall, the problem in the original position is just a decision problem of a single soul), they must have *preferences over lotteries*. We may say, more weakly, the soul must have preferences over the class of lotteries in which the probability of becoming each person is the same. (The lotteries differ with respect to how primary goods will be distributed among persons.) The question is, how to allocate wealth (let us suppose the amount is fixed, for simplicity) among n persons, where the soul may become each of these persons with probability $\frac{1}{n}$.

However, Rawls writes, “The essential thing is not to allow the principles chosen to depend on special attitudes towards risk (Rawls, 2003, p. 149).” Not only does he deprive souls of enough information to bargain and argue with each other, but he does not endow them with preferences over lotteries that are needed to decide upon the optimal birth lottery, from their viewpoint.

Despite Rawls’s admonition not to endow souls with preferences over lotteries, in fact the one real argument he provides for the difference principle *does* endow souls with such preferences. The argument appears at Rawls (2003, p. 133-134). Rawls begins by stating that the maximin rule is not a good general rule for allocating goods under uncertainty, but it emerges as the right rule here because of three ‘special features’ of the

original position. The first of these features is that the soul facing the decision problem does not know the probabilities of the assignment of circumstances to persons in the birth lottery, that is, for instance, of landing in a family with low or high wealth. I have argued this is a mistake: the soul should know the *distribution* of such circumstances in the actual society, for this is a fact of nature and society, and not a fact about any individual. The second feature is that ‘the person [soul] choosing has a conception of the good such that he cares very little, if anything, for what he might gain above the minimum stipend that he can, in fact, be sure of by following the maximin rule. It is not worthwhile for him to take a chance for the sake of a further advantage, especially when it may turn out that he loses much that is important to him.’ The third feature is that ‘the rejected alternatives [to maximin] have outcomes that one can hardly accept. The situation involves grave risks.’

I believe that the second and third features are, purely and simply, statements that the soul is extremely risk averse when facing the birth lottery. *Why* should the soul care little for what its principal might gain by choosing a non-maximin allocation? Perhaps the soul will be born as an Everest-hopeful. Let’s say a person requires \$100,000 to mount an excursion on Everest. Suppose the maximin allocation gives nobody \$100,000 – everyone receives much less. Then, should our soul become an Everest-hopeful, his plan of life is doomed to failure. If the probability of becoming an Everest-hopeful is non-trivial (a probability that the soul does not know in Rawls’s formulation), it might still be worthwhile to allocate \$100,000 to Everest hopefuls, even though the minimum income would be smaller than it would be under the maximin distribution. If the soul is deprived so completely of knowledge of preferences that it does not even know that Everest hopefuls exist, it might still desire to allocate substantial sums to a small fraction of people who have very demanding requirements of wealth, although it is ignorant of the content of those requirements. This is not irrational. Indeed, it would seem to follow from self-regardingness, for there is a chance the soul would become such a person, and it (the soul) will desire to consider this possibility *as long as it is not extremely risk averse*.

And what about the third principle? Why do the non-maximin distributions involve ‘grave risks’? If *any* allocation other than the maximin distribution involves

grave risks, that can only be because at the maximin allocation, the worst-off folks are almost dying, or have lives that are almost as bad as being dead, so that reducing the minimum income by even a small amount would kill these people, or make their situations worse than death. If the soul might become a member of this worst-off group, it would surely constitute a grave risk to advocate a non-maximin allocation of primary goods, for doing so would, if its principal landed in that worst-off group, condemn him to death or its equivalent. But Rawls cannot be concerned only with societies with *that* feature – societies where scarcity is so severe that the guaranteed minimum (under the maximin allocation) is *just sufficient* to keep those who receive it alive. If the society in question does not suffer from this kind of extreme scarcity (as our own, in any advanced economy does not), then the third feature can only be the case if the soul is extremely risk averse: it is not worth it to it to sacrifice *even a small quantum of wealth*, due to the risk of its principal become one of the worst off, in order to have a more highly resourced life should it become one of the better off in the birth lottery. Certainly, this kind of hyper risk aversion is inconsistent with the psychology of most human beings. We do not run our lives in order to maximize the probability of realizing our life plans *under the worst possible circumstances that may occur*, for such risk-averse behavior may substantially reduce our chances of achieving our life plans under normal, less adverse, circumstances.

Thus Rawls's claim that his argument for the difference principle does not rely on extreme risk aversion is false. (Such a claim is made when he writes “What must be shown is that given the unique features of this situation [the original position], agreeing to these principles rather than the principle of utility [utilitarianism] is rational for anyone whose aversion to uncertainty in regard to being able to secure their fundamental interests is within the normal range (Rawls, 2003, p. 149).”)

There is perhaps a more charitable way of interpreting Rawls's argument for the difference principle in the cited pages, and that is that he is trying only to show that the difference principle dominates utilitarianism. (He writes, “In the next two sections, I take up choice between the two principles of justice [maximum liberty and the difference principle] and the principle of average utility.”) If this were the case, then, we might accept his ‘third reason,’ for if we reject maximin and *therefore* are bound to accept its only alternative, utilitarianism, we may have to accept something obnoxious like slavery,

if slavery is required to maximize average utility, and therefore rejecting maximin would, indeed, involve a grave risk. But to pose the problem as one of choosing between the difference principle and utilitarianism is absurd. There are many social welfare functions that are less extreme than maximin and do not suffer from the *total* disregard for inequality that is characteristic of utilitarianism. For many philosophers, utilitarianism may have been the only game in town before Rawls wrote his first article on the difference principle in 1958, but the economists Abram Bergson and Paul Samuelson had written about social welfare functions in 1938, and Rawls was familiar with their work (see his reference to Bergson's work on social welfare at Rawls (2003, p. 228, fn.1)). Rawls read widely in economics, Bergson was a colleague at Harvard, and Samuelson hung out a few blocks down Massachusetts Avenue.

Rawls's arguments against utilitarianism (or what he often calls the principle of utility) are also incorrect. Rawls writes that, first, the souls in the original position do not know the probabilities of becoming different persons, and second, modern economists do not accept the possibility of comparing the utilities of different persons, and utilitarianism requires that such comparisons be made. (To be precise, utilitarianism requires what is called unit comparability: that the utility levels of persons be measured in the same unit.)

The first of these arguments is based on an incorrect premise, because, as I have said, souls *should* know the *distribution* of morally arbitrary circumstances, and the appropriate assumption for the thought experiment is that a soul has an equal probability of becoming any person (or, in my reformulation, the probability of becoming any person which his or her life plan). The fallacy of the second reason is more subtle. What *is* true is that neither general equilibrium theory (the theory of price determination and income distribution in a private-ownership, market economy) nor game theory requires that the preference satisfaction levels (or utilities) of different persons be comparable, nor even that their utilities be measured in the same unit. One only has to know the *ordinal preferences* of individuals for the development of either of these two cornerstones of economic analysis. This is true even in the case of uncertainty: von Neumann – Morgenstern (vNM) utility functions represent *ordinal preferences* of individuals over lotteries: they contain no interpersonally comparable information. What the vNM theory says is that if the *ordinal* preferences over lotteries of an individual satisfy certain

(reasonable) axioms, then there is a *cardinal representation* of these preferences (with a utility function) that is immensely useful in calculation¹³. But these cardinal utility functions contain no information permitting interpersonal comparisons: indeed, they could not, since they are merely representations of non-comparable ordinal preferences over lotteries. One can't squeeze blood out of a stone.

Now if we have only information on the ordinal preferences of individuals, it is true that utilitarianism cannot be defined; it is incoherent. (See Roemer (1996, Chapter 1) for a full discussion of this matter¹⁴.) However, just because general equilibrium theory and game theory make no use of interpersonal comparability of welfare does not mean that making interpersonal comparisons is an incoherent undertaking. Indeed, for a theory of distributive justice, I believe we *must* be able to make interpersonal comparisons. And I also believe we *can* make interpersonal comparisons of welfare, based on the fact that we all share a common human nature, in which certain ways we express our feelings (smiling, crying, laughing, screaming) have evolved to permit us to make interpersonal comparisons of well-being.

Consider this simple analogy with physics. We do not have to know the color of two objects to decide which one will fall to the ground faster when dropped from the Tower of Pisa. But this does not mean that objects do not possess color. If we are concerned, for instance, with how fast objects heat up when exposed to a heat source, we *do* have to know their colors. In like manner, interpersonal comparability of welfare may well be necessary information for a theory of distributive justice, even though it is not necessary to compute equilibrium prices in a market economy, or the Nash equilibrium of a game. It is therefore not an attack on utilitarianism to say that it requires us to make comparisons between the welfares of different people (actually, of the units in which

¹³ This usefulness is the representation of the utility of a lottery as the 'expected utility' over the set of prizes.

¹⁴ It is the Arrow Impossibility Theorem which states that, unless we admit interpersonally comparable information on utility, then there is no *impartial* social welfare function that is coherent – in particular, utilitarianism is incoherent. The only admissible social welfare functions absent interpersonal comparability are the dictatorships, which violate impartiality.

their welfare are measured). Indeed, the fact that utilitarianism makes interpersonal comparisons (of a certain weak kind) counts *for* it as a principle of justice in my view¹⁵.

The main argument against utilitarianism as a distributive principle is that it is completely insensitive to inequality. Utilitarianism's objective is to maximize total happiness, with no concern with *how* that happiness is distributed among individuals. Any interesting argument against utilitarianism must postulate some degree of aversion to inequality. It is peculiar that, although Rawls surely opposed utilitarianism for this reason, he does not invoke it here to reject utilitarianism. He resorts to a technical argument, with the apparent imprimatur of economic theory, which turns out to be ill-founded.

Of course, some may not accept the premise that justice requires interpersonal comparisons: Robert Nozick (1974), for instance, does not believe interpersonal comparisons of welfare are needed for justice, and therefore the market is an admissible mechanism, at least on this count, for implementing justice.

Rawls's project was a bold one: to construct a rigorous argument for equality (or maximin) from postulates that even conservatives would agree to: rationality, self-interest, and impartiality. Rawls's radicalism was injected with the premise of the moral arbitrariness of the outcome of the birth lottery. Unfortunately the argument fails. It would have been immensely powerful political theory had it succeeded. I believe there

¹⁵ Indeed, here lies the error in John Harsanyi's (1955) claim to have deduced utilitarianism from behind a veil of ignorance, where the only information souls possess is knowledge of the vNM utility functions of their persons. Harsanyi *did* correctly deduce that (under certain assumptions) an Ethical Observer would distribute wealth to maximize *some* weighted sum of the vNM utility functions of persons. But that weighted sum has *nothing to do* with the philosophical theory of utilitarianism, which requires comparability of utility across persons. Harsanyi's result is a representation theorem, not a theorem about utilitarianism (see Roemer (1996, chapter 4)). It is further true that Harsanyi had no way of deducing what the weights on different persons' utility functions should be. So what he proved was that the social-welfare function must lie in a certain class of social welfare functions.

is no such argument, although such claims are difficult to prove. To deduce ‘equality’ as a conclusion, some cousin of it has to be assumed as a postulate – solidarity, fraternity, other-regardingness, or homogeneity of interests (preferences, life-plans). One or more of these *in addition* to impartiality and rationality must be postulated, so I believe, to deduce equality or maximin as a constitutional principle.

One might attempt to deduce that the distributive rule must reflect solidarity (which I have not defined) from some prior principles – ideally, à la Rawls, from rationality and impartiality. And then, one might be able to argue that rationality, impartiality and solidarity imply the difference principle or some related egalitarian principle. But I am skeptical that solidarity can be so deduced. If I am right, then egalitarians can never hope to construct an argument that will convince those who do not, a priori, subscribe to *additional* principles such as solidarity.

To summarize: Rawls introduced the radical idea that many features of a person are morally arbitrary, and he attempted to argue that justice, given this fact, comprises a kind of equality. Although his argument fails, his premise is an advance over Marx’s, who, I have argued, located the site of injustice in the unequal ownership of property. With Rawls we see the claim that injustice follows from the fact that some possess, by virtue of luck, characteristics that enable them to succeed, much more than others, in a capitalist economy. The injustice follows from the premise that persons have no right to benefit (or suffer) from this kind of luck.

6. Robert Nozick and self-ownership

Robert Nozick’s (1974) contribution is important in this story because he, more clearly than others, pointed out that Marxian exploitation was not necessarily an evil. We need not accept the entirety of his libertarian project to give him credit for this observation.

Nozick’s ethical premise, the polar opposite of Rawls’s, is that a person owns himself. The concept of self-ownership is that (in G.A. Cohen’s words) a person has all the rights to the use of his bodily powers that a slave owner has over a slave. The *thesis* of self-ownership is that self-ownership is the morally correct premise.

Self-owners might well enter into relations in which one exploits (in the Marxian sense) the other, and these relations are not unjust, as long as the accumulation of wealth has been clean: the result of voluntary transfers, gifts, and exercising the rights of self-ownership. (Nozick has a particular proviso whereby individuals can appropriate parts of the unowned natural world as their own private property, but the details are not relevant here.) The germane point is that, if we accept the premise that a person is the rightful owner of his labor power, then exploitation is not necessarily an evil: it all depends upon the history of accumulation. Socialists and libertarians have different views on what constitutes clean accumulation, but this does not affect the truth of the previous sentence. If a poor Asian immigrant in an American city accumulates some savings and opens a grocery store on the corner, hiring and profiting from the labor of others who had the same opportunities, the ensuing exploitation is not unjust. Thus Nozick locates Marx's type-two error.

As I said, we need not accept Nozick's entire edifice to recognize the correctness of this point. Marx implicitly viewed workers as the rightful owners of their labor power, when he called surplus labor an *expropriation* of what rightly belonged to the worker by the capitalist. Although Marx later called this Lockean view 'bourgeois right,' when he described the ultimate phase of society (communism) as one in which income is distributed according to need, his critique of capitalism (as built upon exploitation) endorsed it.

7. Ronald Dworkin and equality of resources

Ronald Dworkin (1981a,b) agreed with Rawls on two major points: first, that the birth lottery distributes families, intelligence -- and more generally *resources* -- in a morally arbitrary manner, and second, that persons should be held responsible for their preferences. He constructed an analogue to Rawls's original position that, I believe, was a better representation of the requirements of impartiality than Rawls's. And rather than asserting vaguely what distribution of income souls would contract to, in the manner of Rawls, he proposed that behind the Dworkinian veil of ignorance, the social contract be represented by an equilibrium of a hypothetical insurance market that would operate behind this veil.

What information do souls know behind Dworkin's veil of ignorance? Each knows the preferences of its principal. But souls do not know the resources their principal will possess – the families into which (the principals of) souls will be born, their wealth, or their skills and intelligence. They do know, however, the *distribution* of resources in the actual world. And, knowing their preferences, they know, in particular, their preferences over lotteries, so they can calculate their *expected utility* at any proposed distribution of alienable resources, where the expectation is taken over the various allotments of inalienable resources they could end up with in the birth lottery. Dworkin's veil lets pass through the information for which people are to be held responsible (their preferences, including preferences over risk), and filters out all information that is morally arbitrary, namely, what resources each individual would possess.

The problem Dworkin faces is that some resources are alienable – in particular, wealth – while some (birth families, intelligence) are inalienable¹⁶. How, then, should the alienable resources be distributed to properly compensate persons who receive a bad draw in the distribution of inalienable resources? Dworkin proposes to solve this problem with an ingenious mechanism. Each soul behind the veil is given an equal amount of some imaginary currency with which insurance can be purchased – insurance against being born with a poor bundle of resources. The commodities that can be purchased in the insurance market that operates behind the veil are precisely insurance contracts: they take the form “If I am born with resources x , I will receive (or pay) a transfer of y .” These are called ‘state-contingent commodities’ as they define what people will receive in the various states of the world, which are the various ways souls behind the veil can be distributed in the birth lottery. Dworkin then says that ‘equality of resources’ consists in that distribution of wealth that would follow after the birth lottery occurs and the equilibrium insurance contracts (that were agreed to, hypothetically, behind the veil) are honored.

Now Dworkin engaged in some vague discussion about what the outcome of his insurance market would be. But this is unnecessary, as there is a well-honed theory of

¹⁶ I here take it for granted we do not contemplate breaking up families or raising children collectively, or genetic engineering.

insurance in economics, and it is only necessary to set up the model of insurance behind Dworkin's veil of ignorance and calculate what the equilibrium in the market would be.

Before doing so in an example, I will reiterate the sense in which Dworkin's construction is an apt one. People are held responsible for their preferences, and this is represented by their souls' knowing these preferences behind the veil of ignorance. The distribution of resources is morally arbitrary and this is represented through souls knowing only the *distribution* of such resources in the actual world, but not which resource bundle any soul will end up possessing. *Equality* in the contracting situation is represented by each soul having an equal endowment of currency with which to purchase insurance. The model thus represents, quite faithfully it seems, Dworkin's ethical premises.

One might object, as I wrote earlier, that if souls know the *joint* distribution of preferences and resources, each can infer something – perhaps a great deal – about what resources it will receive in the birth lottery. If I am an Everest hopeful, and I see only 1% of persons are Everest hopefuls, then I know my resource allocation will be given by the marginal distribution of resources among the Everest-hopeful class. I may be able to deduce a great deal about what resources I am going to receive in the birth lottery. This violates the impartiality assumption that is required to model the moral arbitrariness of the allocation of resources. So we should alter the original assumption, and say that individuals do not know the *joint* distribution of resources and preferences. They know only the distributions of resources and the distribution of preferences.

Unfortunately, the equilibrium in Dworkin's insurance market – modeled using the general-equilibrium approach to insurance pioneered by Kenneth Arrow -- can be pathological. I display a simple example of this pathology. Assume there are only two people in the world, Andrea and Bob. There are two resources in the world, one alienable – monetary wealth—and the other inalienable – endorphins. Andrea has a high level of endorphins and Bob a low level, and this means she can achieve greater welfare than Bob, if they receive the same amount of wealth. Andrea is a more efficient processor of wealth into welfare than Bob, because of the possession of an internal resource. (Important note: This is *not* because Bob has expensive tastes, but because he lacks a resource that she possesses.) Each of Andrea and Bob has the *same preferences*

over bundles of wealth and endorphins, and we may suppose these are risk-averse preferences. Behind the veil, there are two souls Alpha and Beta. In fact, these souls are identical because each knows the preferences of its principal (Andrea and Bob, respectively), but I have supposed these preferences are identical. Each faces the same birth lottery: with probability one-half, Alpha will be born as Andrea (with her wealth and endorphins), and with probability one-half it will be born as Bob (with his wealth and endorphins). The insurance equilibrium will consist in a contract that is the same for both souls, and it will be of the form: “If I am born Andrea, I agree to pay Bob x , and if I am born Bob, I agree to pay Andrea $-x$.” Paying a negative amount means *receiving* that amount from the other person. The value of x in this sentence could be positive, negative, or zero. The equilibrium must have this symmetric form, because it is precisely this form that means the insurance market clears: that is, demand for wealth equals supply of wealth in every state of the world. The existence of equilibrium means there will exist a contract that both agree to in the insurance market for *some* value of x .

Suppose that in the actual world, Andrea’s endowment of wealth and endorphins is (W^A, E^A) and Bob’s is (W^B, E^B) . It is easy to write down preferences and choose endorphin levels $E^A > E^B$ such that, at the equilibrium, *the wealth transfer implemented by the insurance contracts gives Andrea two-thirds of the total wealth* $(\frac{2}{3}(W^A + W^B))$, *and Bob one-third of the total wealth* $(\frac{1}{3}(W^A + W^B))$. Why is this pathological?

Because resource-egalitarianism should clearly *compensate* Bob for his unfortunately low level of the inalienable resource. But it does just the opposite! Andrea ends up with both more wealth and more endorphins¹⁷.

What is the intuition behind this result? Behind the veil, Alpha thinks, “I’d like to have more wealth if I become Bob, to compensate myself for the low level of endorphins I would have ... but then again, if I become Andrea, I can get a real kick from wealth, and so I’d have a chance of a really great life with enough wealth.” These two considerations work against each other. How the *trade-off* is mediated in equilibrium

¹⁷ For precise calculation of this equilibrium, see Roemer (1985) or Moreno and Roemer (2008).

depends upon exactly how risk averse the preferences of the individuals are. For moderate degrees of risk aversion, Andrea will end up with more wealth than Bob after the contracts are cashed in, but with more extreme risk aversion, Bob will end up with more wealth than Andrea.

Rawls might say that, for such important life-determining decisions, people will be extremely risk averse, and so the pathology will not occur. (Of course, Rawls would not assent to having souls know the preferences or their principals.) But I assert we cannot be so cavalier about the kind of risk preferences people have. In the real world, many poor people behave in only a mildly risk-averse fashion: they take dangerous jobs for perhaps only slightly better wages than they could earn at significantly less dangerous ones. (It is said that the US paratroopers in the Vietnam War, who were majority black and poor, volunteered for this highly dangerous assignment for a bonus of \$10,000.)

When confronted with this example of the pathology of his insurance market, Dworkin responded that, were preferences of the sort that would lead to the pathology, he would not use the insurance market¹⁸. But this makes the proposal unworkable: in a large economy, with a great variety of preferences, the pathology is very likely to assert itself somewhere. I cannot see that there is any way of restricting the domain of problems for which Dworkin's insurance market works well, short of requiring – as I have argued Rawls in fact required – that souls be extremely risk averse. And it is unsatisfactory for a theory of distributive justice to depend upon a restrictive and unrealistic assumption concerning risk preferences.

There is an alternative: one could believe that Dworkin's hypothetical insurance market is the correct way of modeling the problem of distributive justice, given his ethical premises, and accept the outcome. This would mean that one violates what could be said to be the simplest requirement of resource egalitarianism, namely:

¹⁸ This occurred at a social-choice conference in Halifax in, I believe, the summer of 1985, where Dworkin and I debated his proposal. Dworkin never addressed my example in writing.

Simple Resource Egalitarian (RE) Premise If two persons have the same preferences over wealth and an inalienable resource, then the one with the lower endowment of that resource should receive at least as much wealth as the one with the greater endowment.

Although some may choose the alternative path, I do not: I find the ‘Simple RE Premise’ to be essential to a resource-egalitarian philosophy, or indeed any egalitarian philosophy. And I believe Dworkin did as well.

Ronald Dworkin’s positive contribution was to sharpen greatly our conception of the moral distinction between resources, for which a person should not be held responsible, and preferences, for which he should. He injected the concept of responsibility in a compelling way into the theory of equality, harnessing, as G.A. Cohen wrote, the most powerful idea of the political right for left-wing political philosophy. His errors were several: first, not having worked out the details of how the hypothetical insurance market would function, and its often pathological equilibrium properties, and second, his decision to place the ‘cut’ between those aspects of a person for which she is responsible and those for which she is not, as coinciding with ‘preferences versus resources,’ an issue to which we turn next.

8. G.A. Cohen and equality of access to advantage

In 1989, two articles were published, both appreciative yet critical of Dworkin’s proposal, on philosophical grounds (an adjective I use to distinguish the criticisms from the ‘economic’ one I made above, concerning the misbehavior of insurance-market equilibrium). Richard Arneson (1989) argued that Dworkin’s critique of equality of welfare was correct, on the grounds that persons not be granted more resources (money) at the bar of justice on account of having voluntarily cultivated expensive tastes, but he continued that the correct alternative is not equality of resources à la Dworkin, but to implement *equality of opportunity for welfare*. If two persons have the same opportunities for welfare, justice is not violated if one achieves lower welfare than the other on account of cultivating expensive tastes. G.A. Cohen (1989) agreed that Arneson’s criticism did suffice to correct the expensive taste problem without discarding

welfare as the equalisandum entirely, as Dworkin had done, but said that it failed to capture another Dworkinian error, which I will now describe.

Cohen (1989) claimed that the right egalitarian impulse is to eliminate involuntary disadvantage; he also said (in the same article) that it is to eliminate exploitation and bad brute luck, where exploitation occurs when one person takes unfair advantage of another, and brute luck (a term introduced by Dworkin) means the outcome of luck against which one had no possibility to insure. The birth lottery is the canonical example of brute luck, and Dworkin's hypothetical insurance market is an attempt to transform that brute luck into option luck, luck against which one has had the opportunity to insure. The outcome of option luck is, for both Dworkin and Cohen, morally all right.

Thus, while Dworkin placed the responsibility cut between preferences and resources, Cohen places it between choice and luck. Inequality due to (genuine) choice is acceptable, while inequality due to (brute) luck is not. Cohen's quibble with Dworkin concerns the fact that not all preferences are chosen: they may be determined or greatly influenced by circumstances beyond one's control, and compensation for choices that a person has as a result – say – of an impoverished childhood (an unjust resource deficiency) should be available at the bar of justice. Dworkin, however, said that as long as a person identifies with his preferences – is glad he has them -- he is responsible for the choices that they induce, regardless of the genesis of the preferences.

Cohen's quibble with Arneson is that equality of opportunity for welfare is not the only thing that counts for egalitarian justice: resources count too, independent of welfare. Consider Tiny Tim, the Dickens character who is happy but crippled: egalitarians certainly believe he should receive a wheelchair from the Ministry of Justice, even though he is already happier than the norm. So resources must enter the equalisandum: that is, justice requires addressing Tim's resource deficiency, regardless of his welfare level. Conversely, consider a person who, through no fault of his own, can raise his arms only with great pain. He is able to do with his arms what a normal person can do, so he has no resource deficiency: but he has a welfare deficiency with respect to the use of his arms. This man, too, should receive subsidized medication for his arm pain from the Ministry of Justice.

Therefore, Cohen writes, the correct equalisandum is neither resources nor welfare nor equality of opportunity for welfare: it is some amalgam of welfare and resources. This unspecified equalisandum Cohen dubs ‘advantage,’ and he calls his own proposal ‘equal access to advantage,’ access being, he suggests, a more appropriate word than opportunity for what egalitarian intuitions require (for reasons we need not here rehearse).

Thus, Cohen’s important contribution was to refine the distinction between characteristics of a person for which she should be compensated under an egalitarian ethic, and one’s for which she should not be. Luck versus choice, rather preferences versus resources, is the right dichotomy. This school of thought was dubbed ‘luck egalitarianism’ by Elizabeth Anderson (1999). Apparent weaknesses in Cohen’s proposal were the vagueness with which advantage was defined, and also the hanging clause of ‘elimination of exploitation [taking unfair advantage of]’ as a second requirement of egalitarian justice, stated once in the article and then not repeated. One wonders whether there can be instances of unfair advantage that are not already ruled out by equal access to advantage. If exploitation results from some persons’ making bad choices (for which they are responsible), is the exploitation unfair? Or, perhaps more to the point, if it results from voluntary agreements between persons neither of whom has benefited unfairly by luck?

In other writings, Cohen (1992, 1997) also critiqued Rawls’s advocacy of the difference principle as permitting high incomes to productive individuals who would reduce their labor supply if their salaries were reduced by taxation, where those tax revenues could be used to increase the incomes of the worst-off. This, he argued, was inconsistent with the Rawlsian premise that a just society is ‘well-ordered,’ meaning that its members all embrace the conception of justice (in this case, to maximize the primary goods available to its worst-off members). This critique, however, is not central to the story I am telling, and I therefore mention it only in passing.

9. J.E. Roemer and equality of opportunity

My own proposal (1993, 1998) made no philosophical advance: rather, it was an attempt to present an algorithm for deciding upon what the right egalitarian policy is,

given the appropriate data. By ‘right,’ I mean the policy that would implement equal access to advantage. It was, that is to say, an alternative to Dworkin’s faulty hypothetical insurance mechanism for deciding what transfer policy would implement egalitarian justice.

Consider a society that desires to equalize access to some specific kind of advantage: for example, wage-earning capacity. Suppose that each person’s wage-earning capacity will be a given function of his *circumstances*, his *effort*, and a social *policy*: thus, his wage-earning capacity will be a function $W(C,e,\varphi)$ where C is a list of circumstances beyond his control that characterize his social and biological environment, e is a measure of effort the individual exercises, useful in the acquisition of wage-earning capacity, and φ is chosen from some set of feasible social policies (perhaps, policies that distribute educational finance in various ways among the population of young people). Effort is to be conceived of as the consequence of *choice*, while circumstances are due to *luck* — the morally arbitrary characteristics of Rawls. It’s important to note that the function W does not represent subjective utility, but rather a specific kind of advantage with which society or a state ministry is concerned. In particular, W is an *increasing* function of e , while subjective welfare, in economic theory, is usually modeled as decreasing in effort expended.

Here, C delineates those attributes of the person’s environment that are due to luck, and e is meant to capture those (useful) actions taken by choice. The first step in the algorithm is to partition the society into *types*, where a type consists of all those individuals with the same vector of circumstances. Let us assume that the number of types is small relative to the size of the population, so that there are many individuals in each type, and it is therefore possible to speak of a *distribution of wage-earning capacities* within each type, at a given policy. Thus the *data* of the problem include the specification of the distribution of wages in each type t for each policy φ in the feasible set of policies. Denote the (cumulative) distribution function of wages in type t at a policy φ by $F^{(t,\varphi)}$. The fraction of people who will end up with wage-earning capacity w or less in type t if the policy is φ will be $F^{(t,\varphi)}(w)$.

The key is to note that because circumstances are the same for all members of a type, and all face the same policy by hypothesis, the differential wages that ensue in the type are due to the differential effort (choices) of its members. Indeed, a person with a higher wage must have expended higher effort, by the *ceteris paribus* principle.

Luck-egalitarian theorists assert that inequalities of wage-earning capacity within any type are ethically acceptable: for these are inequalities which differ solely by virtue of choices among a set of persons who all face the same outcome of luck, as specified by their circumstances. So the fact that there is a whole *distribution* of wages within a type – perhaps substantial inequality – is not ipso facto unacceptable, being due, by hypothesis, to differential choice. However, differences *between* the distributions of wages of different types are ethically unacceptable, as they are due at least in part to their members' having different circumstances. Thus, loosely speaking, the egalitarian goal is to choose that policy φ that renders the different type-distributions of wages as similar as possible.

We can say something more, which addresses the problem referred to earlier, that preferences evolve from both circumstances and personal choice, and *involuntarily chosen* preferences are, according to Cohen, an element of luck. Let's say the effort variable in the problem at hand is a measure of how hard the individual has worked in secondary school. The *distribution* of this effort measure within a type is a *characteristic of the type*, not of any individual, and thus that distribution must be considered a *circumstance*. Let's say upper-middle-class white children have a median level of effort of 10 and black children living in the ghetto have a median level of effort of 4. I take the distribution of effort within a type to be determined by circumstances that define that type, and so the disadvantaged type should not be penalized (by the policy) for having a low median effort. In particular, I propose to measure the *degree* of effort of an individual by his *rank* in the effort distribution of his type: that is, in deciding how much effort a person has expended, we compare him only to others with his circumstances. (The degree of effort is a unit-less rank, while the level of effort is an absolute number, with units in hours, energy units, etc.) By the *ceteris paribus* principle, this degree will also be the rank of the individual in the *wage* distribution of his type, under the assumption that all members in a type are exposed to the same policy. Thus the median effort individuals in these two types, having expended 4 and 10 units of effort,

will be declared to having expended *equal degrees* of effort, as they each lie at the 0.5 rank in the effort distributions of their respective types. As such, justice requires that the policy compensate the disadvantaged individual until their wage-earning capacities are equal. Converting effort to the rank measure sterilizes the measure of effort of the impact of circumstances upon it.

I will not go further into a description of the mathematical algorithm for policy choice: for this, readers may consult Roemer (1998). The salient points about the algorithm are these:

- each society can choose the set of circumstances for which compensation is due. Thus a society's theory of responsibility is a variable, and the algorithm chooses an optimal egalitarian policy given that conception of responsibility;
- there is no veil of ignorance that justifies the procedure. It is simply an attempt to capture the idea of equalizing access to advantage for types characterized by having different values of morally arbitrary characteristic. The *access* to advantage of persons of a given type is taken to be given by the *distribution of advantage* that members of that type achieve at a given policy. Policy choice is dictated by an attempt to equalize those distributions;
- the influence of circumstances upon effort is incorporated by measuring an individual's effort as his *rank* in the effort (and wage) distribution of his type. One's rank in the effort distribution of one's type is a measure of effort, sterilized of the impact of circumstances upon it. Two individuals with different circumstances but at the same effort rank in their types should acquire the same value of the objective in the completely just distribution;
- it is in almost all cases impossible to find a policy that renders the many type-distributions of outcomes identical, and so full equality of access to advantage is unachievable. There are various ways of optimizing – that is of ordering policies with respect to their efficacy in approaching the (unachievable) goal;

- the algorithm represents a pragmatic view. It does not propose what the ‘true’ circumstances are, but can be used by any society to find equal-opportunity policies consonant with its own conception of responsibility (circumstances).

There have now been many studies applying this approach to measure inequality of opportunity with respect to various objectives (or concepts of advantage), in many countries. (For a review of the literature, see Roemer and Trannoy (2016).) Other algorithms for policy choice in a luck-egalitarian framework have also been proposed (see, in particular, Fleurbaey (2008)) .

Due to lack of data, much actual luck is not measurable, and does therefore not appear in the list of circumstances. The luck of being in the right place at the right time is rarely measurable. Some of what we interpret as differential effort, in a distribution of wages of a given type, will in fact be due to luck that is episodic and not measurable. ‘Big data’ will to some degree be able to address this weakness, as I briefly discuss in section 12. By defining a comprehensive set of circumstances, one hopefully reduces the influence of episodic luck to a minimum.

10. G.A. Cohen on socialism

As I stated in the first section, my task is to re-orient the goal of socialism, away from the Marxist formulation of the elimination of exploitation (defined using labor accounts and measures of surplus value) to a modern formulation of the elimination of distributive injustice¹⁹, as it has evolved in the literature inspired by Rawls’s concept of the moral arbitrariness of the distribution of many attributes of persons. One must add the Rawlsian coda to this sentence for obvious reasons: there are other theories of distributive justice not here discussed, notably the ones focusing on democratic equality

¹⁹ Some may protest that I am biting off too much: Marx, after all, distinguished between socialism as an intermediate stage between capitalism and communism, the latter being a state of full distributive justice. I am ignoring that distinction here.

(see Anderson (1999) and Scheffler (2003)), and utilitarian theories, some of which (Peter Singer) include other sentient beings in the relevant population.

Indeed, Cohen (2009) has already attempted this task, in his short book / essay entitled *Why not socialism?* where he defines socialism as consisting of two principles -- one egalitarian, the other communitarian. The egalitarian principle is one he denotes as ‘radical equality of opportunity’ and ‘socialist equality of opportunity.’ It is the principle that was enunciated in Cohen (1989), that the just income distribution eliminates any income differences due to luck, but allows income differences due to choice.

Cohen (2009) distinguishes among three degrees of equal opportunity: bourgeois, left-liberal, and socialist. Bourgeois equality of opportunity eliminates inequality associated with feudal privilege: inequality due to inherited status, or directly coercive relations. The ideal capitalism of Nozick would enjoy bourgeois equality of opportunity, where markets are competitive, and merit (in the sense of the application of useful productive skills) is rewarded. But inequalities would remain due to the luck of the birth lottery, both with respect to inborn traits and the social environment that the birth lottery assigns through families. *Left-liberal* equality of opportunity eliminates inequality due to *social* circumstances – in particular, through a radical policy of educational finance, in which the deficits of children from poor families, due to poverty, are eliminated through education. *Socialist* equality of opportunity eliminates as well the luck inherent in the distribution of inborn traits. (Meade’s property-owning democracy strived to achieve socialist equality of opportunity, although it was his eugenic policy, along with education, that was called upon to bear the brunt of eliminating extreme inequality of inborn traits.) The only sources of differential income would be inequality of effort, where effort is sterilized of the influence of circumstances of both a social and biological kind upon it²⁰.

Cohen (2009) continues to point out that some inequalities will be acceptable according to socialist equality of opportunity, but may become so large as to prevent the

²⁰ Rawls (2002, p.57-65) had essentially the same hierarchy of kinds of equality of opportunity, but using different nomenclature. The ‘system of natural liberty’ is one with bourgeois equality of opportunity; ‘fair equality of opportunity’ is equivalent to left-liberal equality of opportunity; and ‘democratic equality’ is equivalent to socialist equality of opportunity.

achievement of *community*, his second requirement for socialism. Two aspects of community are discussed. First:

... the requirement of community that is central here is that people care about, and where necessary and possible, care for, one another, and too, care that they care about one another. (2009, p.34)

Second:

Communal reciprocity is the anti-market principle according to which I serve you not because of what I can get in return by doing so but because you need or want my service, and you, for the same reason, serve me (2009, p.39)

Large material inequalities, Cohen says, can jeopardize both kinds of community, and so a socialist society must limit them, because, by hypothesis, community is a second requirement of socialism. (Cohen is undecided whether community is a piece of distributive justice, or a constraint upon the inequalities otherwise allowed by justice.)

It is noteworthy that there is no reference to exploitation in Cohen (2009): thus, he appears to have resolved the problem I pointed to at the end of section 8, namely whether indeed there is redundancy in demanding the elimination of exploitation once socialist equality of opportunity (or what was in Cohen (1989) called equal access to advantage) has been achieved. The resolution is that equal access to advantage implies the elimination of exploitation, in the sense of one person's taking unfair advantage of another.

In particular, although Cohen (2009) does not say this, it follows that some kinds of *Marxian* exploitation are not prohibited in socialism, as long as they arise from differential choice once inequalities due to luck have been eliminated. If you and I have the same abilities, and the influence of our different social backgrounds has been thoroughly compensated through education, and I choose to accumulate wealth that I use as capital to employ you, who did not desire to accumulate wealth, and thereby profit from your labor, the Marxian exploitation that ensues is acceptable under socialist equality of opportunity.

The type-two error of the Marxian formulation of injustice-as-exploitation is thus acknowledged by Cohen, if only mutely, as I have found no explicit written statement of his to this effect. Thus, the challenge of the prohibition against Marxian exploitation,

first made by Lange and then Meade in their economic designs, is finally given full ethical pedigree in Cohen's conception of socialist equality of opportunity, which, so I claim, permits the hiring of one person by another for profit.

Cohen (2009) goes on to ask whether socialism, so construed, is desirable, and if it is feasible. His argument for its desirability relies upon the analogy of a society with a camping trip, which I will not review here. The challenge to feasibility comes from two quarters: first, would human nature allow the kind of ethos required for the two kinds of community Cohen says are necessary for socialism, and second, if it would, is there an economic mechanism that could implement the socialist principles of distribution in a reasonably efficient manner? Cohen believes that the market mechanism runs on motivations of greed and fear, and if these are replaced by principles of socialist community, how can a society organize its economic affairs?

11. Cohen revised

I object to Cohen's two-pronged definition of community as indicated by the two quotations in section 10 – that people be *altruistic* (in the sense of caring for each other) and *reciprocating* (in the sense of wishing to serve others, and in turn be served by them). I would drop the altruistic requirement, because I do not believe it is expressed in the history of socialist thought, and is, as well, supererogatory. I do not object to including a *behavioral ethos* as a principle of socialism, and Cohen's reciprocating principle is one such ethos. Indeed, I think specifying a behavioral ethos as a principle of socialism is a must, because without the right ethos, any set of rules and regulations can be circumvented and undermined. This is, indeed, the main weakness that afflicts my picture of market socialism in Roemer (1994): I then thought that having the right rules and regulations would suffice to produce a socialist society, taking people more or less as they are today.

However, I would replace the reciprocating ethos by one that says people should address their problems in a cooperative or solidaristic manner. This may be similar to the reciprocating ethos, but nevertheless, there is a distinction. Cooperation and solidarity are represented by the aphorism 'we all hang together or we each hang separately,' while

reciprocation is described by the aphorism ‘do unto others as you would have them do unto you.’ Both these principles are distinct from altruism, but also from each other.

In similar manner, I would define capitalism as consisting of certain property relations with free trade, combined with the meritocratic principle (that eliminates the feudal bond as a source of income), and a behavioral ethos that each person need only look out for herself (and her family).

My quibble with Cohen’s reciprocating principle is, I think, a minor one, and I do not wish to make much of it. It turns out there is a nice distinction between the capitalist principle of ‘each looks out for himself’ and ‘cooperation/solidarity’ in game theory. The former is represented by the optimization concept of Nash: take that action that, given what others are doing, is the best action for you. This leads to the concept of Nash equilibrium, a situation where each person is taking the best action for herself, given the actions of all the others in the game. In contrast, cooperation can be modeled as Kantian optimization, in which each takes the action he would like all to take. (This, at least, is Kantian optimization in a symmetric game; there are generalizations of the behavior when games are not symmetric. See Roemer (2015, 2017).) The essential difference is that in self-regarding behavior, each individual treats other individuals as part of the environment, against which he/she reacts, while in cooperative behavior, each treats himself as part of a community who face a problem together and should react in coordinated fashion. I find this distinction more salient than the one in which self-regardingness is counterposed to reciprocation, as Cohen has chosen to do.²¹

Thus, I would define socialism as consisting of socialist equality of opportunity (the distributive principle) and a cooperative/solidaristic behavioral ethos. I hasten to point out, as I have indicated, that cooperation as a behavioral strategy does not, in principle, require altruism (caring about others). Nor does Cohen’s reciprocating principle require altruism. This point is easily established by considering the prisoners’ dilemma (PD) game. The *Nash* equilibrium of the PD is for both players to Defect: this is the unique solution where each player chooses the strategy that maximizes his payoff, given the strategy of the other player. But the *Kantian* equilibrium is for both players to

²¹ See J. Roemer, *How we do and could cooperate: A Kantian explanation* for further elaboration.

choose Cooperate. Each chooses the strategy he would most like both to choose! Yet, cooperating may not be motivated by altruism: I do not use the Kantian behavioral protocol because I care about you, but because I realize that if we do not hang together, we will each hang separately. It is better for *me* if we both choose the strategy we would like each to play than if we each react individually to the choice of the other. And that suffices for motivation; altruism is unnecessary.

13. Conclusion

My task has been to propose a revision of socialism's ethical goal, away from the elimination of (Marxian) exploitation, towards the achievement of distributive justice conceived as comprehensive equality of opportunity, plus cooperation achieved through an ethos of solidarity. Solidarity's necessary condition is that all members of society believe they are facing a common task, that they are all in the same boat. Differences between individuals – in custom, culture, religion, race and sex – frustrate that understanding. But I believe – and I think it is part of the heritage of socialist thought – that the main difference that frustrates that understanding is class difference. And inside class difference, the most essential differentiation is with respect to income. Solidarity and the cooperation it must engender are impossible as long as income differences are large.

Large income differences, however, are not precluded by a regime of comprehensive equality of opportunity. Large *wealth* differences may be so precluded, to the extent that wealth, at least if it can be inherited, destroys equality of opportunity across time. One can probably argue that large income differences, to the extent that they imply different opportunities for children, are also so precluded. I am content not to prosecute that case here, but to limit large income differences due to their anti-solidaristic effects.

This raises the question whether socialism, as here conceived, is feasible. That vital question will not be addressed, as doing so would require another investigation of similar length. I hope to address it in the future, and in particular, to revise my earlier attempt at doing so (Roemer [1996]). Let me simply say this. I believe a design for

socialism must include, as well as a template for property relations – in particular, how firms will be owned – a template for how people will cooperate.

Let's recall this challenge from Cohen (2009):

In my view, the principal problem that faces the socialist ideal is that we do not know how to design the machinery that would make it run. Our problem is not, primarily, human selfishness, but our lack of a suitable organizational technology: our problem is a problem of design. It may be an insoluble design problem, and it is a design problem that is undoubtedly exacerbated by our selfish propensities, but a design problem, so I think, is what we've got.

That design, I am saying, cannot be limited to new property relations in firms, but also institutionalizing, one might say formalizing, how people will cooperate. In democracies, citizens do cooperate, when they elect representatives. When a firm is worker-owned, workers do cooperate in firm management. In successful capitalist firms, workers also cooperate in production to a much greater extent than is admitted in the stripped down neoclassical economic model. In corporations, shareholders (investors) cooperate in the management of the firm. A design for socialism must include a description of how cooperation will be extended in a substantial way. In my view, markets will be essential: I do not share Cohen's skepticism about markets, shared by many in the socialist tradition. But markets, I claim, do not preclude cooperation.

Because I have not proposed a design for socialism here, some may say, "So what else is new? What you are proposing is an evolved form of capitalism. After all, you wish to retain not only markets, but allow some people to hire others for profit. Isn't this just a modification of social democracy?" My response is that the challenge confuses principles with tactics. Capitalism's principles are two, that persons should be rewarded for their merits as determined by competitive markets, whatever be the source of those merits – the luck of the birth lottery or effort, and that each person is responsible only for the welfare of himself and his close kin. Socialism's principles are starkly different: income differences due to merit (in the sense of skill differences) are not a priori acceptable. Only income differences due to choice, once luck is compensated for, are acceptable. Secondly, each has a responsibility to participate in the cooperative social project. This said, the *tactics* for realizing the two visions intersect, perhaps more than the early socialists believed. Or, at least so we may think at this point in history, lacking the experience of experimentation motivated by socialist principles. Markets will be the

primary method of resource allocation under socialism. Even some private property in productive assets will exist. There must, however, be general solidarity among citizens, and a social ethos of cooperation, which will accompany (that is, imply and be implied by) a substantially equal distribution of income, *beyond* what the distinction between choice and luck alone would require.

There have appeared very recently a plethora of books on income inequality, including Piketty (2014), Atkinson (2015), Bourguignon (2015), Milanovic (2015) and Scheve and Stasavage (2016). With the exception of Milanovic, these books do not concern themselves with inequality of opportunity for income as such, but with income inequality *tout court*. I believe it is important to maintain a clear conceptual distinction between income inequality induced by inequality of opportunity, and income inequality induced by choice. As I've been at pains to emphasize, the former is ethically unacceptable because of its genesis, and the latter *may* be unacceptable if its effects hinder solidarity and cooperation. A large number of surveys attest to the fact that people are disturbed by income inequalities due to luck, far less by those due to differential effort. The principle that the *source* of inequality matters, not just its *magnitude*, should be much more prominent in discussions of inequality.

The distinction is empirically important, as it appears to be the case that, even in the most advanced capitalist economies (and more so in developing economies), a very high portion of income inequality is due to inequality of opportunity. This may seem intuitively so, but it has only been possible to state that fact with statistical precision recently, and the point bears reporting here. A considerable empirical literature has appeared in the last 15 years, applying the algorithm for defining inequality of opportunity that I reviewed in section 9 to estimate inequality of opportunity in a country. Typically, a set of circumstances is specified that in part determine a person's income – his/her race, sex, the education and occupation of the parents, rural / urban birthplace – and then statistical methods are used to compute the fraction of income inequality due to these circumstances in a country, and a residual, which is assigned by default to differential choice or effort. In the OECD countries, the fraction of inequality so assigned to circumstances has been almost always less than 20%, often less than 10%. These small numbers have led some authors (Kanbur and Wagstaff (2016)) to write that,

from a political viewpoint, emphasizing inequality of opportunity may be an inept way of addressing inequality, in the sense that it can let policy makers off the hook.

Recently, however, Hufe, Peichl, Roemer and Ungerer (in press) have used two data sets – one from the United States and one from Britain -- with which it is possible to compute the effect upon income of many more circumstances than the ones I listed in the paragraph above. The new point these authors emphasize is that *all* accomplishments and attributes of children up to an ‘age of consent,’ taken to be sometime in adolescence, should be categorized as due to circumstances, and not choice. Whether a child’s actions are due to nature or nurture (more often, to some combination of the two), they are in any case not the outcome of mature choice, and the child should not be held responsible for them, at least with respect to their influence on the child’s later income as an adult. Thus Hufe et al include many measures of child attributes, reported in these two data sets, as circumstances, and compute that, using the same statistical methods as earlier studies, in the United States, inequality of opportunity accounts for *at least* 46% of income inequality, while in Britain the figure is at least 36%. These numbers are significantly larger than had been calculated heretofore²². It has not been possible to extend these computations to other countries as yet, because data sets do not exist that collect all the necessary statistics.

So inequality of opportunity is not a fine point that should be glossed over: doing so would be comparable to saying that, if inequality of income under feudalism were *only* 46% feudal in character, being attributable to the feudal bond, the distinction between that inequality and income inequality due to the exercise of skill and (capitalist) property relations is of no ethical consequence. Of course, that difference was of great ethical consequence historically, which induced Marx to say that the bourgeois revolutions were *progressive*, not only in the sense of releasing technological development, but in ethical

²² To be precise, if we decompose the mean logarithmic deviation (MLD) of income into that part due to circumstances and that part due to differential income *within* types with similar circumstances, 46% of the the MLD of US income is due to the named circumstances.

Medical researchers now implicitly advocate that we include prenatal attributes as circumstances, as they show that prenatal nutrition (for example) can significantly affect child performance. See, for instance, the *Encyclopedia on Early Childhood Development*.

terms, in their elimination of inequality *particularly associated* with feudal property relations.

How prevalent is the socialist ethos of cooperation today? I believe many people – perhaps the majority – operate with such an ethos in advanced capitalist societies. Occupational choice is often guided by a desire to contribute to society, not simply personal enrichment. To a significant extent, neoclassical economic theory has hindered our seeing this as clearly as we should, because the language and models of neoclassical economics are limited to a description and analysis of competitive behavior. Cooperative behavior lives, in economic theory, at his margins, being the purview of behavioral economists, sociologists, and other second-class citizens. When we realize that the great success of our species is due not only to our intelligence, but to a propensity that we seem innately to possess to cooperate with others, it becomes apparent that economic theory has missed a large part of its topic, by formalizing only our competitive behavior²³. That economic error must be rectified if we are to clearly see what socialism should be.

References

- Allen, R. 2003. *Farm to factory: A reinterpretation of the Soviet industrial revolution*, Princeton University Press
- Anderson, E. 1999. “What is the point of equality?” *Ethics* 109, 287-337
- Arneson, R. 1989. “Equality and equal opportunity for welfare,” *Phil. Stud.* 56, 77-93
- Bourguignon, F. 2015. *The globalization of inequality*: Princeton University Press
- Braverman, H. 1974. *Labor and monopoly capital: The degradation of work in the twentieth century*, New York: Monthly Review Press
- Cohen, G.A. 1978. *Karl Marx’s theory of history: A defence*, Princeton University Press

²³ See Tomasello (2016).

- Cohen, G.A. 1989. "On the currency of egalitarian justice," *Ethics* 99, 906-944
- Cohen, G.A. 1992. "Incentive, inequality, and community," in G.B. Peterson, ed., *The Tanner Lectures on Human Values*, Vol. 13, Salt Lake City: University of Utah Press
- Cohen, G.A. 1995. *Self-ownership, freedom and equality*, Cambridge University Press
- Cohen, G.A. 1997. "Where the action is: On the site of distributive justice," *Phil. & Public Affairs* 26, 3-30
- Cohen, G.A. 2009. *Why not socialism?* Princeton University Press
- Dworkin, R. 1981a. "What is equality? Part 1: Equality of welfare," *Phil. & Public Affairs* 10, 283-345
- Dworkin, R. 1981b. "What is equality? Part 2: Equality of resources," *Phil. & Public Affairs* 10, 283-345
- Elster, J. 2000. "Arguing and bargaining in two constituent assemblies," *Univ. of Penn. J. Constit. Law*, 345-
- Fleurbaey, M. 2008. *Fairness, responsibility and welfare*, Oxford University Press
- Geras, N. 1984. "The controversy about Marx and justice," *Philosophica* 33
- Harsanyi, J. 1955. "Cardinal welfare, individualistic ethics, and interpersonal comparisons of utility," *J. Polit. Econ.* 63, 309-321
- Hufe, A. Peichl, J. Roemer and M. Ungerer, in press. "Inequality of income acquisition: The role of childhood circumstances," *Social choice & welfare*
- Kanbur, R. and A. Wagstaff, 2016. "How useful is inequality of opportunity as a policy construct?" in K. Basu and J. Stiglitz (eds.), *Inequality and growth : Patterns and policy, vol. 1: Concepts and analysis*, London: Macmillan Palgrave
- Lange, O. 1956 [1936]. "On the economic theory of socialism," in B. Lippincott (ed.), *On the economic theory of socialism*, Minneapolis: University of Minnesota Press
- Luxemburg, R. 1951 [1913]. *The Accumulation of Capital*, London: Routledge and Kegan Paul
- Makowski, L. and J. Ostroy, 1993. "General equilibrium and market socialism: Clarifying the logic of competitive markets," in P. Bardhan and J. Roemer, *Market Socialism: The current debate*, Oxford University Press

- Makowski, L. and J. Ostroy, 2001. "Perfect competition and the creativity of the market," *J. Econ. Lit.* 39, 479-535
- Meade, J. 1965. *Efficiency, equality, and the ownership of property*, Cambridge MA: Harvard University Press
- Moreno-Ternero, J. and J. Roemer, 2008. "The veil of ignorance violates priority," *Econ. & Phil.* 24, 233-257
- Nozick, R. 1974. *Anarchy, state and utopia*, New York: Basic Books
- Piketty, T. 2014. *Capital in the 21st century*, Cambridge MA: Harvard Univ. Press
- Rawls, J. 2003 (1971). *A Theory of Justice*, Cambridge MA: Harvard University Press
- Rawls, J. 1982. in *Utilitarianism and Beyond* [reference to be supplied]
- Roemer, 1982. *A General Theory of Exploitation and Class*, Cambridge, MA: Harvard University Press
- Roemer, J. 1985. "Equality of talent," *Economics & Philosophy* 1, 151-181
- Roemer, 1988. *Free to Lose: An introduction to Marxist economic philosophy*, Cambridge, MA: Harvard University Press
- Roemer, J. 1993. "A pragmatic theory of responsibility for the egalitarian planner," *Phil. & Public Affairs* 22, 146-166
- Roemer, J. 1996. *Theories of Distributive Justice*, Cambridge MA: Harvard Univ. Press
- Roemer, J. 1998. *Equality of Opportunity*, Cambridge, MA: Harvard University Press
- Roemer, J. 2015. "Kantian optimization: A microfoundation for cooperation," *J. Public Econ.* 127, 45-57
- Roemer, J. 2017. *How we do and could cooperate: A Kantian explanation* [in process]
- Roemer, J. and A. Trannoy, 2016. "Equality of opportunity: theory and measurement," *J. Econ. Lit.* 54, 1288-1332

- Scanlon, T. 1999. *What we owe to each other*, Cambridge MA: Harvard Univ. Press
- Scarf, H. 1960. "Some examples of global instability of the competitive equilibrium," *Inter. Econ. Rev.* 1, 157-172
- Scheffler, S. 2003. "What is egalitarianism?" *Phil. & Public Affairs* 31, 5-39
- Sen, A. 1980. "Equality of what?" in S. McMurrin (ed.), *The Tanner Lectures on Human Values*, vol. 8, Salt Lake City: Univ. of Utah Press
- Smith, A. 1776. *An inquiry into the nature and causes of the wealth of nations*
- Sonnenschein, H. 1972. "Market excess demand functions," *Econometrica* 40, 549-563
- Tomasello, M. 2016. *A natural history of human morality*, Cambridge, MA: Harvard University Press