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PROPERTY AND THE CREATION OF VALUE

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Abstract: Following Locke, philosophical discussion of private property has tended to focus on the acquisition of natural resources as central. In this paper I first pursue the idea that the resource paradigm doesn't apply to most developed economies, and show how this creates problems for many accounts of property. My second ambition is to draw a normative conclusion by showing that redistribution of wealth generated in the context of services is more difficult to justify compared with the natural resource paradigm philosophers have often focused on.

Keywords: Property, service economy, distributive justice, natural resources

Philosophical discussion of private property has been dominated by a paradigm that takes the *initial acquisition of natural resources* as central ('the resource paradigm' for short). The reason is simple: most philosophers seeking to explain why private property is justified and to fend off critics on the left like Rousseau, Marx, Proudhon and their successors have followed Locke, and their critics have responded in like terms. Locke, for obvious reasons, was focused on a 17th century agrarian situation in which wealth was largely the product of appropriating natural resources in the form of agriculture or extraction. This made it natural for Locke and his followers to suggest that it was possible, first, to come to have a claim on those resources through labour, and second, to justify subsequent ownership claims by appeal to rights of transfer. Critics have tended to respond in similar terms, accepting the natural resource paradigm, but then seeking to cast doubt on the specifics of the Lockean programme. In part, this is no doubt because it can seem tempting to turn the tables on Lockeans: not only are they wrong that current private property systems are justified by initial acquisition and transfer, but a careful consideration

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of natural resources and the equal claim we all initially have on them supports an egalitarian approach to the distribution of income and wealth.

In this paper, I pursue the idea that the resource paradigm doesn't apply to most of us in the developed world, and hasn't for a long time. To see the basic thought, we need only consult our own bank account and consider how much of its contents is due to primary sector extraction or agriculture, or even secondary sector manufacturing. Empirically speaking, in modern economies, wealth is overwhelmingly the product of *services*, not of the initial acquisition of natural resources. For countries like the contemporary USA, the distribution of natural resources has almost nothing to do with who has what property, or who is rich or poor and why. This means that the Lockean approach to explaining private property is largely irrelevant, as are left-criticisms that are focused on it, be they strictly Lockean, or Georgist, or other kinds of offshoots. What really needs to be explained is private property deriving from transfers following services. This might seem trivial if we imagine those transfers themselves go back to wealth in natural resources a step or two removed, but as I show that is not the case. For most contemporary wealth, it is services or something close enough all the way down. My first ambition is thus to show that *the justification of private property should not focus on labour and the initial acquisition of natural resources, but the legitimate transfer of wealth in exchange for services.*

More controversially, I argue that there are important normative implications for acknowledging this fact. It is, I believe, substantially harder to justify anti-libertarian principles of redistribution once we focus on the moral characteristics of a service-oriented economy. For briefly put, it is harder to drive a wedge between wealth and the value-generating activities of those who come to enjoy it in the context of services, and it is harder to interpose an obviously egalitarian element such as the initial commons of natural resources. My second goal, then, is to show that *it is harder to justify redistributing wealth derived from services for purposes of egalitarian redistribution*. The general lesson is that when it comes to justifying redistributive schemes, the sordid details matter; the provenance of wealth affects the normative analysis that is appropriate to it.

1. THE RESOURCE PARADIGM

Locke argued that goods originally part of the common stock could become our private property in virtue of the labour we exercise, as long as we leave behind 'enough and as good' for others ('the proviso'), and given that we can use without waste what we appropriate. The central example of such labour is agriculture, and Locke focuses on such examples as appropriating acorns or water from a fountain, and working farmland.

Some representative samples that give, not a coherent exposition of his doctrine, but the flavour of the natural resource paradigm, are as follows:[1] 'Though the water running in the fountain be every one's, yet who can doubt but that in the pitcher is his only who drew it out? His labor hath taken it out of the hands of nature where it was common ...' and 'what fish any one catches in the ocean ... is by the labor that removes it out of that common state nature left it in made his property'. For the central farming case, he writes, 'as much land as a man tills, plants, improves cultivates and can use the product of so much is his property ...'. And addressing the no-waste condition, he says, 'As much as any one can make use of to any advantage of life before it spoils, so much he may by his labor fix a property in ...' (Locke 1980: 20–21).

Locke is aware of the importance of features of the economy besides initial acquisition, and he writes at some length about money, however he does so mostly in order to explain how money renders inequality possible, since it permits limitless accumulation despite the no-waste condition. He is also sensitive to the many forms of labour that go into agriculture besides directly working the land, for instance the labour in breaking the oxen that clear the field, the labour in manufacturing metal tools, and so on (Locke 1980: 29 and 26–27). However, on the whole, Locke presents a simple picture whereby wealth is largely the product of natural resources accessed through agriculture. Given the time and place this was reasonable, though even then trade was a highly conspicuous and increasingly important generator of value. (Locke's experience of tea and pepper, if nothing else, would have rendered this vivid.)

What is perhaps more surprising is that neo-Lockeans writing 300 years later would take a similar approach. Robert Nozick essentially adopts the terms of Locke, even when expressing disagreement with his substantive judgements. Nozick, following Locke, refers to such situations as 'a private astronaut [clearing] a place on Mars', shipwrecks and castaways appropriating new territory, and scientists synthesizing new molecules. And although he importantly shifts the emphasis from acquisition through labour to the justification of acquisition through a weakened proviso – appropriation need on his view only not make people worse off than they would otherwise have been – the emphasis remains on resource acquisition. For example, 'If the proviso excludes someone's appropriating all the drinkable water in the world, it also excludes his purchasing it all' (Nozick 1974: 174, 180, 181, 179). Of course, there is nothing objectionable about discussing initial acquisition. Obviously this still occurs, and its occurrence can sometime be, and in the past often was, important. But the question is whether this should be at the centre

[1] My goal is not to contribute to Locke studies. For detailed analysis of Locke's views, see, e.g., Waldron (1988: ch. 6) and Simmons (1992: esp. ch. 1).

of an account of private property in a modern economy. It isn't as if Nozick introduces the resource paradigm for the sake of completeness or thoroughness, and then proceeds to emphasize trade and services.

Nor is this surprising emphasis limited to libertarians or other fans of private property, for the critics have marched out to fight them on common ground rather than shifting the scene of battle. In his extensive criticisms of libertarianism, G. A. Cohen continues the Lockean emphasis on the acquisition of resources (1995: 72–90, 173–188). Yet again there is talk of enclosing beaches and appropriating the land. What has changed is only the assessment of the paradigm. Cohen thus criticizes Nozick's baseline for determining whether non-appropriators are made worse off by someone's initial acquisition. The objection is that an appropriator may not leave others worse off *than they would have been under non-appropriation*, while nonetheless leaving them in a worse off position than they would have been had *they* (the others) been the ones to appropriate. Cohen's illustrative story revolves around *A* and *B* appropriating land and using it to produce bushels of wheat: 'had *A* not appropriated, then a different counterfactual situation might have come to obtain: not that in which common use persisted, but one in which *B*, perhaps concerned lest *A* do so, would have appropriated what *A* appropriates in the actual situation (1995: 80). Since my purpose isn't to contest this criticism, we can simply note his further animadversions later on, where he rejects the Lockean claim that it is labour that puts the value on all things, pointing out that although labour may be a necessary condition for the crops that land produces, so the land is a necessary condition, implying that the labourer has no claim to being responsible for (and thus perhaps deserving of) the entirety of the value generated (Cohen 1995: 182–184).

Finally, it is worth noting that left-libertarians, who in principle recognize a right to the fruits of our labour, but insist on an egalitarian approach to natural resources, are also invested in the resource paradigm. Michael Otsuka, for example, argues for an egalitarian distributive scheme by acknowledging that we may be entitled to the product of our labours, but not to the natural resources we utilize. In response to Nozick's claim that taxation represents forced labour, he writes:

> But when, as is often the case in actual fact, one must make use of the world in order to earn income, Nozick's complaint against redistributive taxation is much more difficult to get off the ground. Consider the case of a farmer who is forced … to give half of whatever income she earns from farming to hungry orphans … [Nozick must assume that] she possesses a right of ownership over the land that she farms that is as full as her right of ownership over herself. (Otsuka 2003: 20)[2]

[2] See Brody (2001) for a similar approach.

Moreover, Otsuka claims that in order to legitimately appropriate resources from the common stock, you must satisfy an extremely strong Lockean proviso. For you must ensure that you leave enough left over so that everyone else can acquire an equally advantageous share of resources, where 'equally' is interpreted to mean that everyone, whatever their talents and abilities, has the same opportunity to get whatever they want (Otsuka 2003: 24, 25–29). This, naturally, would require radical changes in current property regimes, since those with less talent would require far more resources in order to obtain the same opportunities as those more talented, an implication Otsuka embraces. As a schematic example, he contemplates giving valuable sea-front property to some disabled persons, which they are able to collect rents on by selling access to the able-bodied, who would be given farm land to labour on. He concludes, 'In a society in which resources are so distributed, the munificently endowed disabled could justify their equality of opportunity for welfare … on the grounds that they have a right to a share of worldly resources that enables them to secure the same level of advantage as anybody else.' The equal claim on worldly resources, along with the very strong interpretation of the proviso, allows Otsuka to reach the conclusion that radical egalitarian redistribution wouldn't involve any kind of injustice to the more talented at all. The less capable 'would not, therefore, need to respond to any charges of parasitism or free riding' (2003: 35). Otsuka does recognize the possibility of obtaining wealth without natural resources, but his only example of this is someone weaving a piece of clothing out of their own hair, suggesting that these cases strike him as unusual or aberrant.

2. THE SERVICE SECTOR

The way economists look at contemporary sources of wealth stands in stark contrast to what one would gather from reading the philosophers. What is puzzling about the opposing views just outlined is not any specific problem of detail, but rather the entire framework of the resource paradigm. As an economist would point out, about 80% of the value of American economic output (by GDP) derives from *services*.[3] The US is toward the high end of the spectrum – modern European economies are closer to 70% – but the trend toward GDP being dominated by service sector work in advanced economies is unmistakeable. 'Services' is a somewhat diffuse term in this context, but it corresponds roughly to tertiary sector output not the result of primary resource extraction, farming or secondary manufacturing including construction. It includes

[3] <http://data.worldbank.org/indicator/NV.SRV.TETC.ZS>, accessed 21 April 2014. For discussion of the general concept of economic sectors, the history of such classifications, and modern debate, see Kenessey (1987). Some would further subdivide *services* into additional categories, but I set aside such complications here.

fields such as banking, retail, hospitality, dining, entertainment, law, healthcare, education, design and computer programming.[4] The economic importance of the kinds of agricultural activity that so preoccupied Locke and that feature prominently in philosophical discussion has plummeted until now it is completely trivial, however important to our daily bread.[5]

Contrary to what one might suspect, the weight of services is not skewed by especially remunerative fields like financial services or the law; services dominate the percentage of *workers* per sector in about the same proportion as contribution to GDP.[6] And on the other hand, the value of natural resources is comparatively low. Saudi Arabia commands staggering oil reserves, yet its GDP per capita is less than that of Israel or Japan, which have very few. The value of all known oil reserves is equal to only a few years of the world product, to give a very rough intuition-check.[7] Real estate, likewise, is fairly trivial in the scheme of things, with the value of all real estate in the USA estimated at about a single year's worth of economic output in some sources and a few years' worth in others.[8] The values of these resources are enormous in absolute terms (especially when concentrated over small populations), but the point is that just a few years' worth of service-related work would produce their equivalent. There is of course capital which produces hefty returns in relation to overall economic growth (Piketty 2014: 165), but much of that capital was in turn originally produced by services, not natural resources, which is inevitable when one considers that exponential economic growth ensures that most wealth is recent wealth, meaning that current means of getting rich tend to dominate past means of getting rich.[9] Fortunes from the distant past eventually dilute by the forking of the family tree, and by the ever greater value generated by successive means of wealth-creation. J. D. Rockefeller was the richest person in recent times and his richest current heir, David, is still a billionaire, but his fortune doesn't compare with Bill Gates', whose own great-grandchildren will have little

[4] To get a sense of what 'services' means for econometricians, consult the United Nations classification of economic activities, the so-called ISIC. The service divisions are 50–99. See <https://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27>, accessed 21 April 2014.

[5] See Caselli and Coleman (2001) for tables and narrative covering the last century or so.

[6] See, e.g., the US case, <http://www.bls.gov/emp/ep_table_201.htm>, accessed 21 April 2014.

[7] <http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=57&aid=6>, accessed 21 April 2014. I assume a price of oil of about $100/barrel.

[8] Very roughly, $15 trillion. See the Federal Reserve statistical report, <http://www.federalreserve.gov/releases/z1/Current/z1.pdf>, accessed 23 April 2014. I follow the procedure described by Matthew Yglesias for deriving the number cited, <http://www.slate.com/blogs/moneybox/2013/12/20/value_of_all_land_in_the_united_states.html>, accessed 23 April 2014.

[9] Thomas Piketty points out that the rise of wealth inequality in the USA is due mostly to 'supermanagers', i.e. the working rich (2014: 302).

in comparison to the next generation of rich, judging by historical trends (though they will still be rich in absolute terms, and relative to most people). If nothing else, the size of the market is likely to be much bigger, leading to increased opportunities, even as the forking family tree tends to diminish fortunes of the past, meaning 'old money' rooted in agriculture or resource-extraction is unlikely to figure prominently in an accounting of the sources of contemporary (and future) income and wealth. And then of course there are the periodic shocks from wars or economic cataclysms that periodically reset the field.

A glance at recent Forbes lists of the richest 400 individuals – another very rough intuition-check – is consistent with all this. Here and there someone's source of wealth is oil or real-estate, but the list is dominated by such categories as technology, media, financial services, investments, sales, travel, fashion, casinos, dining and hospitality. And even when the source of wealth *is* something like oil, this is often misleading. Even in the age of the underhanded robber baron, say a J. D. Rockefeller, it isn't as if his scheme consisted of stealing the people's land and absconding with the oil. The schemes revolved rather around consolidating control of refining plants, buying out rivals in strategic markets, outmanoeuvring competitors by monopolizing transport through secret agreements, and so on. These practices may seem dubious, but the source of wealth wasn't fundamentally natural resources, but competitive and logistical acumen, however underhanded. (One gets the feeling that oil just happened to be an opportune field for Rockefeller's shady genius; if it hadn't been oil, his zeal, shrewdness, and rapacity would have found the next available outlet, say in newspapers à la Hearst. Criticizing the robber barons for *resource* appropriation is a superficial mistake.)

The exact explanation of the rise of the service economy is subject to some debate, but one plausible theory is that as incomes rise,

> the increase in the consumption of more skill-intensive wants leads to a rise in the importance of market-services, and an increase in the quantity and price of skills. The higher price amounts to a higher opportunity cost for home production, leading high-skilled workers to purchase an even wider range of services in the market. (Buera and Kaboski 2012)

In other words there is a kind of service-spiral, whereby, as people get richer, they want more refined goods that involve services (haute cuisine, physical therapy, financial management). This bids up the wages for those jobs, which in turn lures more people into them, especially as increased specialization means greater productivity in high-skill service fields. And, finally, those now working in service industries require more and more services to fulfil needs it is no longer efficient to fulfil themselves, like fixing their cars or looking after the kids.

Although specialization and comparative advantage play a role in an account like this one, it is interesting to note the fundamental importance of how what people want seems to shift with income. Maslow's hierarchy of needs may not seem all that plausible to anyone who has observed the relative weight placed on things like cell phones, television and beer in the ordering of expenditures. But there is still a pattern to wants that emerges as incomes rise, ensuring that the return to skills rises with incomes. As we come to want good software, refined foods and bourgeois consumption goods such as yoga sessions, the skill component rises, and the more likely the occupation involved is a service. This isn't a necessary truth of course; billionaires may shift toward manufactured goods like yachts and jets that require capital and/or unskilled labour rather than a great deal of skill to produce, but the data above suggest that most of the money in economies like ours is in fact in services.

Pressing this point may, however, seem fundamentally misguided. In fact, it may look as if I have simply confused the issue of initial acquisition with the issue of transfer. It's not as if any recent writers haven't known about services. But although services don't involve any appropriation of resources, they do involve transfers, and that just kicks the can back one step (or however many more) until we arrive at the initial acquisition of resources that was ultimately transferred in return for some service. 'On any characterization of private property, the question of what constitutes original acquisition of it enjoys a certain priority over the question of what constitutes a rightful subsequent transfer of it, since, unless private property can be formed, it cannot, *a fortiori*, be transferred' (Cohen 1995: 72). It may, then, seem that transfers for services aren't really central to private property despite their pervasiveness in a modern economy, since the normative basis of such exchanges still remains the initial appropriations that end up being exchanged at the end of a long chain of transfers.

However, while it is true that one cannot transfer something that doesn't exist, it is a mistake to infer from this that wealth must ultimately derive from natural resources, or that private property nowadays isn't fundamentally a matter of services and transfers, or that these resolve to the same normative analysis as that appropriate to initial acquisition. There are two ways of showing this. First, historically, many countries have become dramatically richer in the last two hundred years without natural resources playing any significant role. Mexico, Switzerland and Japan are far richer now than before, but not because of stumbling on extra deposits of gold. Vast amounts of wealth get created without natural resources playing an important role. It is true that some of that wealth involved manufacturing or processing physical assets, but even then the reasons for the sudden wealth-creation weren't discovering some extra trees and rocks to make into houses and aeroplanes, but technical innovation, specialization, trade, and the other appurtenances of modern capitalism. And conversely, vast amounts of wealth get destroyed independent of natural resources. If people stop showing up to work (because of some crisis of confidence, say), everyone gets poorer even as the natural resources sit there just the same as before. Nor is this just paper money like stocks, whose value rises and falls because of changes in people's attitudes; we are richer now than our ancestors in the very real sense of having vastly higher levels of consumption for reasons largely unrelated to natural resources, and if we stop showing up to work we will experience a symmetric decline in those levels.

Alternatively, we can consider the fabled island of castaways in order to make painfully clear how wealth gets generated without resources playing a non-trivial role. Say a group of us inhabit a small island with a fixed stock of materials for shelter, a stable supply of fish, and a stream of water. It is easy for us all to become much richer without any change in those physical assets. Simply by becoming more productive through the standard mechanisms of innovation, specialization, trade, exploiting comparative advantage, and so on, we can move to a situation in which our consumption levels are much higher. At the second stage, for example, we may end up with more leisure time, services like food preparation, hut-mending, song-singing, tourism, etc. If we keep track of trades with some rare shells as money, our money will now support higher levels of consumption per shell. Thus, we may go from eking out a wretched subsistence existence to a comparatively affluent one without increased appropriation or the discovery of new natural resources. In such circumstances, where the value generated by services (or more generally, by innovation, trade, etc.) dominates value derived from natural resources, it would be a mistake to focus on initial appropriation, since the latter plays no important role in making people wealthy.

This way of getting richer without appropriating anything corresponds to the actual wealth-creation involved in the service economy, for example that associated with the growth in design, software, architecture, teaching and medicine over the last century. In practical terms, when you receive a pay cheque, there is no reason to think that the money must inevitably trace back to appropriating a chunk of gold or plot of land. Suppose your cheque comes from an architect or software engineer. They in turn were likely paid by someone in the service-economy, and so on. Of course, there is also wealth generated by extracting oil or from land, but as we've seen, that component is relatively trivial.

3. MONEY FOR NUMBERS

Far from being a rare phenomenon restricted to weaving clothing from our own hair, creating value through services is now the *central case* of value creation, and barring catastrophe forever will be. To get a clearer sense of private property in a service context, let us consider a specific, stylized example that highlights the differences between getting rich from providing a service as against digging up potatoes:

> *Money for numbers*: A software developer needs an algorithm that solves some problem for his code, and you decide to supply him with one. Your work consists in sitting on a park bench and thinking for many hours. You then meet the developer and recite a long number representing the algorithm. After you have recited the long number, he then recites a different number, representing the confirmation code for a hefty bank transfer to go through. Later on, you use your wealth to acquire luxury goods by reciting still other numbers representing still more transfers. Your transactions thus consist of sitting around and reciting numbers, and getting rich meant finding someone willing to hire you to devise and recite a long number.

The vignette is accented for emphasis, but not much, really. Executives earn a living tapping on keyboards and shouting into phones, designers draw pictures, doctors ask questions and dispense advice; their chief contribution is purely informational, and so is software work as in the vignette, even if I've exaggerated its level of abstraction for dramatic purposes. The natural resource contribution to these activities is virtually nil. And looking to the future, it is easy to see that cases like Money for numbers will come to encompass a greater and greater fraction of value-generating activities. Already, there are a number of people who earn a living entirely in a virtual economy, for instance by designing and coding objects in virtual games like Second Life that people pay for in order to clothe or arm or decorate their virtual avatars just as they would 'In Real Life'. Money for numbers thus illustrates that it is possible to get rich without appropriating anything at all, drawing on transfers that themselves owe little or nothing to appropriating resources. To think otherwise is just to succumb to the fallacy that wealth must take the form of stuff and that wealth-creation must take the form of appropriating physical objects.

We might resist making much of Money for numbers by emphasizing two points where natural resources and initial acquisition still obtrude themselves. One is that physical objects are still *used* in Money for numbers, if only in the form of buildings, chairs and telephones incidentally featuring. And more broadly, sophisticated software work requires a social framework containing plenty of manufactured goods and energy that trace back to natural resources. The other possible entrée is with the goods ultimately acquired, say the house and land you acquire with your earnings. But neither of these looks like plausible grounds for claiming that initial appropriation is fundamental to wealth in any sense that is relevant to the normative theory of private property. Certainly we should concede to both of these considerations that without various bits of matter we couldn't earn money or translate it into certain forms of wealth, any more than we could earn money without oxygen or own land without gravity. The number of necessary conditions implicated in economic activity is truly vast. But this would only be relevant if these necessary conditions impinged on the moral claims people have to the assets in question, and it's hard to see why they must. We can assume that the telephone you use to earn your living and the land you buy or rent were legitimately acquired, that no one was robbed or defrauded or otherwise holds a claim on them while refusing you permission for their use. (Presumably even under conditions of ideal justice it won't be impossible to find someone willing to justly permit you to use some atoms in the form of a telephone, or buy or rent some property in return for fair compensation that benefits them on net.) If so, then there is no obvious reason to deny that the morally relevant facts about your earnings in Money for numbers are captured by the vignette, i.e. you simply provide an informational service for someone else at their request for an agreed amount, and get rich by providing a service.

Another worry specific to Money for numbers is whether it doesn't in fact open the door to emphasizing initial acquisition once again, if not of natural resources, then of intellectual property.[10] This would at least derail my attempts to get us to stop emphasizing initial acquisition in thinking about modern-day private property, once we've set aside lunar colonies and a few other odd-ball cases. And those sceptical about intellectual property would then presumably reject the emphasis on services altogether. But while some enterprises require a background of intellectual property, others do not. If the only viable business model for a company selling software is to charge for programs that it sends to customers who would not pay unless the company could enforce its property claims against copycat rivals, then initial acquisition in intellectual property would obviously be crucial to it. And occasionally the extent to which corporations seek to make such claims on behalf of abstracta is quite striking, as when a consortium claimed to own the encryption key hex-number for HD DVDs, and sued those who publicized it. In a sense, the claim was that the following is an *illegal number*: 09F911029D74E35BD84156C5635688C0. But nothing in Money for numbers depends on intellectual property, or believing in illegal or immoral numbers; we can continue to stand up for the virtuous primes

[10] David Schmidtz: 'Original acquisition (and its justification) remains a contemporary issue. Indeed, it is more important than ever since the property being discovered (or created) is more valuable than land ever was' (Schmidtz and Goodin 1998: 28). For a challenge to the idea that Lockean theory supports strong intellectual property rights, based on the idea of an intellectual commons, see Shiffrin (2007).

and unsullied integers. We could abolish intellectual property altogether, and people could still generate income by providing services like those described, though naturally there might be changes in the business models software companies would want to pursue. (Plenty of software engineers earned money before 1981, when legal protections began to emerge for them in the USA.) So we don't need to conceive of intellectual services as anything like acquiring property, which is even more obvious in fields like primary care or fine dining or fashion, all of which flourish and provide income in the absence of intellectual property.

4. JUSTIFICATIONS FOR REDISTRIBUTION

We need to accept that large numbers of people acquire and hold wealth in a manner something like Money for numbers. Acquiring and holding large amounts of property, represented informationally on some hard drive, need not and increasingly does not have anything to do with natural resources. Even when wealth enables people to acquire or rent land, doing so will often be unimpeachable even in a ideal, perfectly just world, since this will frequently *benefit* ideally just land-holders. The tendency of writers both on the left and the right to focus on initial appropriation of resources is a mistake. In itself, this would perhaps be merely interesting. But I believe that this fact has some important normative implications as well. And these strike me as more damaging to projects of the left.

One obvious consequence is that egalitarian strategies that rely on the natural resource paradigm are in trouble. Recall the left-libertarian approach we noted earlier, whereby we concede that there are things we can do in order to give us a strong claim to property (as when we weave a sweater out of our own hair, and are entitled to resist others who would take it from us without our consent), but then go on to insist that natural resources form a commons to which no one has a special claim, unless they satisfy some very strict proviso. And since satisfying that proviso would, at least under certain favourable conditions, bring about an egalitarian condition, justice in distribution is said to imply egalitarianism or something near enough. Crudely put, the strategy is to concede the initial point about our ability to exercise claims over assets to the right, but then rescue egalitarianism by pressing equal claims to natural resources. In one version of this general strategy,

> Lockean initial acquisitions provide a tremendous opportunity for gain to individuals who obtain them and to society in general .... Even if [the very indigent] are better off than they would have been if we had remained in the state of nature, they have not obtained their fair share of the gains which result from the system of property rights developed through Lockean initial acquisitions ... The contemporary indigent are, therefore, entitled

> to compensation for the infringement on their rights involved in the initial Lockean acquisitions. (Brody 2001: 43)[11]

The problem for such views is that, even granting all of the normative claims, it turns out that the money is in services, not in initial acquisition. This strategy is directed, so to speak, at plundering an empty bank vault. In order to bring about non-trivial redistribution, let alone anything very egalitarian, the story needs to be one that latches onto cases like Money for numbers, and it's hard to see how to forge such a connection with anything that's on the table thus far. When you get rich selling your algorithm, you aren't taking advantage of any Lockean initial acquisitions, and as we have seen, it isn't true that the money transferred to you is particularly likely to have either. As people have exercised their ingenuity in increasingly productive fashion over time they have generated wealth increasingly independently of natural resources, and you and your algorithm are the latest to benefit. Only a false picture of wealth mined like gold from the earth and spread through society could cause us to think otherwise.

Another way of putting the point is this. Suppose the American poor *were* given a fractional share in the natural resources of the country, so that they received either a lump sum payment representing the cash value of those resources at the time, or else (whichever benefited them more) a veto-right on any access to those resources without their consent, seemingly giving them massive leverage. This would be an extremely generous arrangement, of course, since it would benefit even those who wouldn't or couldn't have done anything productive with those resources. But even this arrangement wouldn't do much to help the worse off. The problem is that (a) the vast majority of wealth-creation would continue apace as if nothing had happened in the service sector; (b) this means that those holding shares in the natural resources would quickly end up being relatively poor; and (c) their bargaining position, as holders of relatively worthless assets would not end up conferring on them significant leverage; so that (d) they would presumably sell or rent their assets on terms that would continue to leave them poor.

Otsuka, in the passages cited earlier, mentions the possibility of letting the otherwise indigent collect rent on their share of the natural resources, and since they would get whatever resources were needed to ensure that they had access to the same level of welfare as even the most talented, he thinks they would get vast shares of resources (to make up for disabilities or lack of talent), facilitating a relatively egalitarian outcome. This, again, is an amazing deal for the worst off – regardless of whether they actually

[11] Despite my gloss, Brody thinks of this as a *non*-egalitarian justification of redistribution, in so far as it ostensibly draws on a compensatory rationale not directly related to egalitarian concerns.

would or even could have utilized natural resources that they in fact have not utilized, they are entitled to the same level of welfare as those who managed to generate value from such resources. But granting all of this, the problem remains that the resources afforded to the indigent are only those that would allow them to access the level of welfare accessed by the better off *in virtue of natural resources*. The idea, after all, isn't supposed to be a naked consequentialist scheme of willy-nilly ensuring equality of welfare by whatever means necessary; the idea was supposed to be that the equal claim to natural resources warrants redistribution. This dictates limiting such redistribution to that required by the contribution to the well-off people's welfare generated by those resources. And as we have seen, that contribution happens to be nugatory. So even granting all of the quite lavish assumptions about the proviso, equality of welfare, and the rest, such a redistribution will accomplish little, and of course as soon as we press 'play', and allow services to generate vast amounts of wealth, even the little equalizing that we have accomplished will be destroyed, unless we have some different, independent rationale for enforcing the egalitarian pattern.

5. REDISTRIBUTING WEALTH FROM SERVICES

This leads us to the central question of whether there is a basis for redistributing the wealth generated by services. I believe that this is much harder than justifying other kinds of redistribution. There is thus a symmetrical contrast with what I am claiming about natural resources. Resources are – I would concede – relatively easy to justify redistributing if some reasonable proviso has not been met, but it turns out they just aren't very important in a modern economy. Wealth generated by services, on the other hand, *is* important, but it isn't easy to justify redistributing.

I use the comparative terms 'easy' and 'hard' advisedly. There can be no question of ruling out in a single paper any and all justifications of redistributing wealth generated by services. For all I have said, utilitarianism is true and sanctions confiscating income and wealth however generated as long as doing so is net utility-positive. And other complex arguments might be put forward as well, say Rawlsian considerations to the effect that justice is constituted by principles selected in some hypothetical decision-procedure, along with an argument for thinking that we would choose principles insensitive to the distinction between service-related and other forms of wealth. My claim is much less ambitious. It is simply that in cases like Money for numbers we are deprived of relatively uncontroversial grounds for redistribution, and must instead rely on very strong, very controversial assumptions about the very nature of justice, assumptions many people reject. This doesn't make them untrue, obviously, but it should affect our assessment of the dialectic.

The most obvious, least controversial ways of justifying taking someone's possessions and handing them over to someone else involve three kinds of argument:

- The asset was *never legitimately transferred* to the current possessor in the first place, and should therefore be returned to its rightful owner, as when I've taken your book with me by mistake, or by theft, or by accepting stolen goods.
- The possessor *wronged someone* in the *transfer* of the asset, who is therefore owed compensation, as in the case of fraud or coercion.
- The possessor *acted unfairly* or failed to follow applicable rules of competition in coming to *acquire* the asset, and therefore doesn't have a claim to it, as when we commandeer resources in violation of the proviso.

Notice that almost no one rejects these principles in practice. Almost no one denies that if a car was stolen it should be returned, that if a buyer is defrauded they have a claim against a seller, or that it's wrong for some group to grab all of the resources in an area just because they got there a minute before the next group. The problem with justifying the redistribution of the money you earned devising your algorithm is that none of these arguments seems to work. There doesn't seem any reason to suppose that the money transferred to you need be illegitimate (we can imagine it to be money from transfers all the way down, if we like); nothing in your transaction smacks of wronging me, who paid for your work – on the contrary, I paid you because I benefited from the transaction; and, crucially, there isn't any obvious sense in which your intellectual labour involved misappropriation or unfair dealing with potential rivals in the use of resources.

Occasionally, this kind of point is denied. Cohen, for instance, asserts that even in service-transactions we can deny that we are dealing with a fully voluntary exchange in light of our frequent ignorance (1995: 45–49). He rightly notes that we are troubled by someone selling what they don't realize to be a real diamond for a song to an unscrupulous buyer, which, even if not legally an instance of fraud, seems disturbing in light of the information asymmetry which renders the transaction exploitative. But it's much harder to see how this is to apply to garden variety transactions like yours when you sell your algorithmic services. Normally we can surface the exploitative character of a transaction by considering the scenario in which all relevant information is known to both parties (in which case the diamond-owner wouldn't sell), but notice that test doesn't condemn Money for numbers. Unless we are considering incipient Marxists who haven't yet pondered the hideous consequences of enriching certain individuals, there is no reason to suspect that your algorithm transaction won't go through once the buyer is made to reflect on the fact that you will now be richer. Pressing these uncontroversial arguments into service on behalf of confiscating your earnings does not seem promising.

Since I don't pretend to exclude high-powered theories like utilitarianism, we cannot infer all that much from this. But since these are the obvious, uncontroversial ways of grounding redistribution, this suggests that it will be much less straightforward to explain why some third party is entitled to take the money I have paid you and give it to someone else, for whatever noble cause. As you got hold of your money fair and square, this has the appearance of *exploiting you* for the sake of benefiting others, which commonsense morality (as well as deontic theories, of course) generally frown on, making its justification a more serious matter than if we could argue that your gains were ill-gotten, unfair, or proviso-violating.

To put it another way, the picture of the rich and powerful grabbing hold of resources before others could get their share gets things wrong. Even the appropriation of natural resources frequently has a non-zero sum quality that it is a mistake to overlook – appropriators often benefit non-appropriators by developing resources in a way that does not make others worse off even than they would have been had *they* appropriated instead (Schmidtz and Goodin 1998: 29–33). (I am no worse off for the farmer in California producing some arugula and selling it to me, not even in comparison to the scenario in which *I* have the opportunity to pick up a shovel and try to grow arugula.) But when you create value with your algorithm, it is all the clearer that your gains have not come at others' expense. Creating value in the services is strikingly a non-zero sum game. To the extent others are worse off after your gains, they are worse off for mere positional reasons – their changes are mere 'Cambridge changes'. Of course, being positionally worse off can be a serious matter, but it's a far cry from being cheated out of one's fair share.

These issues may call to mind Nozick's famous discussion of Wilt Chamberlain, whom we are to imagine having a special box with his name on it at each game, which each spectator who wishes to see Wilt play deposits a quarter in. At the end of the season Wilt ends up rich, and Nozick emphasizes that the mere exercise of the spectators' liberty will upset any preferred distributive pattern we may cherish – say, that of equality – absent constant interference (Nozick 1974: 160–164). However, as critics immediately pointed out, putting the point in terms of liberty and patterns isn't very compelling, since it is rather easy to maintain such patterns via a simple tax system, and so the normative dispute should revolve around whether it is wrong to *uphold* such patterns, not whether liberty upsets them. The real lesson of Wilt's service (*nota bene*) is simply that it becomes much harder to explain why redistribution is warranted without resorting to an ambitious general theory of justice rather than homely beliefs most people have about such things as lying to others so as to get hold of their stuff. Without such an ambitious theory we will be left wondering why it is permissible to exploit you for the sake of others when we confiscate the money you earned.

6. EXPANDING THE NOTION OF A RESOURCE

There is a general strategy for resisting the lesson I have been drawing from the service economy. It might be stated like this:

> All that you have succeeded in showing is that we need to broaden our conception of a 'resource'. Some philosophers already argue that we should view *jobs* as a kind of natural resource, that they 'constitute assets whose value is to be shared because some people are involuntarily unemployed'. And others have held more broadly still that our *talents* (or at least their distribution) should be viewed as a 'common asset' to be pooled and shared (Rawls 1971: 101; Van Parijs 1995: 109). On one conceptualization this means that the fruits of jobs and talents should be distributed as if everyone held an equal stake in them, as valued by a hypothetical market-clearing auction, presumably implying large-scale redistribution. In fact, we can see the two approaches as external and internal variants of the same basic idea, that no one ought to have exclusive control over any factor that affects wealth, and that this principle applies to the entire value 'stack' – from physical inputs to production to the opportunities to earn income via jobs all the way to the psychological capacities encoded in the brain as talents.
>
> The natural suggestion, therefore, is to extend this strategy to cases like Money for numbers, and to point out that performing abstract informational services is a job like any other, dependent on talents like any other, and that therefore there is no particular difficulty in pressing for redistribution of service-related income. As long as we think it's wrong to hoard the benefits of resources, and as long we take a reasonably expansive view of 'resources', there's no problem.

According to this line of thought, there is no interesting difference between getting rich by unilaterally appropriating land held in a commons, and thinking hard about how to solve someone's problems by naming some numbers. (Again, this is not relevantly different from well-paid executives who are presented with information and then mumble into a phone or tap on a keyboard.) But it strikes me that the difference is in fact significant, and worth reflecting on.

It may seem tempting to lean on the non-zero sum nature of services, but we've already seen why that would be a mistake, since natural resource appropriation is itself often a non-zero affair. Another tempting ally for dissenters is the concept of self-ownership, at least when it comes to explaining why we should determine how our own talents are used. This appeal moves us in the right direction; certainly we have a moral claim to controlling various parts of ourselves – you and I aren't on the same footing when it comes to my bone-marrow. But describing this as *ownership* introduces strong commitments, as we see when we reflect on Kantian views of self-enslavement or suicide, which are said to be excluded in a way that arguably rules out full-blown self-ownership. The best way of locating the difference between appropriating from a commons and performing services is, I believe, rather to concentrate on the way in which we *exploit you for someone else's benefit* when we treat your earnings in Money for numbers as a resource, which we do not do when forbidding appropriation from the commons without compensation to the rest of us.

By way of introducing this claim, notice that we can announce that anything we like is a resource. If we want our neighbours' goods, we can announce those neighbours constitute a resource, and that we should be free to expropriate them. But few of us condone commandeering someone or something as a resource merely as a way of exploiting them for our own ends. At least, doing so conflicts with commonsense morality unless some very compelling value is at stake; we might endorse exploiting innocent people for the sake of others, but only under rather stringent conditions, as when life or limb is at stake in an emergency. Straying too far from this precept will require very powerful assumptions that are hard to defend if we are starting with something resembling commonsense morality. Of course, commonsense morality isn't the last word when it comes to justice, and on certain kinds of utilitarian views, for instance, especially versions that are insensitive to remote effects, exploiting others for the sake of utility-gains is permissible. But such views must, again, make rather strong assumptions, and more sophisticated theories that take into account second- and third-order effects tend to make different prescriptions. In order to avoid such strong assumptions, then, we must consider not just whether we can reconceptualize something we want as a resource, but whether we can produce a sound moral justification for laying claim to the asset.

The key distinction, I would suggest, is between assets that can without too much fancy footwork be separated from persons and those that cannot, because the assets in question *are* people or parts of people themselves. At least under propitious circumstances it is possible to commandeer resources like land or water without exploiting anyone, supposing that no one else has a prior claim to them. But it is hard to see that there are *any* circumstances under which you could commandeer *people* or parts of people for the sake of benefiting some group without using them in an exploitative fashion. When value is created using land or some other commons, it's easy to argue that people contribute something and the commons contributes something as well. As Locke pointed out, land without the labour of clearing and planting and the rest is worth very little, but of course the reverse is true as well as Marxists have pointed out, and in a situation of scarce resources Locke's point about labour hardly shows that land which many would-be farmers would like to lay hands on is devoid of value. But in cases like Money for numbers, you are contributing everything of value. To the extent that there is a resource involved, *you are the resource.* And harnessing that resource means utilizing you as a means to achieving whatever eleemosynary ends may be in view. This makes justifying redistribution more challenging in the service context.

We can see this when we note attempts to envision modes of redistribution that respect self-ownership (despite my cautions about this concept above). Otsuka, for example, makes the point that we can imagine land-reforms that don't crassly take from some and give to others, but that structure institutions of inheritance and land-sales in such a way as to allow those with lesser talents to acquire more land than those with more talents, whose self-ownership remains unimpaired (2003: 31). But it is simply much harder to see how to non-trivially benefit the worse off with this kind of institutional fiddling if their being worse off is largely a result of service-related gains by the better off. Simply transferring those gains to the worse off *would*, so I have been arguing, resemble naked exploitation. And it isn't obvious how to fiddle with institutions in a way that wouldn't ultimately involve the same exploitation. I pointed out earlier that an IP commons would not do the trick. The more that value resides in services, the harder it is to promote equality without threatening self-ownership or doing something that looks exploitative. Equality-by-land-reform is for this reason essentially and not just incidentally rooted in an anachronistic picture of how value is generated.

Commandeering our talents, particularly in the context of services, certainly seems like an instance of exploiting some for the sake of others, which may be justifiable, but requires strong assumptions that will swim against homely intuitions people have about using some for the sake of benefiting others. Since examining those assumptions isn't part of my project, I will let things rest there. Jobs, on the other hand, might look more susceptible to being separated from people themselves, avoiding the objection I have been sketching. We can commandeer a job advertised without exploiting a person. But remember the proposal: the idea isn't that jobs will somehow be raffled off to ensure everyone gets a fair shot. That might be thought to improve fairness to employment-seekers, but it would not advance the redistributive aims we have been discussing. In order to address those, the idea was rather to take (part of) the *value* of the job-resources and redistribute it. Since your job devising an algorithm is a resource on this view, the value you derive from it is in part to be distributed to those who aren't able to benefit since they don't have the job. Unless we are quite careful, though, this once again starts to look like exploiting you for the sake of others – you or some part of you once again *is* the resource being exploited for the sake of some further end.

This can be avoided, it may seem, if we focus our attention on the part of one's wages that is a function not of work but of beating out others who would take the job if they could get it. Phillipe Van Parijs suggests that in seeing jobs as resources whose fruits are to be redistributed what we are doing is 'sharing among all the employment rents otherwise monopolized by those in employment' (1995: 108).[12] As he emphasizes, wages paid by employers often exceed the market-clearing rate for reasons like transaction costs and retention premia related to training, selection, and so on. Many people earn salaries that are well above the minimum that they would accept, and despite the presence of many others who would be willing to take the job at lower wages – academia is a good illustration of this. The resource, then, isn't really *you*, runs the suggestion, but the job itself, as is reflected in our redistributing only from that portion of your wage that amounts to economic rent unrelated to your talents or efforts.

Even this, though, doesn't quite quell the unease one should feel at taking someone's possessions earned in the course of performing some service without utilizing anyone's physical resources or any other form of unfairness, and handing them over to someone else, while *denying* (rather than affirming and justifying) that someone is being exploited as a resource for someone else. Let us set aside worries about how much rent there is likely to be when unemployment levels are low, or among jobs for which few are qualified. Suppose a professor would work for $50,000, but is luckily paid $70,000. This means he or she collects a rent of $20,000. (Maintaining the 'factor of production' only costs $50,000, and so the difference doesn't represent productive value.) But our attitudes toward this rent should depend on how it is arrived at. If it is arrived at by rent-*seeking* – say, from unions applying political pressure to artificially limit competition or erect barriers to entry – we have reason to object. On the other hand, if the reasons have to do with the employer's aims, for instance they want to avoid being picked off by other universities or heighten employee satisfaction, then we don't. Rent in the latter case is unobjectionable, though of course annoying to the employer and aberrant in a genuinely competitive labour market. Focus

[12] Van Parijs initially focuses on the set of equally qualified would-be employees; later on he tries to show how to deal with the fact that there may only be a small number of people capable of some job, and contrary to my discussion above allows that ultimately redistribution involves a tax on returns to talent (123), so that just as in Rawls, in the end you *are* the resource. I ignore this in the text.

on the non-rent-seeking case, since there are distribution-independent reasons to begrudge rent-seeking in the sense outlined. In such cases of 'benign' rent, it is again unclear what the non-exploitative grounds of redistribution could be, even if it is of unproductive wages. The fact that the wages are unproductive is neither here nor there; plenty of employers pay wages that are pointless or unproductive, say if they've made a mistake of some sort. The fact that an employer accidentally hired too many middle-managers to perform overlapping functions doesn't make it less exploitative to transfer those wages to someone else for their benefit.

Nor does focusing on benign rent make it clearer how the resource being exploited is the job and not the person or his or her talents. The non-exploitative use of an external resource depends on no one having a special claim to the object. (You still exploit *me* as a resource if you steal my *car* in order to give it to someone else to use.) But the professor *does* seem to have a special claim to the job they are offered and take up. A job is not a scarce resource like land that no one has a special claim to; other things being equal, simple freedom of association endows the worker whom the employer has chosen to associate with and pay a special claim that doesn't apply to others. The point about rents doesn't alter the situation. There is nothing about the fact that $20,000 of the wages aren't economically productive that renders them less something the professor is entitled to and more like a field in a commons. A rich heiress might be willing to teach for *free*, getting a certain satisfaction from engaging with students, making *all* of her wages unproductive, but that doesn't make her less entitled to what her university has agreed to pay her, or less exploited as a resource for the sake of others if we redistribute part of her wages. At least, this seems so in the absence of an ambitious top-down theory about the nature of justice, such as utilitarianism or certain forms of contractualism. For these reasons, I conclude that recognizing the service-nature of the economy and the increasing value residing in transactions like Money for numbers, makes it *harder* (but only harder) to justify egalitarian-style redistribution.

7. THE BIG PICTURE

One of the lessons of these reflections is that how easy or hard it is to justify redistribution of assets depends partly on how value actually got generated. At the risk of seeming grandiloquent, let me conclude by placing this observation into the broader context of three economic ages sedentary societies seem to pass through.[13]

[13] See Kenessey (1987) for discussion of classificatory schemes of wealth-production, and the possible emergence of quaternary and quinary sectors. For outlines of the relevant macroeconomic history, see Maddison (2007) and Clark (2007).

Agricultural. Agriculture was the dominant way of generating value in most mass societies until very recently. Under an agricultural regime, there is simply no way to generate substantial value in close proximity to others without accessing scarce resources that, other things equal, people will have claims to. Of course, often other things aren't equal – land can be legitimately acquired, claims can be rebutted. But at least there is an obvious and direct route to pursue redistribution, as Locke and others recognized, and in practice situations of mass inequality in which feudal lords, say, compel landless peasants to work on their behalf would rarely stand up to detailed normative scrutiny. It is technically possible for such a situation to emerge through sheer bad luck, but the odds of it persisting under conditions of just initial acquisition, rule or law, and political equality are vanishing.

Industrial. During a short transition period, the processing and refinement of primary resources managed to capture a large fraction of value generated by leading economies. Here, the key normative questions concern (a) the sources of wealth required to generate income by capital-intensive investments in factories and machinery, and (b) the relations between workers and their employers, who are often in a position to exploit them. Here, too, there are obvious arguments to pursue for redistribution, at least if we can show that build-ups of capital proceed from agricultural-era wrongdoing or worker-exploitation. (It is often overlooked how much Marx stressed such simple, bottom-up arguments as worker-exploitation in addition to the more recherché theory, even in *Das Kapital*. Newspaper clippings play as much of a role as philosophical argument.)

Services. Although services (including information-based services) have existed for a long time – medieval bankers traded and speculated with remarkable sophistication – their economic dominance in the developed world is recent. The wealth generated by services is different from the wealth generated in previous eras in that the key factors generating value are more difficult to assess as commons. The theories enabling such claims are far more controversial and have failed to command popular support. (For example, that we enjoy partial ownership over other human beings allowing us to commandeer their wealth, or a form of utilitarianism that permits expropriation whenever doing so is utility positive, regardless of historical or desert-based considerations.) The problems raised by a service-dominated economy are thus fundamentally different from those in the past. Services can be corrupt and fortunes can be accumulated by unscrupulous means just as in the other eras, but it is easy to make a fortune in the manner of Money for numbers, and such cases are common enough to raise these problems. It is possible to try to connect the service-era to the other two, say by focusing on the transmission of capital, but I have suggested such strategies face formidable obstacles.

Glancing over this admittedly trite summary, it is striking that the norms discussed by philosophers like Locke and Marx were, reasonably enough, keyed to the dominant sources of value they observed. My point in this paper has been that we need to face up to the shifts that render a focus on those values less useful (though not, of course, completely irrelevant).

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