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Labor Market Disputes: A Comment on Albert Rees' "Fairness in Wage Distribution"

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Abstract

Albert Rees criticizes neo classical labor economics for paying too little attention to fairness and utility function interdependence. As a result, he claims, this theory cannot fully come to grips with wage determination as it actually exists in the real world. The present author takes issue with Rees, and attempts to defend traditional labor economics against his criticisms.

1. INTRODUCTION

Albert Rees, author of the canonical textbook in labor economics (1973), looks back on a long career in this field, and doesn't much like all that he surveys. On the contrary, in his present view, the neoclassical wage theory with which he has long been associated is deficient in at least one respect: It fails to take into account the effect of how others are doing, payment wise, on the general determination of wages. That is, traditional theory overemphasizes considerations such as labor productivity and insufficiently takes into account how interdependence affects wage determination. Although Rees explicitly warns against being interpreted as "recanting" his distinguished contributions to neoclassical labor economics (1993, p. 251),[1] one may perhaps be forgiven for interpreting him in precisely this way. This is so particularly when he states that he doesn't "think that neoclassical theory is wrong . . . but it is incomplete" (p. 251). The lacunae? It fails to incorporate into the analysis "fairness," and "interdependence of utility functions" (p. 247).

What are the specifics of Rees' arguments? He acknowledges that in neoclassical analysis, wage determination is explained by the interaction of a supply curve based on worker utility considerations and a demand schedule based on marginal revenue productivity. But then he relates a series of anecdotal experiences, not from the academic world, but rather from his career as a member of wage stabilization boards, as a corporate director, university provost, and college trustee: "In none of those roles did I find the theory I had been teaching for so long to be the slightest help" (p. 243).

II. FACES OF FAIRNESS

Why not? For one thing, because in the real world workers have a passion for "fairness," something not contemplated in textbook labor economics. And of what does "fairness" consist? It "involves the concept that if workers in one union or group receive a certain wage increase, the workers in another union or group are entitled to the same increase" (p. 244). So strong is this passion for justice on the part of organized labor that "a union in the retail food industry allow(ed) an employer to close a statewide group of stores rather than agree to a wage increase smaller than that just received by its traditional comparison group" (245).

Now this is more than curious. One problem is that Rees speaks only in terms of changes in wages, not of their initial levels. This runs counter to the usual assumption that the former is the dog, the latter only the tail. After all, unless there is a theory of the equilibrium level of wages, we shall never know whether a given change is a move toward or away from the point at which supply and demand intersect.

Another difficulty arises in using organized labor as a paradigm case of fairness. Unions are the only nongovernmental institution in society to be vested with the "right" to ban others ("scabs") from competing with them (Block, 1991). Suppose that there were two gangs of armed robbers, and one of them managed to mulct an extra $100,000 out of a hapless victim. Thereupon the other, in response, wrested the same amount from other innocent prey. Would we be tempted to describe the actions of the latter as "just" or "fair"? Hardly. All that could be said, at best, of the actions of the second group of criminals was that they had "kept pace" with those of the first.

John L. Lewis's coal miner's union shut down pretty much an entire state. After his depredations, West Virginia was an economic basket case for decades. From this we are to deduce fairness? And this applies as well to the San Francisco plumbers local which insisted upon "me too plus a dollar" (p. 245). If another union received a pay boost, this one, which sought parity with it, would insist on the same increase, plus $1. It must be nice to wield so much coercive power, but what this has to do with fairness is rather elusive.

Speaking of gangsters, it must be recognized, as Rees does not, that there is more than a superficial resemblance between these organizations and labor union leaders: each of them is guilty of using violence, or the threat of violence, to gain their ends. In the case of the latter, although many commentators have interpreted their actions as being aimed at employers, more sophisticated ones (Reynolds, 1984; Petro, 1957; Block, 1991; Williams, 1982) have pointed out that they are more often directed at competing workers.[2] To characterize the desires of these entities as "fair" is thus almost a travesty of justice. Yes, "unions may regard themselves as entitled to the same absolute (or percentage, it matters not one whit) increase previously won by another union" (p. 245), but their mere subjective desires have very little relationship to fairness.

It is important to keep the distinction between normative and positive economics in mind. This is necessary at any time in economic public policy analysis, but it is crucial when matters of "fairness" are raised. The definition employed by Rees is something akin to equality. If one employee receives a raise, the other should get it too. But why is this necessarily "fair?" Consider the biblical parable, "The Workers in the Vineyard" (*Matthew*, 20). Here, the employer paid the same amount to a person who worked a full day as to the one who started only in the late afternoon. Was this "fair?" It was, at least according to one common sense definition of that word, that which holds as fair any and all "capitalistic acts between consenting adults" (Nozick, 1973). Certainly, this is the view of the Bible, which gives the definitive reply of the employer to the disgruntled workers who think they are hard done by:

> " 'Listen, friend,' the owner answered one of them, 'I have not cheated you. After all, you agreed to do a day's work for one silver coin. Now take your pay and go home. I want to give this man who was hired last as much as I gave you. Don't I have the right to do as I wish with my own money? Or are you jealous because I am generous?' " (Matthew, 20).

Rees informs us that concern with comparisons are by no means a monopoly of the employee side of the equation. Employers, too, look at such matters in this way. For example, consider the firm which refused to "give the red-blooded (nonunion) Americans who built this company less than those radicals in the union" (p. 245). But why is it unfair to pay off moral debts? This employer obviously felt positively toward the nonorganized sector of his work force for past support. Perhaps, too, he looked to them for backing in the future. Rees' implicit view that it was improper for him to pay both types of employees equally, when he was not forced to do so, would appear to imply that gifts and/or inducements to good future behavior are per se unfair.

It is the same with regard to executive salaries. According to Rees, "when executives or directors set salaries they refer to surveys of salaries in comparable companies or institutions" (p. 245). This may well be so. But purely as a matter of positive economics, there is always that little matter of marginal revenue productivity lurking somewhere in the background. If executive's salaries (or those of anyone else for that matter) deviate from MRP, there are strong market forces which tend to bring these two figures back toward equality with one another. It seems strange to have to mention this in connection with an article written by Albert Rees, but if wages fall below MRP,[3] the quit rate will rise; failing that, other firms will scoop up these labor bargains. This market force is powerful enough to explain the fact that growers in the U.S. and Canada, thousands of miles away from Mexico, go down there every year to take advantage of the cheap labor there. They "exploit" low cost workers in that country by bidding their below market wages closer to productivity levels. If wages are above MRP on the other hand, a firm is courting bankruptcy. It is only when they are equal that there are no market forces unleashed to change labor market conditions. Top management can refer all it wants to other, supposedly comparable salaries, but if this process leads to pay which deviates from productivity contributions, it is untenable in the long run.

Of course "most organizations state that they would like to be in the upper half of what they regard as the relevant salary distribution" (p. 245). People will say anything on such surveys; if such appraisals were accurate, we would all be driving a Mercedes. The only "disturbing . . . macroeconomic implications of these preferences" (p. 245) would appear to be cost push inflation. But as the monetarists have shown (Friedman and Schwartz, 1963; Rothbard, 1983; Mises, 1971), price rises do not result from wage push; rather, they are caused by excessive monetary creation.

This analysis applies, as well, to those who whine that their wages are not as high as their long seniority would suggest. States Rees of such a person " 'Why do I make less than Y when I have given this outfit devoted service for twenty years, while he was only hired last year?' " (p. 246) The answer, which seems to have escaped Rees, is that sunk costs are sunk. Past contribution usually matters little, except insofar as it accurately predicts future usefulness. But the key is future expectations; *that* is why the new kid on the block is paid more. Merit, of course, is an entirely different matter, despite Rees' conflation of the two. If merit is interpreted as a proxy for productivity, then the market will tend to reward it.

Consider in this regard Rees' numerical example. A full professor with 20 years of satisfactory service earning $52,000 is appalled to learn that a newly-minted Ph.D. was offered $38,000. In his view, the proper differential between full and assistant professors would entitle him to at least $60,000. States Rees:

> "This is an example of the general proposition that wage inequities must be remedied by raising the wage that is too low, and not by lowering the one that is felt by others to be too high" (p. 246).

A more confusing analysis would be hard to imagine. First, this appears to be a non *sequitur*. From what principle did we derive the conclusion that the way to promote equity is to raise a "too-low" wage, not to lower one that is too high? Even on his own grounds of equity as fairness, this by no means follows. Maybe it is better, more "fair," to do the very opposite; or to lower the one that is too high, while at the same time raising the one that is too low, until a midpoint is reached for both. This, at least, seems to have the advantage of symmetry, but in the absence of any criterion vouchsafed us we are flying in the dark.

Second, a university setting is perhaps amongst the most unfortunate of choices to illustrate the workings of an economic system, in that there are few if any profit and loss incentives which can impose discipline on the wage relationship. In a public university, if salaries bear no relationship to productivity, the threat of bankruptcy hardly looms. Subsidies courtesy of the taxpayer can paper over any number of economic sins. And even in the private sector, large endowments are likely to shield decision makers from paying for the error of their ways.

Third, this analysis bears an improper level of subjectivity. "Lowering the one that is felt by others to be too high," indeed. Are mere "feelings" as to others' wages supposed to play any meaningful role in economic analysis? If so, the sky is the limit. Anyone can announce himself as vexed at any economic phenomenon, thus casting doubt on its "fairness." Fourth, but not least, just how was it determined that there was an inequity in this particular case? What is the criterion? How can the proposition be tested? Rees, unhappily, is silent on all these issues.

III. FAIRNESS AND WAGES

Undaunted, however, Rees leaps to his next point: "Employers do not insist on fairness—workers and their unions do" (p. 246). Now this is rather one sided. It is truly rare, in any dispute, that one party is totally on the side of the angels. Even worse, this claim stands contradicted out of Rees' own word processor, for it was he who referred to the employer who refused to "give the red-blooded (nonunion) Americans who built this company less than those radicals in the union" (p. 254). And if this isn't an attempt to be fair, nothing is.

Upon reading Rees, one comes to the conclusion that he really isn't referring to "fairness," at least not as this word is used in normal speech. Instead, he seems almost to be alluding to reducing controversy, or unhappiness, or, perhaps even better, dispute creation. This is seen in his contrast between the new worker and the experienced, long-serving one, who are both offered a wage deemed unfair. In the former case, "he will simply decline the offer," but in the latter there will be created a "sense of grievance" (p. 246). Interpreting Rees in this manner —he is interested in the positive economic explanation of labor conflict, not in the normative discussion of equity—at least has the advantage of providing another set of lenses though which his contribution can be understood.

The next thicket to ensnare Rees has to do with the interdependence of utility functions. According to his analysis, neoclassical economics must be modified in order to incorporate this insight. But this is hardly accurate. On the contrary, economists have been aware of the fact that we tend to be affected, positively or negatively, by the well-being of others since at least the time of Smith (1817) and Canard (1801). Stigler (1965, pp. 100–101)[4] refers to:

> "The inclusion of the quantities consumed by other people in the utility function of the individual. Thus one's pleasure from diamonds is reduced if many other people have them (or if none do!), and one's pleasure from a given income is reduced if others' incomes rise. This line of thought is very old, but it was first introduced explicitly into utility analysis (by Fisher) in 1892."

Apart from this aspect of the history of thought, Rees is somehow led from his focus on interdependence to the view that "envy (is) a local phenomenon while compassion is often a more distant one." That is, we are usually envious of the person "at the next work station or in the next town, while the beneficiary of charity may be half a world away" (p. 247). Yes, true enough, this sometimes occurs. But it cannot be denied that there is also such a thing as local charity, collected in the same town as it is disbursed, and that many Americans are envious of the Japanese (and vice versa), each of whom live thousands of miles away from the other. The point is, interdependence of utility functions is a theoretical construct; it does not logically imply the identity of the persons who will enter into a given individual's utility function, nor whether the welfare of these others will impact this utility in a positive or negative direction.

Next consider Rees' example of secretarial pay:

> "On Monday, you inform your secretary that she has received a pay increase of $20 per week. On Tuesday, she discovers that all the other secretaries in the organization have received increases of $30 per week. Clearly, she will be

> less happy on Tuesday than she was on Monday. Moreover, it is highly likely that she will be less happy on Tuesday than she was the previous Friday—that is, she would prefer that no one get an increase to getting a smaller one than her fellow workers" (p. 247).

There is little doubt that the secretary will be less happy on Tuesday than she was on Monday. She would likely prefer both absolute and relative wage hikes, unless, of course, the pay received by her co-workers enters very heavily indeed into her own utility function. On the other hand, if she was the only one to receive a heftier pay envelope last month, and feels that everyone else in the office resents her, or if she feels her head near the chopping block due to her "excessive" salary, then on the contrary she may be delighted with the scenario depicted by Rees.

Moreover, even if Rees' is a true analysis of the secretary's reaction, it doesn't show a lacunae in traditional labor economics. As this author himself concedes, "the general idea of interdependence of utility functions" has been used reasonably widely in the economics literature (p. 247).[5] How, then, will incorporating it into neoclassical labor economics make good any serious oversights?

Further, how does the much vaunted "unfairness" enter into the picture? If fairness requires absolute (or proportional) equality, then the secretarial pay example may indeed depict an inequitable situation. But under other assumptions, as we have seen, this need not be true. Consider the case where all the other secretaries are nieces of the boss. Is nepotism necessarily unjust? If so, wouldn't this mean that Christmas or birthday gifts are also unfair, given that the boss will likely bestow them on his relatives, not strangers? That is, how are we to even conceptually distinguish Christmas gifts to nieces from pay raises to them. Yes, one is a once-and-for-all occurrence (at least for this year) and the other takes place every week, but surely there is some rate of discount that can equate them.

IV. EXECUTIVE COMPENSATION

From secretarial salaries we move to remuneration in the executive suite. As "the contribution of an executive to the output of the firm is extremely hard to measure, equity considerations . . . will loom large." These, in turn are driven by comparisons "with other executives in the same firm and with executives in the same function at other firms in the industry." In other words, all corporate officers rise or fall (mainly the former) together, thanks, in part, to the fact that "compensation for these positions is public information." (p. 248). This is why salaries above the glass ceiling have begun to catapult. The "conscience" of the people in charge of setting these astronomical levels "is almost the only demand-side constraint that exists for executive pay" (p. 249).

Sensible as this may sound upon first reading, there are difficulties. This analysis, first off, appears to contradict Rees' explanation of union wage setting. There, he referred to a "linkage." He maintained that ". . . wages in different occupations in an enterprise are tied together in an accepted structure that is costly to disturb . . . probably because in a union situation information on occupational rates is available to everyone" (p. 248). But he just got finished proclaiming that such knowledge, "public information," was also available in the executive suite. Yet in the latter context, there are, seemingly, no barriers at all to continuing salary inflation, except, perhaps, for "conscience." How can two very different results be explained by the very same (informational availability) causal conditions? Rees does not suggest that union wages are on an uncontrolled upward roller coaster, as in the case of corporate officers. How can this be if the same explanatory factor is in operation in both cases?

No. We shall have to seek elsewhere for our explication. The reason executive salaries are on an uncontrolled flight path is because our legal system functions so as to overpower the market forces that could otherwise have nipped this in the bud. It is almost as if we are being overrun by rabbits, after having engaged in a protracted and thorough wolf kill program, and now are wondering at the spread of these long eared furry creatures.

Well, who is the wolf of the piece, the person who could have called a halt to escalating top managerial salaries, the one who as a matter of fact *was* engaged in just this activity, when he was imprisoned? His name is Michael Milken (Manne, 1966; McGee and Block, 1989). This entrepreneur was involved in raising vast sums to purchase poorly managed business firms. The corporations with the worst excesses with regard to top management salaries were precisely the ones whose stock prices most seriously underestimated their true values. Wall Street undervalued them expressly because of these uncontrolled raids on the corporate till, e.g., outrageous managerial compensation levels. In other words, the firms guilty of the behavior Rees so correctly denigrates were the ones subjected to "attack" by Milken, in a series of "unfriendly" corporate raids.

These takeovers were of course only "hostile" to the members of the bloated executive suites, rich beyond the dreams of avarice. For long-suffering stock and bond holders, these takeovers were extremely "friendly." Nevertheless, the corporate mandarins were able to convince the legal powers that be that Milken's fund raising was based on "junk" bonds; that he was guilty of "insider trading" and "fraud." As a result, this "wolf" was incarcerated, the "rabbits" in the executive suite are gorging themselves on their illgotten gains, and people like Rees (see also Berle and Means, 1932) are running around (to mix our metaphors even further) like chickens without a head in their attempt to explain this phenomenon.

Nor is Rees unaware of the Milken debacle. He even goes so far as to mention that sainted company Drexel Burnham Lambert, not as an example of the *cure* for the problem, but rather as a case in point of "conspicuous cases of large executive bonuses in firms losing market share, or even . . . about to go bankrupt" (p. 249). Now the person with the largest "executive bonus" in all of business history was none other than Michael Milken, employee of Drexel Burnham Lambert. But the *reason* for its financial difficulties have nothing to do with Milken's very high level of compensation. On the contrary, he was worth every penny to them. The explanation, rather, is the illicit acts of the various attorneys general, who both prosecuted and persecuted Milken. In terms of our analogy from the animal kingdom, then, it is as if Rees is blaming the wolf for *being* a rabbit.

We need not fear unduly, however. The system of profit and loss is still grinding away. If the career of one "wolf" is terminated with semi-extreme prejudice, others will arise to take his place. The economic axiom that wages tend to equal marginal revenue product is still operational. If top managers are given salaries in excess of their contribution to the production process, this necessarily sets up forces which will tend to obviate such practices. Governments can place obstacles in the path of such a process, but they cannot block it entirely. The share prices of such corporations will be pushed below what their potential earnings (based on more accurate executive salaries) would otherwise have entailed. This will set up incentives for others to purchase these companies at bargain prices. Stopping Milken, and thereby frightening all other would be Milkens will make this process more difficult, to be sure. But just as the "War Against Drugs" will always fail because with every "success," profits in this enterprise are driven up, thus encouraging even more illegal entrepreneurial activity (Boaz, 1990; Judson, 1974; Thornton, 1991; Block, 1993), so too will the machinations of these internal corporate raiders (e.g., the unconstrained looting executives) be brought back down to earth.

Nor should there be any mystery about why salaries at state colleges, National Institutes of Health, and Congress (p. 249) should be pegged at nonequilibrium levels. The market forces which tend to equate wages and MRP can only operate in the private sector, where penalties are paid when this economic axiom is violated. As this simply does not take place in the governmental sector, we cannot expect wage rationality to occur there.

An appreciation of this fact is what is missing from Rees' analysis. Consider now the case where one professor receives an offer from a comparable outside institution and threatens to leave if it is not matched by his present employer. Yes, this sets up all sorts of problems:

> "The other members of the department are now likely to feel unfairly treated whichever option is chosen. If the offer is matched, the salary differentials within the department will be viewed as inequitably large. It is not matched and the faculty member 'leaves, the remaining members will feel that they are being paid less than they could earn elsewhere" (p. 250).

The problem is that few, if any, universities function under the sort of bottom line thinking familiar in business. There are no profit and loss sanctions, or at least they are greatly attenuated. As a result, the deans and college presidents who make salary offers, operate outside of the usual market constraints. Why should we expect rationality from such a system, any more than we could from the planning authorities of the Soviet Union or Cuba? (Boettke, 1990; Hoppe, 1989)

In the event, however, even a modicum of common sense might be expected to come into play. Take Rees' two cases. First, if the outside offer is matched, those who still labor under the old lower salaries will indeed view the new differentials as "inequitably large." If so, they have an alternative: attain another legitimate offer, and use it to bargain for their own raises. If they cannot, then all talk of inequity is just so much blather. Similarly, for the second case, if the outside offer is not matched, and the faculty member leaves. Again the less attractive (in the sense of lower alternative cost) members of the department may feel "they are being paid less than they could earn elsewhere" but in the absence of evidence for this contention, namely, a bone fide outside offer, their claim is at best unproven.

Thus it is simply untrue to assert, as does Rees, that "pay equity is a goal that is constantly being pursued but is never reached. In this respect, it is not unlike market equilibrium" (p. 250). On the contrary, in the case of market equilibrium, there are forces pushing the economy toward this point. True, we may never reach it, because other exogenous changes requiring a new equilibrium may well arise long before the old one is attained, but at least these forces are always in operation. In the case of "equity," in contrast, there are no such analogous economic forces. Even more problematic, no one, Rees specifically, has ever managed to unambiguously define "equity," at least not in a way that does not imply voluntary accord. That is to say, we already have a perfectly good notion of justice in wage settlements: the salary to which both employer and employee agree. It is incumbent on those such as Rees who challenge this view to come up with a coherent alternative; so far, this has not been done.[6]

This analysis applies as well to Rees' two other cases in point: when "a new member is hired into a department at a salary substantially above those already at the same rank because this salary was required to recruit him" and the question of whether a university should "maintain the same top salaries across different disciplines even when the outside market pays different salaries" (p. 250). If universities are forced to function in a market the ordinary factors of supply and demand will solve these "problems." If not, there is no nonarbitrary way in which this can be done. This is something that the societies of Russia and Eastern Europe are now in the process of learning. Unfortunately, it has been forgotten by some western academics.

VI. TWO-TIER WAGE STRUCTURES

The next candidate for inequitability is the "two-tier wage structure." Yes, it is indubitable that these phenomena "afford a test of the importance of the concept of fairness in wage determination" (p. 251). It is indeed difficult to imagine anything more inequitable than the employer paying identical workers the same salary. But matters become more clear when we reflect on the fact that the employer is only likely to acquiesce in any such system *against his will.*[7] This is because the firm will always be tempted to fire higher-cost workers and replace them "lower tier" employees. But this is no challenge to neoclassical economic analysis or to ordinary morality. The reason for this patently unfair structure is easy to discern. It comes about as the result of the operation of an inequitable institution, namely, unionism.

Actually, two-tier wages make explicit the unfortunately implicit illegitimate power of unions. If otherwise homogeneous workers are compensated at two very different levels, to what other institution besides coercive unionism can we point as an explanation?

A strong analogue to rent control (Tucker, 1990) may be found in the two-tier wage system. It would make perfect sense, given that rent control is a given, to allow tenants "protected" by this legislation to sublet their apartments. This would reduce if not eliminate most of the negative effects of this law: the excess demand, the failure to maintain and upkeep, and the low vacancy rates.[8] The only problem with this plan is that it would make all too explicit the forced transfer of wealth from landlord to the tenant who is allowed to sublet. That is why this proposal has proven unsatisfactory to both sides: to tenants, because the issue of totally repealing rent control would then "naturally" arise, and to the landlords, since the original theft they were forced to suffer would not be ameliorated.

The surprise, then, is not that the two-tiered system has not already disappeared; Rees correctly envisions this occurring "when the lower paid workers become a majority in the bargaining unit" (p. 251). Given that this is so problematic, the surprise is that it was ever allowed to occur in the first place.

VII. HOMOGENEOUS LABOR

The simplest neoclassical assumption in this regard is of course that all labor is equally productive. But Rees does not tax traditional economists with so simple a model. He realizes that it is "perfectly consistent with neoclassical theory to have two or more classes of labor, each homogeneous within itself, and treated as a separate factor of production" (p. 251). However, he charges, that even this level of sophistication will not suffice for the conditions

> "actually facing the large firm . . . At this extreme, the assumption of homogeneous labor breaks down utterly, and salary determination will necessarily involve an element of arbitrary decision making or of bargaining" (251).

My view, in contrast, is that neoclassical theory is by no means so feeble. At a purely formalistic level, "two or *more* classes of labor" can cover as many employees as could possibly *be* employed by the modern firm, no matter how large. Of course, if there were a separate class of homogeneous labor for each individual person on the payroll, there wouldn't be too much of a point of talking about classes in the first place. But, as a practical matter, it is unlikely in the extreme that amongst the literally tens of thousands of employees of any large corporation there wouldn't be found *some* homogeneities. Yes, each human being is unique, and beloved of his friends and family in a special way. Surely however there would be *some* jobs where the heterogeneities would be so small as to disappear for all intents and purposes.

But, even in the extreme scenario of no homogeneity whatsoever implicitly pictured by Rees, it would not still not follow that salary determination would be arbitrary. To be sure it would be much more complicated in a world of total and complete heterogeneity; certainly it would be more expensive to tailor salaries to individual workers under such extreme assumptions. Arbitrariness, however, is an attack on the economic axiom that wages tend to equal MRP. This tendency would still hold, as shown by assuming it not to hold. As stated before, whether wages deviate from MRP on one side or the other, there are incentives brought to bear which tend to bring the two into equality, at least in equilibrium.

VIII. CONCLUSION

There may well be flaws in neoclassical labor economics; to doubt this even as a possibility is to leave the realm of science and to enter that of faith and creed. But Rees has not succeeded in showing any basic defects. However, he is to be congratulated at least for calling what might otherwise pass for verities into question. Surely, his skeptical attitude is one that bears emulation.

NOTES

1. All otherwise unidentified citations refer to Rees (1993).
2. True, unions do "good works." They contribute to charity, run bowling leagues, help in the political and educational process, are active in promoting pensions. However, the Mafia, too, is well-known for its support of religious and other public spirited concerns. It is also undeniable that unions, not gangs, are legal institutions in the U.S. and elsewhere. But to equate this with fairness or justice is to commit the sin of legal positivism: whatever the law states is right. To see this error, reflect on the fact that murderous "white citizens councils" were legally recognized entities in the post civil war confederate states, and that the Nazi Party was a legal entity in Germany from 1933 to 1945.
3. More technically, below the alternative cost of MRP, namely the MRP that would obtain in the next best alternative to present employment. See Block (1990).
4. I owe this citation to Frank Petrella.
5. Given this, it is difficult to understand his complaint that neoclassical economics must be modified in order to incorporate the interdependence of utility functions.
6. Rawls (1971) and members of the public choice school (e.g., Buchanan and Tullock, 1971; Buchanan, 1979, p. 196; 1990, p. 9) have attempted to define equity by resort to the "veil of ignorance." Equity is defined as that allocation of whatever (wealth, income, salaries, beauty, etc.) that would have been chosen had no one known what levels of these traits or goods would have been assigned to them if we were to start off again, de novo. But why should this be equitable? Surely risk preferrers, neutrals and avoiders will make very different choices in this regard. By definition, they cannot all be "equitable," if for no other reason than that they will all be different. (This holds if equity is defined in terms of static income distributions, as is typically done. If it is defined in terms of a just process, then of course very different outcomes can all be seen as equitable.) But unless all but one of these three perspectives on risk can itself be shown to be "inequitable," there is no hope that this mental experiment will be able to pinpoint a proper distribution. See Nozick (1974) for a devastating critique of the "veil of ignorance" ploy.
7. We have already seen that if the employer *agrees* to a two-tiered wage system, or even more so, *initiates* it, as in the case of voluntary nepotism, or the parable of the vineyard, this is not necessarily "unfair."
8. About the only thing it would not ameliorate would be the reduced new construction rates, but this is because old investors-owners would still remain expropriated even with this amendment to the law. Similarly, would be newcomers to this industry might reasonably fear that the same treatment would be imposed upon them, in the future.

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Homesteading, Ad Coelum, Owning Views and Forestalling

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Abstract: Homesteading, not the ad coelum doctrine, is compatible with libertarianism. In the former case, one mixes his labor with unowned land and a means of establishing private property rights in it and what is owned is limited to just that which has undergone this process. In the latter case, homesteading a square mile of land enables the owner of it to extend his property rights in a pyramid shaped form from his holdings on the surface down into the core of the earth and up into the heavens, with no limit.

Key words: Homesteading, ad coelum, forestalling, property rights, views, slant drilling

INTRODUCTION

Why delve into the issue of the property rights in virgin land, when virtually all territory on the planet already falls under some sort of ownership? There are several reasons.

Not all of the earth's surface is presently accounted for in this manner. There are vast areas of the arctic, Antarctic, Sahara, northern Canada and Russia and the oceans, rivers, seas and lakes, which presently do not fall under private ownership (Hoppe's, 1998, 2001; Block, 1998a; Block and Callahan, 2003). Then, there is the interior of our world. There are untold riches just beneath the surface, possibly extending right down to the core of the planet. As well, there is the moon, Mars and other planets and, eventually available to us, additional solar systems just chock full of terrain to privatize.

True, we are a long time away from being pressed in terms of knowing who, in justice, should become the owners of these various and sundry items, especially the latter mentioned ones, but it never hurts to at least start to solve problems before we desperately require answers to them.

In addition, homesteading is required for privatization of things that never should have been publicly owned in the first place. Numerous examples immediately leap to mind: The factories and collectivized farms of the U.S.S.R., Petro Canada and the C.B.C. in Canada, parks, post offices, sports stadiums, roads, museums, schools, libraries the world over (Moor and Butler, 1987; Poole, 1976; Savas, 1987, 2000; Anderson *et al.*, 1996; Hanke, 1987; White, 1978). Some of these things have already been returned to the private sector. Here, the theory to be proposed below can help determine if the transaction was an appropriate one or not. Others still, unfortunately, remain in government hands. In this case, the theory can both promote this long overdue occurrence and light the way in the direction of legitimizing it.

But before we begin, we must deal with two possible objections to the thesis that homesteading can ever properly be used to convert public property into private. First, based on libertarian punishment theory (Barnett and Hagel, 1977; Kinsella, 1992, 1996, 1997; Rothbard, 1978, 1998), illicit public property should always be returned to its rightful owners, not to those who merely utilize it. The latter, in any case, are mere squatters. The former are the people from whom wealth was taken from in the first place in order to develop the property in question.

But this objection, while not without some merit, is not fatal to our contention that homesteading is a viable solution for privatization efforts. First of all, it may not be possible to determine precisely who are the victims. If the governmental theft occurred a long time ago we may not know who they are, or the identity of their heirs. Another possibility is that at least some of the rightful owners may have died intestate, with no beneficiaries at all. It may be possible to trace their distant relatives, even unto 15th cousins, but, then again, it might not be possible to do so. We lack, after all, the God's eye viewpoint that might well be required for such determinations.

The second objection is that if I had but known that this park, road, library, farm, whatever, was going to be given to those who used, homesteaded, mixed their labor with it, then I would have done so. I knew no such thing. Therefore, I did no such thing. And this is patently unfair. There are problems with this line of reasoning:

First, this objection forces us to be hostage to the meanest intelligence. There are those who are unaware that their noses are placed on their faces. If public policy cannot proceed unless and until even the people at the bottom end of the IQ distribution can foresee something, then it will not take place at all.

Take a case to illustrate this point. A issues bonds in denominations of $100 and then goes bankrupt. These bonds then sell for $.10; that is, 10 cents. Unbeknownst to all market participants, A's son, B, is a man of honor and a rich one to boot. He offers to make good on his father's debt. He announces he will pay full value on these bonds, $100 for $100. Whereupon our "moron," one of the ex creditors, objects again. This time he says, Had I but known that B would have paid off these bonds in full no less, I would have kept them. Instead, I sold them for $.10 on the $100 and that speculator will earn $99.90 for each bond I sold him. This is patently unfair. The mistake here, as with the view that homesteading government property is inherently unfair, is that it ignores the concept of entrepreneurship (Kirzner, 1973).

This objection is also problematic on ex post facto grounds. Nazi defendants at the Nuremberg trials quarreled with a finding of guilty for their actions, for even holding these proceedings, on the ground that if only I had known that what I did would later be declared illegal, I would not have done as I did.

We are now attempting a praxeological analysis of law (Reinach, 1913, 1998; Rothbard, 1982; Block, 2004). Because someone, somewhere, lacks knowledge of this fundamental law of property rights cannot logically be allowed to render it inoperative and invalid.

Yet another objection to homesteading must also be dealt with at this point. According to some writers (Stroup, 1988; Block, 1990), if everyone knows that the homesteading rule is the law of the land, there will be an over allocation of resources currently expended upon exploration and development. These activities will occur, not when they are economically needed, but beforehand. Economic actors will engage in such prior to optimal homesteading in an effort to beat out the competition for the seizure of natural resources (Kirzner, 1973; Rothbard, 1993).

But why should we define optimal time for homesteading in the absence of knowledge about the law pertaining to this process. Perhaps an analogy will make this point more clear. Kinsella (2001) defines the optimal expenditure on research and development as that amount which comes about, based upon market decision making, when property rights in ideas-there are no such things under proper libertarian law-are respected. Kinsella (2001) faced much the same situation vis a vis intellectual property as we now do with regard to homesteading. His opponents charge that unless there were patent and copyright protection for R&D, its pace would slow to below optimal levels. Kinsella defined optimality in this regard in terms of investment in knowledge production in accord with the underlying precepts of justice. Since, there are and cannot be any legitimate property rights in information-since it is not scarce, once known-optimal allocation of resources can obtain only in such a properly legal milieu.

In like manner, we define the optimal time pattern of exploration and subsequent homesteading of natural resources as precisely that amount that occurs under the libertarian legal code of property; e.g., ownership through mixture of labor with land.

Nor is this merely matter of definition. If that were all there were to it, homesteading (Kinsella's opposition to intellectual property ownership) would be on no worse a standing than its alternative. In the Kinsella case, the alternative legal regime is one of copyrights and patents. For us, in the present case, there are several. We shall find all of them seriously wanting in operationalism, pragmatics, workability, to say nothing of logical coherence.

One alternative is "claim." A claims the sun, the moon and the stars and everything on earth he beholds. And viola!, he owns them all. But he did nothing to demonstrate (Rothbard, 1997) his ownership over these items. There is simply no connection between A and them. A transformed nothing at all. This would be a pragmatic nightmare to boot, since anyone can make such a claim at any time. As well, one person could own literally everything if somehow his claim to this extent could be upheld, surely a recipe for disaster of the human race. But is it right that such a person could stake a claim to all the heavenly bodies, for example, without following through with any action to back it up? It is difficult to see why this would be the case.

Similarly, with regard to viewing. B *sees* the mountains, valleys and rivers from his perch on high and on this basis claims not these things in themselves, but only his continued view of them. Related shortcomings apply here. As the "viewer" does not alter in any way that which he sees, there can be no reconciliation between this supposed mode of ownership and homesteading. Similar pragmatic objections apply. It is much more difficult to establish who was the first to observe something than who was the first to physically alter it. Then, too, the range of ownership is almost as bad; give someone a good telescope and his ownership of vast tracts is almost as all encompassing as that which would be justified through claim theory.

Under the libertarian perspective in contrast, the person who has first sight of a part of nature does not transform it in any way. He merely looks at it. But ownership implies not only the right to continue to view property, but also to prevent others from doing so. It is hard to see how this can be done, as a practical matter, in this case. Then, too, this type of "property" is heir to all the difficulties unearthed by Kinsella in his argument against ownership of information. For views, too, just like knowledge, are not scarce. A's view of the far away mountain or idyllic scene in no way detracts from B's observation of the same thing. But property rights are only needed and only sensible, when there is a scarcity of the thing in question. Here, there patently is not.

Another difficulty with the view theory of ownership is that if A owns X, he can legally prevent others, B, C, D,... from using it. This is no problem, as it is easy to envision a scenario why only one person owns a car or a suit of clothes. However, if ownership implies the right to exclude others, non owners and this can hardly be denied, then if A truly owns the view of X, say, a mountain, then he cannot only prevent B, C, D.... from trespassing on it, he can also legally insist that they not even observe it, either.

This would be a pragmatic nightmare. How, after all, does the owner prevent non owners from merely looking at a mountain over which he has "viewing" ownership rights. Another difficulty: children. Now, of course one cannot own human beings (Block, 2003; Nozick, 1974; Kinsella, 1992, 1996, 1997). However, one certain can own the right to raise them. Ordinarily, under traditional libertarian homesteading theory, the people with this right are the parents, who have "mixed their labor"; the result was the creation of the baby.

But suppose that the doctor who delivers the infant is the first one to look at it. Certainly, in the typical case, he precedes the mother in this regard. According to the "view" theory of ownership, it would be the physician, not the parents, who would obtain first rights to raise the child. Surely this constitutes a reductio ad absurdum from which this theory will not and should not recover.

HOMESTEADING THEORY

With these introductory remarks, we are now ready to launch into an analysis of homesteading theory (Hoppe, 1993; Locke, 1948; Rothbard, 1973). Let it first be said that this is not rocket science. Or, better yet, it is not Euclidian geometry nor yet algebra. There are many gray areas, gradations, continuum problems in homesteading theory, vis a vis these other callings.

For example, for how long and how extensively, must be the farming before the process can be said to be complete and full property rights vested in the homesteader. Must he place 1, 2, 5, 10, 100, 1000, 10,000 apple trees, corn plants, wheat stalks per square mile for it to be intensive enough? Must he do this for 1, 3, 5, 10 years? More? Less? Does cattle raising count? If so, with a discount factor? How about hunting? Walking? How often do these things have to occur? There are no definitive pinpoint answers to any of these questions. In this area of endeavor, custom, typical practice, tradition, can and must all play a part.

But this does not mean we are completely at sea without a rudder. Like pornography, we know homesteading when we see it. You get to own what you use, for a reasonable amount of time and reasonably intensively. When it comes to terrain for which we cannot rely on past tradition, practice and experience, we extrapolate.

More time spent on homesteading is better than less, ceteris paribus, in terms of the strength of establishing a property claim. Arid areas need not be as intensively farmed as fertile ones and one can claim more of the former than the latter given an otherwise equal amount of homesteading. For example, east of the Mississippi, it is necessary to plant more intensively than in the dryer areas west of this river. On the moon, or in the Sahara, or tundra, one need not plant at all. But one gets to own only what one has used, in some manner, shape or fashion. Were it not for the fact that it was merely a government employee who planted a flag and trod around on the moon for a bit, this would have otherwise entitled him to own, oh, say, an acre of this worldlet. What about two or three acres? Well, alright. Half the moon? A quarter of it? Certainly not. Ditto with Mars. Personal visits and homesteading are by no means required. Certainly, were private individuals responsible for the rock analysis that occurred on the surface of the Red Planet they would have the right to return there whenever they wanted, to continue their operations or even expand them, provided only that others had not in the meantime homesteaded contiguous areas. An acre or two or three or even ten? Sure. A square mile? That is pushing matters, but maybe not by much, given that it is hard, at least with present technology, to aim to arrive at any part of one of these heavenly bodies.

AD COELUM

The ad coelum doctrine has perhaps played more havoc with property rights than perhaps any other. According to it, whoever owns land on the earth's surface achieves property rights over a pyramid or cone shaped section of territory, stretching down to the exact center of the sphere and upward into the sky without end.

Can this doctrine be reconciled with homesteading? It cannot. For no one who has mixed his labor with land on the earth's surface has done so with territory located 400 miles downward (or upward). Did this doctrine apply in a heavenward direction, it would spell the death knell for airplane travel and rocketry, for all air carriers would first have to obtain the permission of the owners of the cones or pyramids stretching up from their land into the sky before they could traverse them. But that is mere pragmatism, unworthy, perhaps, of our notice, but for the fact that property rights theory must broadly speaking contribute to the well being of mankind, for that is one of its purposes and a key criterion of its success.

Let us focus our attention to the downward direction. When someone owns a parcel of land, how far down does his domain extend? This is hard to say, exactly, but, as per usual, there are principles involved that can guide us.

The key is, no one can properly claim land below the surface that in any way interferes with (e.g., causes a cave in to) the surface owners' (enjoyment of his) land. If the terrain is rock solid, then the underlyer can move with his mining operations within only a few yards of the surface owner's holdings without causing a property rights violation. On the other hand if the earth is soft and liable to cave-ins, then it may be that the underlyer cannot approach any closer than many yards below the surface.

Also of relevance is how deep goes the claim of the surface owner. If he plants vegetables with roots of only a few inches, he can claim less in a downward direction than if he plants trees with roots that extend down hundreds of feet. If the bottom of the basement of his house is 10 feet deep and the soil is solid, perhaps, his area of right extends downward to 50 feet below this point. That is, the underlyer cannot extend his base of operation closer than 60 feet from the surface. On the other hand, given a basement 100 feet deep and the same type of terrain, the upper bound of the sub surface owner would be 150 feet. With softer soil, the barrier or fence between the two would be deeper.

A basic principle of homesteading is first in time, first in right. Suppose, then, that the first homesteader was not the surface owner, but rather the underlyer. The latter, we may suppose, is an oil driller, or was working a vein of coal or gold under the ground and his operations extended in an upward direction to 200 feet below the surface. Continuing to assume that a 50 feet gap is necessary to protect either the over or underlyer from damaging each others' position, this means that the former is now the Johnny come lately to the scene, or, if you will, the "comer to the nuisance." Now, it is he the surface owner who has to forebear. He can only extend his sphere of interest in a downward direction to the tune of 150 feet, in our numerical example. If he is thinking of planting a tree with a tap-root 160 feet deep, he cannot do it. He will have to select a species which extends downward only 150 feet or less.

Suppose the following. First upon the scene is the overlyer, A. He homesteads only 10 feet down. Second comes the underlyer, B, a respecter of property rights, but someone who wishes to claim all he can, consistent with libertarian homesteading theory. B builds, say, a wine cellar, under A's property, which extends right up to the 60 feet mark below the surface, thus leaving a buffer of 50 feet. A, the surface owner now wishes to plant a tree, or put in a bomb shelter, or dig for water, way below the 60 feet mark established by B. A's argument in that "traditionally, ownership of the surface contains the privilege of doing precisely this sort of thing. Second, if owning land on the surface does not entail, also, these rights to dig for such traditional purposes, then its value will be severely truncated.

We have above articulated a concern for respecting custom and tradition. And, yet, in this case, such concern would appear to be incompatible with homesteading, which is the basis for this stipulation in the first place. So, when these two are incompatible with one another, which do we favor?

The answer is, homesteading. For tradition and custom are only first approximations, hints as to the proper intensivity or extensivity of farming, duration, etc. When they conflict with the very principle of homesteading, they must be jettisoned.

Suttee was a practice with a long tradition. Yet there are few who would be so rash as to defend it against the right not to be murdered. Ditto for scalping parties, head hunting, cannibalism, all with impeccable historical credentials. We look at traditions through the eyeglasses of libertarian principle, not the other way around.

This idea that the surface owner can drill or build or plant as far down as he wants, even if there is someone else who has already beat him to the punch, is no more and no less than our old friend the ad coelum doctrine. In principle, there is no limit in a downward direction to which the surface owner cannot drill for, say, water and without H_2O the value of his surface rights will be severely restricted. But this means, at least in principle, an end to homesteading sub surface rights. In effect, this would be the crowning of the evil, vicious and misbegotten ad coelum doctrine.

Sturgis v. Bridgeman is apposite here (Coase, 1960). These two were neighbors in an early noise pollution lawsuit. First out of the batters box was the doctor who needed absolute quiet, for his stethoscope. He located himself in his own apartment, far away from his neighbor. Then, second, the machinist, in his domicile abutting that of the physician, placed his noisy machine right near the border between the two. The latter wafted noise into the doctor's home, but did not reach his examination room, which was far away, at the other end of his suite. Then, third, the man of medicine moved his office from far away from the machinist to right next to him, still within his own domain and sued the machinist for noise pollution.

Homesteading theory has a clear implication for this lawsuit. The machinist is in the right, the doctor in the wrong. The latter "came to the nuisance" (Wittman, 1980) created first by the former.

FORESTALLING

A word about forestalling, an integral element of this story and at least a partial reconciliation between homesteading and the ad coelum doctrine, which allows surface owners drilling rights beneath their holdings, even if someone else had first homesteaded this subterranean area.

What is forestalling? Consider the surface of the earth first, as this concept is easier to illustrate in that context. Suppose someone homesteads all the area around a plot of land, but not the (inner) plot of land itself. This pattern can either take the shape of a bagel or a nut (from nuts and bolts). This homesteader, in other words, precludes for forestalls, everyone else from settling in the area in the middle. He does not own this center region, he does not claim it, he does not himself homestead it, but effectively prevents anyone else from so doing (Block and Block, 1996; Tullock, 1996; Block, 1998b).

There are problems here. Just as nature abhors a vacuum, homesteading theory is repulsed by, land that is not (privately) owned. And here we have an exception to the ideal of homesteading every last square inch of territory and accomplished in a way that is seemingly compatible with the essence of the theory. Quell horror! A veritable contradiction.

The solution I favor is a rule prohibiting such forestalling or precluding. This could be done either by an outright ban, or, a requirement that those who engage in this pattern of homesteading leave a clear path through "their" holdings, so that others can have access to the terrain inside (or outside) of the bagel shaped area, from which they would otherwise be barred.

Superficially, this requirement that a path be left open for would be homesteaders of land otherwise precluded to them, sounds similar to the familiar (Locke, 1948) proviso that "as much and as good" land be left over for all comers if homesteading is to be justified in the first place. In both cases, some people are being stopped from "hogging it all up" before others can get anything.

The difficulty with this Lockean proviso is that not all potential property will be privatized. People necessarily select the best so far unowned land available to them for homesteading purposes (Mises, 1998). Thus, homesteading would be s topped dead in its tracks right at the outset, for the very first homesteader would fail to leave "as much and as good" for others, by selecting the choicest parcel of land for himself (Block and Whiteehead, 2005).

But the similarity between the Lockean proviso and the prohibition of forestalling is more apparent than real (Anderson and Hill, 1997; Benson, 1989, 1990; Cuzan, 1979; Fielding, 1978; Friedman, 1989; Hoppe, 1993, 2001, 2003; Long, 2004; Murphy, 2002, 2005; Rothbard, 1973, 1978, 1982; Sechrest, 1999; Sneed, 1977; Spooner, 1870; Strigham and Edward, 1998, 1999; Tannehills and Linda, 1984; Tinsley, 1998, 1999; Woolridge, 1970). The former, as we have seen, is a barrier to the process of converting all unowned territory into private property. The latter, in contrast, is a support for this goal. By legally prohibiting forestalling, we make it more likely that all territory will be privatized.

Prohibition of land precluding cannot be limited, merely, to the horizontal direction. It is imperative that it be applied, also, to the vertical and there to both the upward and downward directions.

Let us consider the former first. In a Simpsons episode, Mr. Burns erects a gigantic barrier in the sky and perches it several hundred yards above the town of Springfield. Suppose that he did this before the era of airplane travel and was thus the first to claim, through homesteading, this area above the heads of the townsfolk. Posit, also, that the people below could make no valid claim that they were the first to utilize the sun's rays, in such manner that Mr. Burns had no right to cut the sunlight off from them. Or, suppose that the gigantic umbrella like structure in the sky was not opaque and did not interfere with their enjoyment of the sunlight. Perhaps it was made of translucent mesh and thus allowed the sun and also the rain, to pierce it and thus flow down to the people on the ground as it always had (Block and Block, 1996). Still, this (vestige of an) umbrella could serve, if it were placed over the entire earth and not just Springfield, to bar any air travel, as well as rocket ships, etc.

Would such an "umbrella" encircling the entire earth, be compatible with libertarian homesteading? No, it would not. Why not? This is because it would violate the libertarian stricture against forestalling. There is a lot of "stuff" up out past that umbrella (stratosphere, moon, Mars, etc.) and this device would prevent anyone else from ever getting to any of it and homesteading it.

Now consider forestalling in a downward direction. Envision an "umbrella" built not a few hundred yards up into the sky, but a mile down under the earth, below any man made well, or underground pipeline, or tunnel. Ok, maybe 10 miles under the surface. Here, we do not have to observe the niceties of protecting sunlight, rain and wind rights, for there are no such things. Imagine, then, an impermeable barrier, 10 miles below the earth's surface, blocking us from ever exploring and bringing the benefits of private property rights to anything between it and the core of the planet. This would be similar to the case where the Morlocks occupied the netherworld, as in Wells (1895), preventing anyone else from colonizing anything lying below this barrier, from 10 miles below the surface of the earth to its core.

SLANT DRILLING

Is it permissible for Mr. A to drill for oil under the surface of the property owned by Mr. B, his next door neighbor, the owner of a contiguous plot of land? Yes, as long as A reaches this area under B before B himself does. How far down below B's holdings may A enter? As far below as is necessary so that A does not interfere with B's enjoyment of his own property. How far down is that? It depends upon the context. If B is used as a farm and the roots of the wheat plants go down only a few inches, then property line demarcation is very close to the surface. It is it corn plants that burrow down a few feet, then the line is lower. If there is a building on B's land with a deep basement, lower still. Also, the type of terrain must be taken into account. Solid rock raises the barrier (since not as much depth is needed for safety) while mud or a high water table lowers it. Also, custom must be taken into account, but, not to such an extent that ad coelum starts to kick in and homesteading to recede. For example, this would hold true if the "custom" was that the surface owner had rights stretching miles down, since in the future new technology might allow him, B, to go down that far.

This being said the only argument against slant drilling is ad coelum. But, as we have seen, the case in favor of B owning all the territory under his surface holdings, down to the core of the earth, is intolerable. There being no other logical stopping place-100 miles down, 10 miles down, the crust of the earth-we conclude that the only barrier to slant drilling is if it somehow interferes with, or at the very least constitutes a clear and present danger to, B's surface holdings. If this is not so, then slant drilling is entirely compatible with the libertarian legal code.

Suppose it is customary for the owner of surface land B to plant a tree which, eventually, will have roots extending 100 feet downward and that A has already put in place something under B's land (a pipe line, a tunnel) that is incompatible with that tree. The first approximation of an answer to this conflict is that it is "tough" on B. In placing the tree in such a manner, he is interfering (in future, when the tree matures) with the private property rights of A. "Custom" must give way to homesteading. However, there is one phenomenon on which B may possibly rely: A cannot forestall him. A cannot entirely cut off B's right to dig below A's property which, it will be remembered, lies beneath B's holdings, at the surface. This may not be of much help to B's tree, however, since roots tend to spread out all over the place, in unpredictable ways.

B will be in a better legal position with regard to a water pipe, which is at once narrower than tree roots and more conducive to aiming. A cannot entirely forestall B's access to terra firma underlying A's installation underlying B's land at the surface. Given this, then A must leave a portal, or a gate, or a path, in a downward direction so that B (or anyone else for that matter) may explore and homestead terrain further down. It is precisely through this opening that B may sink his water pipe or other such edifice.

B has one other remedy at law, if A is only starting to build under his property. B may engage in a race to put in his own construction, say, dig for water below. In baseball, if there is a dead heat between the ball to the first baseman and the batter's arrival there, the tie goes to the hitter. In like manner, if A and B arrive at an area under B's surface property at exactly the same time, the tie, here, goes to B. We are almost completely, but not entirely free, as can be seen, of the otherwise pernicious ad coelum doctrine.

Take another case. A first builds a wine cellar stretching in a vertical direction 100-200 feet below B's land. Any closer in an upward direction and A would risk caving in B's surface holdings. B now desires to put in a bomb shelter below his own land. Thanks to the concept of forestalling A cannot prevent B from constructing this bomb shelter 300-400 feet below his own surface property. But B is unhappy with that option. He prefers his bomb shelter to be cited precisely where A's wine cellar is now located, 100-200 feet below his own land (or, in a position which interferes with A's wine cellar, which lies below B's surface holdings). In this case, there is no question of there being a tie that can be awarded to B. A was there first, by a country mile. B asserts his "God given right" to build a bomb shelter under his own land, precisely where he wants it to be. He maintains that this is the right of the surface owner, from custom, since time immemorial. Say what you will about this claim, it is part and parcel of ad coelum and cannot be reconciled with libertarian private property theory.

CONCLUSION

Property rights are the pre-eminent way in which we determine who has a right to do what, with which land, capital or other property. The usual answer is in terms of whoever has the relevant property rights. He and only he can act upon the territory under his control and prevent others from so doing.

In this study, we have attempted to sketch out how property rights, grounded on homesteading principles, can be applied to areas above and below the surface of the earth. We have rejected the ad coelum doctrine, except in the very limited sense that people cannot be allowed to forestall, or preclude, others from homesteading unowned territory in any dimension.

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