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SNATCHING THE WRONG CONCLUSIONS FROM THE JAWS OF DEFEAT: A RESOURCESHIP PERSPECTIVE ON PAUL SABIN'S THE BET: PAUL EHRLICH, JULIAN SIMON, AND OUR GAMBLE OVER EARTH'S FUTURE. (NEW HAVEN: YALE UNIVERSITY PRESS, 2013). PART 1: THE MISSING HISTORY OF THOUGHT: DEPLETIONISM VS RESOURCESHIP.

PIERRE DESROCHERS[1], VINCENT GELOSO[2]

ABSTRACT

Historian Paul Sabin's *The Bet* aims to present the first full-fledged account of the 1980 wager on the future prices of five metals between biologist Paul Ehrlich and his collaborators, and economist Julian Simon. The Malthusian Ehrlich predicted that growing populations would rapidly deplete the world's finite supply of valuable resources, causing their prices to rise. Simon countered that, in a market economy, prices and technological change would result in resources being used more efficiently, new deposits discovered, and substitutes developed, resulting in less scarce resources and lower prices. Unfortunately, Sabin's account is marred by a lack of historical perspective, an oversimplification of Simon's theoretical framework, and a quest to find a middle ground between mutually exclusive positions.

KEYWORDS

Paul Ehrlich, Julian Simon, Malthusianism, neo-Malthusianism, Cornucopianism, resourceship, eugenics

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1. INTRODUCTION

The story of the bet between neo-Malthusian biologist Paul R. Ehrlich and optimistic economist Julian L. Simon was first told over 25 years ago in *The New York Times Magazine* by journalist John Tierney (1990). Simon (1981 p. 39) challenged Ehrlich to put his money where his catastrophist mouth was by offering to "stake $10,000 in separate transactions of $1000 or $100 each" on his belief that "the cost of non-government-controlled raw materials" would not rise in the long run, with the minimum period of time covered by the bet being one year. If, as Ehrlich believed, the store of non-renewable resources was absolutely finite and subject to ever-increasing demand, then prices would rise. Simon, however, argued that in a market economy characterized by freely determined prices and secured property rights, a rise in the price of a valuable resource could only be temporary as it would provide incentives for people to look for more of it, to produce and use it more efficiently, and to develop substitutes. In the long run, resources – including non-renewable ones – would become less scarce as they are ultimately created by the renewable and ever-expanding human intellect.

Ehrlich (1981 p. 46), along with collaborators John P. Holdren and John Harte, accepted "Simon's astonishing offer before other greedy people" jumped in and offered "to pay him on September 29, 1990, the 1990 equivalent of 10,000 1980 dollars (corrected by the CPI) for the quantity that $2,000 would buy of each of the following five metals on September 29, 1980: chromium, copper, nickel, tin, and tungsten."

Between 1980 and 1990 the world's population grew by more than 800 million people as standards of living rose. In spite of this, the prices of all commodities selected by Ehrlich fell – from 3.5% for copper to 72% for tin – as new deposits were brought into production and new substitutes created. Ehrlich honored his financial engagement, but never acknowledged the superiority of Simon's outlook.

This story has been told many times, but no account delved deeper than Tierney's original article until the publication of *The Bet: Paul Ehrlich, Julian Simon, and Our Gamble over Earth's Future* by Paul Sabin, a historian and environmental studies professor at Yale University. Born and raised in a family where "environmental sentiments" ran deep, Sabin "held fast to that ethic in [his] teens, through college, and into [his] professional career" (Sabin 2013 pp.IX–X). Somewhat displeased with Tierney's narrative – whom he describes as a "personal fan of Julian Simon, rather than a neutral observer" (Sabin 2013 p. 182) – his book is marketed as the first full-fledged account of the wager and an attempt to mend the divisive fences erected by his main characters and their primary political proxies, American Presidents Jimmy Carter and Ronald Reagan. Indeed, Sabin never tires of reminding his readers of his attempt to "reduce the partisan conflict surrounding environmental policies" (Sabin 2013 p. XI), to provide a "more sober and nuanced assessment of policy alternatives" (Sabin 2013 p. 8), and to find a "moderate middle ground for sober discussion" (idem p. 193) between the "extreme voices [who] have come to dominate American politics" on "polarizing and divisive political questions" such as climate change (Sabin 2013 p. 217). As he sees it, the real problem is ultimately Simon and Ehrlich's "often vitriolic" tone and "un-

willingness to concede anything" that "exacerbate[d] critical weaknesses in each of their arguments" (Sabin 2013 p. 219).

Many reviewers have praised Sabin for his professed even-handedness, acknowledging that where he "once saw resource conservation as the only possible answer to scarcity and the limits of nature," his "moral certainties" are now "more elusive" (Sabin 2013 p. XII). Simon and others who "argued that human creativity and market forces allow societies to adjust to changing circumstances and to expand efficiency and productivity," he realized, helped "fend off calls... to slow or halt economic growth in a manner that would have affected millions, or even billions, of people around the world" (Sabin 2013 pp. 218–219). Simon's victory also popularized the important insight that "scarcity and abundance are in dynamic relationship with each other. Abundance does not simply progress steadily to scarcity" (Sabin 2013 p. 221). Sabin further admits that "excessive pessimism has a cost" as "[e]xaggerated fears of resource scarcity can easily lead to poor economic management, including stifling price controls, panicked efforts to limit production or consumption, and national investment strategies predicated on high resource prices that turn out to be ephemeral" (Sabin 2013 p. 222). The Yale scholar even concedes that "human history over the past 40 years has not conformed to Paul Ehrlich's predictions" and that "sustained population growth" and "growing human prosperity suggest that humanity has remained much further from its natural limits than... Ehrlich predicted" (Sabin 2013 p. 220). In other words, just as Simon had foreseen, human populations have grown in numbers and become wealthier and healthier while virtually all environmental indicators have shown marked improvements.[3]

Sabin (2013 pp. 184–189), however, suggests that policy events played in Simon's favour and that Ehrlich's and other environmental scientists' warnings helped avert "genuine ecological disasters," showed "the risks of dangerous new technologies," laid the "groundwork for the new environmental regulatory regime established in the 1970s" that "drastically curbed air and water pollution in the United States," "raised profound questions about the purpose of consumption and whether more really meant better," and showed "how important natural ecosystems are to human well-being" (Sabin 2013 p. 218). Furthermore, by "focusing solely and relentlessly on positive trends, Julian Simon made it more difficult to solve environmental problems" while failing to acknowledge that "the environment got cleaner partly because warnings by environmentalists like Paul Ehrlich prompted regulatory action" (Sabin 2013 pp. 222–223). Even worse, Simon's "rosy view of the future" even "undermined – and continue to discourage – efforts to address environmental problems in the present. His optimism paradoxically inhibited the kinds of problem-solving market and technological innovations that produced the improvements that he celebrated" (Sabin 2013 p. 223).

As will be argued in this two-part essay, Sabin's interpretation displays either ignorance or a debatable reading of the historical evidence, a lack of understanding of market process-

3 A website run by Simon's intellectual fellow travelers that documents this case is http://humanprogress.org/. See also https://ourworldindata.org/.

es, an extremely generous account of Erhlich's writings, and a distortion of Simon's stance on environmental policy. Somewhat disappointing too is the considerable space devoted to peripheral aspects of the main protagonists' personal lives (e.g., Ehrlich's mountain cabin or Simon's contempt for his father) at the expense of a broader historical perspective on key assumptions, ideas, and facts. Furthermore, by closely aligning Ehrlich's and Simon's views along U.S. partisan political lines, Sabin creates an artificial left/right outlook on conflicting perspectives that have traditionally found supporters and detractors on both sides of the political spectrum. Most frustrating to these writers, however, is Sabin's attempt to strike a middle ground between mutually exclusive worldviews, for either valuable resources are finite or else human creativity will find a way around scarcity.

Our review essay is structured as follows. The first part revisits the standard conflicting arguments over population growth, resource availability, and environmental impact as they were developed from the distant past to the dawn of the modern environmental movement. Our goal is to provide readers with the intellectual history that is missing from historian Sabin's book. In doing so, we illustrate that the optimistic perspective of which Simon was the latest proponent had been validated on countless occasions even if it proved much less influential in popular debates and policy circles than the pessimistic tradition which Ehrlich represented. The second part will discuss Ehrlich's and Simon's formative years, along with Sabin's presentation and interpretation of their writings and wager. Our reflective conclusion will discuss why after two centuries of a rather one-sided ideological confrontation the losing side still holds so much sway over otherwise highly educated and well-meaning people.

2. POPULATION GROWTH AND NATURAL RESOURCE SCARCITY DEBATES UP TO WORLD WAR II

Sabin offers a few clues that Simon and Ehrlich were but the latest protagonists in a long-standing feud between what are best characterized as the "depletionist" and "resourceship" perspectives.[4] Readers are thus told about William Godwin, a 19th-century philosopher who "anticipated Julian Simon's critique of Ehrlich" (Sabin 2013 p. 6), and Fairfield Osborn's and William Vogt's 1948 best-sellers that "warned about overpopulation and resource scarcity" (Sabin 2013 p. 16).

In truth, concerns about demographic and economic growth-induced depletion of soils, minerals, and biomass resources; optimum population; decreasing returns; ecological balance and steady-state economics go back much further. As the economist Alfred Marshall (1890 p. 223) observed over a century ago, if the "study of the growth of population is

4 The labels "resourceship"and "depletionist" have been used by, among others, Bradley (2007) and Furedi (2010).

often spoken of as though it were a modern one," it has "in a more or less vague form... occupied the attention of thoughtful men in all ages of the world." Confucius (551–479 BC) and some of his followers argued that excessive population growth may reduce output per worker, lower standards of living, and create strife (Chen 1911). Some ancient Indian writings showed "profound appreciation of the problems of Food and Populations" (Hutchinson 1967 p. 9). Plato (app 380 BC; app 360 BC), Aristotle (app 350 BC), and later writers also opined on the topic.[5]

In his brief overview of the controversy over the population growth and resource availability nexus in the English-speaking world, Bennett (1949 p. 17) identified four periods of intense popular interests before the modern environmental era. The first followed the publication of Malthus' (1798) *Essay on the Principle of Population*. The second took place in the late 1890s as part of a debate on the "relative merits of agrarian and industrial national economies" that followed the rise of Germany and a then "ephemeral shortage and high price" for wheat. The last two occurred in the aftermath of the First and Second World Wars that were attributed by some writers to demographic and economic pressures.[6] What follows is a summary of the main points of contention as to the interrelations between economic development, population growth, and resource availability during these time periods.[7]

CLASSIC ARGUMENTS

Depletionism

Although he later acknowledged his lack of originality, [8] the classic depletionist statement is the first edition of Thomas Robert Malthus *Essay on the Principle of Population* (1798) in

5 Broader discussions of demographic and economic growth and resource availability can be found in Stangeland (1904), Spengler (1933a; 1933b; 1998), Schumpeter (2006/1954), Barnett and Morse (1963), Hutchinson (1967), United Nations (1973), Simon (1998), and Huggins and Skandera (2004). United Nations (1973) and Caldwell (2005) further include surveys of past sociological, demographic, and other contributions to the subject. See also ff #6.

6 See Spengler (1966) for another, albeit less detailed, periodization of these debates.

7 Among arguments not discussed here are Coale and Hoover's (1958) thesis that, *ceteris paribus*, higher fertility rates negatively impact aggregate savings in less developed economies and the contention that population growth inherently increases inequalities.

8 Hutchinson (1967 p. 136) observes that the "fame of Malthus' *Essay* has somewhat obscured the fact that the pessimistic doctrine of population was already well developed and well stated before he wrote" his first edition. In the revised versions (1803 and later), Malthus (1826 non-paginated) acknowledged being originally only familiar with the writings of David Hume, Adam Smith, Richard Price, and Robert Wallace. Apart from Plato and Aristotle, he later discovered the contributions of "some of the French Economists; occasionally by Montesquieu, and, among our own writers, by [Benjamin] Franklin, Sir James Stewart, Mr. Arthur Young, and Mr. Townsend." The first author to have anticipated Malthus' key arguments is arguably the Italian Jesuit Giovanni Botero (1540–1617) in his 1588 *Delle Cause della Grandezza delle Città* translated in English in 1606 as "On the Causes of the Greatness of Cities" (Botero 1606/1588).

which he stated that food production expands linearly while population grows exponentially. Malthus later supplemented, amended, and qualified the content of the first edition, but he arguably always believed in the potential inability of humanity to produce enough food to keep up with unrestrained population growth. In his mind and those of his followers, the threat of "overshoot" and its attending decline, famines, wars, and population collapse justified some forms of voluntary or coercive restraints. [9]

Another famous British depletionist tract is the economist William Stanley Jevons' *The Coal Question* (1866/1865) that warned of fuel shortage in little more than a century. The issue was critical, as neither wind power nor petroleum would prove adequate substitutes. Once the United Kingdom had lost its "main agent of industry," Jevons (1866/1865 non-paginated) argued, its inhabitants would "either sink down into poverty," adopt "wholly new habits," or witness an exodus of their youth to better-endowed countries like the United States. His most original insight was that ever more efficient use of a resource would increase its overall consumption, something which now is labeled "Jevons' paradox" or the "rebound effect." Jevons' inspiration was the understanding that labor-saving technologies ultimately create more employment than they eliminate because, by lowering the price of a good, they create new markets for it or leave more money in the pockets of consumers for other purchases, thus creating new and more numerous jobs.

What follows is our summary of the main recurring themes, beliefs, and concerns common to depletionists:

1. *Everything else being equal, a reduced population will enjoy a higher standard of living*. While he admitted that the inhabitants of a country "depopulated by violent causes" such as wars would "probably live in severe want," Malthus (1826 non-paginated) suggested that population reduction without destruction of the capital stock (e.g. the aftermath of an epidemic disease) would benefit the remaining inhabitants as they could "cultivate principally the more fertile parts of their territory." In a world where resources are finite, the biggest slices of pie get cut at the least-crowded tables.
2. *Decreasing returns to investment*. Beginning with the second edition of the *Essay*, decreasing (or diminishing) returns to investment became the intellectual keystone of depletionism. In other words, the cream would be skimmed first and the low-hanging fruits given priority. Over time, extracting the same value out of less concentrated resources would become more difficult and expensive. Malthus (1826 non-paginated) thus argued that making less productive parts of the landscape fit for agricultural production would require more time and labor than were previously necessary. As a result, "the additions that could yearly be made to the former average produce must be gradually and regularly diminishing." Marshall (1890 p. 203) restated this concern when writing that "whatever may be the future developments of the arts of agriculture,

9 In Malthus' defense, he was always uncomfortable with coercive policies and emphasized instead voluntary measures such as delaying marriage. Bonar (1885), Smith (1951), Hutchinson (1967), Petersen (1979), and Mayhew (2016) are more comprehensive treatments of Malthus' population writings.

a continued increase in the application of capital and labor to land must ultimately result in a diminution of the extra produce which can be obtained by a given extra amount of capital and labor." Diminishing returns would obviously affect every non-renewable commodity. [10] Jevons (1866/1865 non-paginated) thus similarly observed that, over time, the price of coal would become "much higher than the highest price now paid for the finest kinds of coal" because the most "cheaply and easily accessible" fields and seams would always be developed first.

3. *Past successes in overcoming natural limits is irrelevant to present conditions*. Historical successes in overcoming resource scarcity are typically deemed irrelevant by depletionists because of new and drastically changed circumstances. In modern technical parlance, nonlinearities and discontinuities in the relevant relationships make extrapolations from past data unwarranted. In simpler words, whatever the time, location, or resources, humans now live in a world where thinking about the present or the future in terms of past advances can only result in decline or catastrophe.

For instance, Jevons (1866/1865 non-paginated) surveyed the work of previous writers who had mistakenly suggested an imminent coal shortage "when the question was not so urgent as at present." By 1865, however, better data on coal availability and rapidly rising rates of consumption had changed everything. He therefore dismissed the notion that, just as coal had proven a superior alternative to animal power, scientific and technological advances would develop a superior substitute for coal. Especially "inexcusable" because it was uttered by a "scientific man" was Dyonisius Lardner's 1840 statement that "long before such a period of time shall have rolled away, other and more powerful mechanical agents will supersede the use of coal." A few decades later, the prominent American plant breeder and depletionist Edward Murray East (1922 p. 9) opined in his influential book *Mankind at the Crossroads* [11] that the "present age is totally unlike any previous age" as a result of the annihilation of isolation and space. "Thanks to steam and electricity," he wrote, "the world as a whole is more of a single entity than were some of the smaller kingdoms of Europe in the 15th century."

Resourceship

The depletionist perspective has long been challenged by writers whose outlooks spanned the political spectrum. Among economic analysts one finds detailed critiques from authors influenced by the Marxist, Institutionalist, Neoclassical, and Austrian schools, [12] but

10 This being said, many otherwise pessimistic authors granted that this needn't be the case for the manufacturing sector (United Nations 1973).

11 According to Wolfe (1928a p. 535), the book appeared at "the right psychological moment and was widely read."

12 See, among others, Brätland (2008), Bradley (2007; 2009a), DeGregori (1987), Harvey (1974), Neumayer (2000), Perlman (1982), Perelman (1979), and Wolfgram and Aguirre (2004).

common intellectual roots run deeper. For instance, Malthus' original *Essay* was partly motivated by a desire to rebuke the (mostly) classical liberal French thinker Condorcet's (1796/1795 p. 250) belief that "nature has fixed no limits to our hope" and British anarchist William Godwin's (1793b non-paginated) assertion that "[t]hree-fourths of the habitable globe is now uncultivated. The parts already cultivated are capable of immeasurable improvement. Myriads of centuries of still increasing population may pass away, and the earth be still found sufficient for the subsistence of its inhabitants." [13]

Many writers opined that more people not only meant more mouths to feed, but also more arms to work and more heads to create solutions to pressing problems. Resources would always remain limited in light of virtually unbounded human desires, but they could paradoxically become less scarce over time provided that innovative solutions were developed. Populations could thus grow almost indefinitely as a result of better nutrition, sanitation, medical care, and overall standards of living.

Resourceship theoreticians typically elaborated some versions of the following arguments. [14]

1. *A larger population that engages in trade and the division of labor will deliver greater material abundance per capita*. One hundred people with 100 different skill sets who specialize in what they do best and trade with each other will produce and consume far more than 100 times more than one individual. As the British economist Edward Cannan (1922/1914 non-paginated) wrote, if, as an old proverb said, with "every mouth God sends a pair of hands," why shouldn't an "increased number of people be able to grow a proportionately increased amount of produce?" Indeed, why couldn't they produce proportionally ever more as "they would be able to draw greater advantage from [the] division of labour?" Cannan (1922/1914 non-paginated) similarly disagreed with the notion that agricultural productivity would be greater if population numbers had remained small because fewer brains meant that fewer advances would "have been discovered and introduced."

Decades earlier, the French economist Jean-Baptiste Say (1821 non-paginated) had similarly judged the belief that a reduction in population would "enable those which are left to enjoy a greater quantity of those commodities of which they are in want" nonsensical because it ignored the fact that a reduction in manpower simultaneously destroyed the means of production. After all, one did not see in thinly populated countries that "the wants of the

13 The original title of Malthus' essay was *An Essay on the Principle of Population as it Effects the Future Improvement of Society; with Remarks on the Speculations of Mr. Godwin, M. Condorcet and Other Writers.* Godwin (1793a; 1793b) was himself reacting to earlier pessimistic writings and later wrote a rebuttal to Malthus (Godwin 1820).

14 Spengler (1933a p. 439) provides a longer list that includes religious, distributive, and international trade arguments.

inhabitants are more easily satisfied." To the contrary, it was "abundance of productions, and not the scarcity of consumers, which procures a plentiful supply of whatever our necessities require." This is why the most populous countries were generally better supplied.

2. *Human creativity can deliver increasing returns*. Apart from being innate traders, human beings are also creators of new and better (or less damageable) ways of doing things. A long-standing tenet of resourceship is that the more human brains, the greater the likelihood of new beneficial inventions. [15] As the British political economist William Petty (1888/1682 p. 49) observed over a century before Malthus, it was "more likely that one ingenious curious man may rather be found out amongst 4,000,000 than 400 persons."

Writing in 1771, the French economist Nicholas Baudeau (1910 p. 13, translation from Hutchinson 1967 p. 98) suggested that the "productiveness of nature and the industriousness of man are without known limits" because production "can increase indefinitely" and as a result "population numbers and well-being can go on advancing together." In a reply to and further personal conversation with Malthus, the American diplomat Alexander Everett (1823 p. 26) suggested that an expanded division of labor not only made people more productive, but further laid the foundation for "the invention of new machines, an improvement of methods in all the departments of industry, and a rapid progress in the various branches of art and science" that resulted in a level of labor productivity that far exceeded the proportional increase in population numbers. As he put it, a belief in decreasing returns ultimately assumed that "labor becomes less efficient and productive in proportion to the degree of skill with which it is applied; that a man can raise more weight by hand, than by the help of a lever, and see further with the naked eye than with the best telescope" (Everett 1823 p. 28). In truth though, because labor productivity depends almost entirely on skill and science, the introduction of new skills would in time deliver an abundance of products in ways that are "unbounded and incalculable" (Everett 1823 p. 40).

The Scottish agricultural writer James Anderson (1803 p. 294) had similarly observed that human creativity could deliver increasing returns despite less valuable lands being brought under cultivation:

> Nothing can be more certain, than that the productions of a country can be increased by human exertions; and that this increase of produce can, by judicious management, be gradually augmented in a country which admits of being cultivated almost without any limitation. If these facts be admitted, it will follow, that by due attention to carry forward improvements in agriculture, the population of a country many gradually increased to an indefinite degree, and the people still find abundant subsistence from the productions of their own fields, even where

15 Hutchinson (1967 pp. 100–104) discusses several past writings on this subject.

> there seemed to be no superabundant produce at the time the population began to increase.

A few years before he co-authored the *Communist Manifesto*, Friedrich Engels (1844 non-paginated) argued that the "productive power at mankind's disposal is immeasurable," and that the "productivity of the soil can be increased ad infinitum by the application of capital, labour and science." In later decades several German and Russian writers expanded on this point (Grigg 1979). For instance, the anarchist theorist and geographer Pyotr Kropotkin (1912/1898 non-paginated) observed that the high agricultural productivity of Belgian farmland should not be attributed to a belief that

> the soil of Belgium is [inherently] more fertile than the soil of [the UK]. On the contrary, to use the words of Laveleye, 'only one half, or less, of the territory offers natural conditions which are favourable for agriculture'; the other half consists of a gravelly soil, or sands, 'the natural sterility of which could be overpowered only by heavy manuring.' Man, not nature, has given to the Belgium soil its present productivity. With this soil and labour, Belgium succeeds in supplying nearly all the food of a population which is denser than that of England and Wales...

Commenting on the market gardens that then surrounded Paris, Kropotkin (1912/1898 non-paginated) wrote that in "market-gardening the soil is always made, whatever it originally may have been." It was therefore a "usual stipulation of the renting contracts of the Paris maraîchers that the gardener may carry away his soil, down to a certain depth, when he quits his tenancy" because he had created it (Kropotkin 1912/1898 non-paginated).

Cannan (1922/1914 non-paginated) opined that while one might occasionally observe "diminution of returns," these were typically only temporary until the development of "inventions and the introduction of better methods." Indeed, the belief that "diminishing returns was the general rule throughout history" was "so contrary to the results of direct observation that it seems difficult to believe that it could ever have been accepted." As a matter of fact, "no reasonable person can have any doubt that the productiveness of agricultural industry has enormously increased" and that "the population of the civilized world is much better fed, and yet has to spend far less a proportion of the whole of its labour on the acquisition of food." If agricultural returns had actually diminished in agriculture, a "larger and ever larger proportion of the world's labour would clearly have to be expended in producing food," something that was obviously not the case.

3. *Human beings differ from other animals*. Optimistic outlooks on population and resources reject the application of biological metaphors or ecological constraints (e.g. carrying capacity) on economic systems because of humans' trading and creative abilities. As the economist Henry George observed in his book *Progress and Poverty* (1879 non-paginated), of "all living things, man is the only one who can give play to the reproductive forces, more powerful than his own, which supply him with food."

Other animals survive on what they find and can only grow as numerous as their food source allows, but increases in human numbers are possible because of their ability to produce more food. [16] As he saw things:

> If bears instead of men had been shipped from Europe to the North American continent, there would now be no more bears than in the time of Columbus, and possibly fewer, for bear food would not have been increased nor the conditions of bear life extended, by the bear immigration, but probably the reverse. But within the limits of the United States alone, there are now forty-five millions of men where then there were only a few hundred thousand, [17] and yet there is now within that territory much more food per capita for the forty-five millions than there was then for the few hundred thousand. It is not the increase of food that has caused this increase of men; but the increase of men that has brought about the increase of food. There is more food, simply because there are more men (George 1879 non-paginated).

George added that a key difference between animal and man was that both "the jay-hawk and the man eat chickens, but the more jay-hawks the fewer chickens, while the more men the more chickens." Similarly, "both the seal and the man eat salmon, but when a seal takes a salmon there is a salmon the less, and were seals to increase past a certain point salmon must diminish." Humans, however, "by placing the spawn of the salmon under favorable conditions" can increase their number to such an extent as to more than make up for their catches. In the end, George argued, "while all through the vegetable and animal kingdoms the limit of subsistence is independent of the thing subsisted, with man the limit of subsistence is, within the final limits of earth, air, water, and sunshine, dependent upon man himself." The ultimate limit to human population was therefore physical space.

4. *Past successes are grounds for optimism*. In his discussion of John Stuart Mill's pessimistic writings, Cannan (1922/1914 non-paginated) took issue with his ambivalence as to whether or not future improvements could overcome decreasing returns. As he put it, Mill limited his discussion to "fairly recent times" in which "it does not appear to be possible either to prove or disprove [the argument]." A longer-term perspective, however, typically yielded a more promising outlook. While commodity prices go through cycles, in the long run, valuable resources typically become less scarce and less expensive. As such, future projections based on very recent trends should not be taken seriously.

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16 Of course, ants and termites invented farming millions of years before humans, but their innovative abilities remain extremely limited.

17 Modern research has since established that native populations were once much more numerous, but this doesn't affect the validity of George's argument.

5. *Opposition to coercive measures*. Many writers who shared the resourceship perspective believed that, because of their doomsday outlook, most depletionists would never limit themselves to incentive-based policies. In the words of French mutualist theorist Pierre-Joseph Proudhon (1886/1848 p. 6), Malthusianism was "the theory of political murder; of murder from motives of philanthropy and for love of God." While its supporters "act in good faith and from the best intentions in the world" and "ask nothing better than to make the human race happy," they "cannot conceive how, without some sort of an organization of homicide, a balance between population and production can exist" (Proudhon 1886/1848 p. 7).

TURN OF THE 20TH CENTURY DEBATES

During the late 19th and early 20th centuries, the opening of new territories, technological developments (e.g. improved breeds and production technologies, steamships and railroads, canning and artificial refrigeration), and a more global and complex division of labor resulted in a rapidly growing population better fed than ever before and the "almost universal... reject[ion]" of the Malthusian doctrine in the United States (Ekirch 1963 p. 40). [18] As the economist Albert Benedict Wolfe (1928a pp. 530–531) commented a few years later, for decades before the First World War "the problem of population had [slumbered] in innocuous desuetude. Indeed, the popular impression was that a population problem in an economic or Malthusian sense no longer existed." While organized labor favored immigration restriction for fears it would result in low wages and unemployment among the native population, "any suggestion that immigration would tend to produce overpopulation would have been laughed at" and the expression "birth control" had yet to be invented.

In 1904, the outgoing president of the American Association for the Advancement of Science, Carroll D. Wright (1909 pp. 898–899), commented that the Malthusian and other doctrines of the "iron law of wages, the wages fund, and the law of diminishing returns" had been superseded by scientific and technological advances and theories "more rational and more in line with the facts." While the law of diminishing returns remained valid, its effects were overshadowed by countless innovations, such as the introduction of electric light in greenhouses. Indeed, although geographical expansion had been the "immediate means of depriving the doctrine of its force," it was "intensive agriculture and the discoveries of science" that played the key roles. Apart from agricultural production, relevant scientific advances included steamships, railroads, and telegraphy that resulted in famines being "avoided or minimized," "prices [being] equalized," and the state of the "markets of the world [being] known every day." Malthusian theory might be revived at some future date, Wright suggested, but it would not be "in our day, nor will it be in our century." Sadly,

18 It obviously still had a few supporters, especially in the wake of the filling up of the American frontier. Malthusianism was arguably more widespread and influential in Great Britain (Spengler 1933b; Bennett 1949; Hoff 2012; Robertson 2012).

the onset of the First World War soon reversed professional opinion and revived popular interest in Malthusian scenarios (Wolfe 1928a; 1928b; 1929).

Although less well known than the depletionist and resourceship perspectives, debates around the possibility of reconciling economic growth and environmental protection also have a long history that needs to be discussed in order to assess Sabin's claims and conclusions.

3. POPULATION AND ENVIRONMENTAL DEGRADATION IN HISTORICAL PERSPECTIVE

POPULATION/ECONOMIC GROWTH AND ENVIRONMENTAL DEGRADATION

Long-standing complaints on the deleterious impact of population and economic growth on environmental quality have taken at least two forms. The first is of the "not in my backyard" variety. In a classic statement, John Stuart Mill (1909/1848 non-paginated) commented that if there was indeed enough room for population growth "supposing the arts of life to go on improving" and "capital to increase," it was nonetheless "not good for man to be kept perforce at all times in the presence of his species" because a "world from which solitude is extirpated is a very poor ideal." Solitude, he argued, was essential to improve one's character, such as for instance while meditating in "the presence of natural beauty and grandeur."

A more pressing concern in the eyes of many writers, however, was unsustainable agricultural pressures on the landscape. Plato (app. 360 BCb) complained that Athens' backcountry, once "full of rich earth" and displaying an "abundance of wood," was in his time only able to sustain bees because all the "richer and softer parts of the soil [had] fallen away, and the mere skeleton of the land [was] being left." George Perkins Marsh later observed in his classic *Man and Nature* (1867/1864 p. 4) that besides historical records that documented the past fertility of the regions stretching from Spain and North Africa to Mesopotamia and Armenia, the "multitude and extent of yet remaining architectural ruins, and of decayed works of internal improvement" all pointed toward "former epochs [when] a dense population inhabited those now lonely districts" that could only have been sustained "by a productiveness of soil of which we at present discover but slender traces."

By the late 19th century, a significant number of British historians believed that medieval farming practices had exhausted the soils of England (Lenner 1922) while Marxist theoretician Karl Kautsky (1988/1899 p. 247) echoed the fears of many by arguing that American agriculture was unsustainable because it was "based on robbing the soil which it sooner or later exhausts." Those notions gained further political traction through the Conservation Movement whose perspective was summarized by Frederick Winslow Taylor's *Principles of Scientific Management* (1911 non-paginated): "We can see our forests vanishing, our waterpowers going to waste, our soil being carried by floods into the sea; and the end of our coal and our iron is in sight."

For a few decades after, land erosion was the dominant concern of environmentally minded intellectuals and government officials. According to British writers Graham Vernon Jacks and Robert Orr Whyte's The Rape of the Earth: A World Survey of Soil Erosion (1939): "As the result solely of human mismanagement, the soils upon which men have attempted to found new civilizations are disappearing, washed away by water and blown away by wind." The "destruction of the earth's thin living cover," they argued, was "proceeding at a rate and on a scale unparalleled in history, and when that thin cover – the soil – is gone, the fertile regions where it formerly lay will be uninhabitable deserts." There was obviously "a limit to the extent to which applied science can temporarily force up soil productivity, but there is no limit except zero to the extent to which erosion can permanently reduce it" (1939 p. 18). Unless agriculturalists the world over mended their ways, most regions (save northwest Europe because of its climatic and soil advantages) would know a faith similar to "former civilizations and empires whose ruined cities now lie amid barren wastes that once were the world's most fertile lands" (1939 p. 21) Erosion, they proclaimed, was the "modern symptom of maladjustment between human society and its environment. It is a warning that Nature is in full revolt against the sudden incursion of an exotic civilization into her ordered domains" (1939 p. 26).

Pollution was also on the minds of countless writers and activists. In 1912, the president of the New York Zoological Society, Henry Fairfield Osborn, commented that, with the exception of conservation areas, nowhere was "nature being destroyed so rapidly as in the United States" (1912 non-paginated). Not only did "vulgar advertisements hide the landscape," but "air and water are polluted, rivers and streams serve as sewers and dumping grounds, forests are swept away and fishes are driven from the streams. Many birds are becoming extinct, and certain mammals are on the verge of extermination."

By the late 19th century, the depletionist perspective became increasingly entangled with the eugenics movement. [19] One rationale for this convergence was that the quality of the human stock was believed by some to have been degraded *because* of the very conditions that had made the demographic boom of the time possible. As prominent eugenicist H. G. Wells put it in his novel *Kipps* (1905 non-paginated), the "extravagant multitude of new births" was "the essential disaster of the 19th century." Henry Fairfield Osborn, who described himself as being first a "trained and experienced observer of animal and of human evolution," commented that eugenics was a "long known and universal law, namely the survival of the fittest and elimination of the unfittest" (1934 p. 29). Attention to this process in the 1930s was made mandatory by numerous cataclysms that included "over-population" and the "over-multiplication of the unfit and unintelligent" (1934 p. 29), two results of which were the "over-destruction of natural resources, now actually world-wide" (1934 p. 30) and

19 Key eugenic arguments go back at least to Plato (app. 380 BC). While Malthus anticipated some tenets of the movement, he was skeptical that intelligence could be bred the same way physical characteristics could. More detailed histories of the eugenics movement, including some of its entanglements with conservationists, can be found in Allen (2013), Chase (1977), McCormick (1989), Hodgson and Cotts Watkins (1997), Bashford and Levine (2010), Gibson (2002), and Zubrin (2012).

the "over-population beyond the land areas, or the capacity of the natural and scientific resources of the world" (1934 p. 31). An example of the latter was the island of Java whose population had increased from 12 to 40 million individuals in a few years. While these new mouths could be fed through agricultural improvements, they were "taking up of every acre of land, even to the mountain tops," an option that had "not solved the overcrowding problem" as evidenced by attempts to "export [Java's] surplus of people to other less-populated islands." The only "permanent remedy" to such cases, Osborn argued, was the "improvement and uplift of the character of the human race through prolonged and intelligent and humane birth selection aided by humane birth control" (1934 p. 29).

POPULATION/ECONOMIC GROWTH AND ENVIRONMENTAL IMPACT AND REMEDIATION

While historically many people viewed factory smoke as an alternative preferable to material deprivation, one can nonetheless identify two long-standing optimistic perspectives on economic development and the environment. The first celebrated the replacement of "useless" forests and grasslands by agricultural production for health reasons that went beyond improved nutrition. In his *Discourse on Trade* (1905/1690 non-paginated, spelling adapted to modern usage), Nicolas Barbon commented matter-of-factly that whether by "draining great bogs, lakes, and fens, and cutting down vast woods, to make room for the increase of mankind, the air is grown more healthy; so that plagues, and other epidemical diseases, are not so destructive as formerly." Although he did not understand how draining marshes had wiped out many disease vectors, the American diplomat Alexander Everett (1823 p. 87) observed that "independently of the yellow fever, the inhabitants of the whole interior part of the [United States] suffer from disease occasioned by the unwholesome exhalations that arise from a rich and humid soil, opened for the first time to the influence of the sun." By contrast, the "eastern and middle states, which have long been settled, and are now pretty well cleared, and comparatively populous, are the only ones which can be considered as positively healthy." Everett added that "as the more rapid increase of population takes place in the new states, it is plain that it cannot be accounted for by the supposition of an uncommonly salubrious climate. In fact, there are probably few parts of Europe in which the check of diseases not resulting from intemperance or want is felt so strongly as it is in the United States."

Speaking at The Exhibition of the Works of Industry of All Nations (or Great Exhibition) of 1851, Queen Victoria's consort Albert observed that "man is approaching a more complete fulfillment of that great and sacred mission which he has to perform in this world." By using his reason "to discover the laws by which the Almighty governs his creation, and by making these laws his standard of action," he would "conquer nature to his use." He added that science "discovers these laws of power, motion, and transformation; industry applies them to the raw material which the earth yields us in abundance, but which becomes valuable only by knowledge" (Anonymous 1851 p. 254).

Interestingly, a portion of the profits generated from this event was used to sponsor a permanent exhibit that would illustrate how to reconcile economic development and environmental remediation by turning industrial residuals and emissions into valuable by-prod-

ucts, another optimistic perspective widely shared at the time. While the notion that waste products could be turned into valuable inputs is obviously as old as the practice of deriving clothing from skins, tools from bones, and fuel from residual matter, several 19th-century writers documented how self-interest had motivated manufacturers to develop the practice as never before. [20] For instance, an anonymous commentator observed that the means used by Akali producers to deal with their highly toxic air emissions was to send them up through "chimneys so lofty as to overtop our loftiest steeples, in order to carry away the enemy as far above the region of vegetation as possible" (1852 p. 98). It was nonetheless obvious that just as "the best way of destroying an enemy is to make him a friend, so the best way of getting rid of a noxious gas is to find a method by which it may be retained in a useful form" (Anonymous 1852 p. 98). When this would be done, those chimneys would "remain as so many huge monuments of the ignorance of the past" (Anonymous 1852 p. 98). In time, Alkali producers would indeed convert their polluting emissions into valuable by-products ranging from bleaching powder to sulfuric acid (Desrochers and Haight 2014).

In the third edition of his compendium *Waste Products and Undeveloped Substances* (1876 p. 10), the journalist Peter Lund Simmonds, who was then in charge of this waste exhibit, observed that "one of the greatest benefits that Science can confer on man is the rendering useful those substances which being the refuse of manufactures are either got rid of at great expense, or when allowed to decompose produce disease and death." After documenting both past successes and current challenges in almost 500 pages, he suggested that the topic was not exhausted "since every day furnishes new instances of what has become one of the most striking features of modern industry – to let nothing be lost, and to re-work with profit and advantage the residues of former manufactures," as well as pointing out that while he could further expand on the subject matter, he would undoubtedly "weary the reader with too ponderous a volume" (1876 p. 577).

Commenting on Simmonds' work, the physician and writer Andrew Wynter observed that "'[w]aste not, want not,' is a maxim instilled into us from our earliest childhood" and that "in the universal alembic of nature, not only is nothing lost, but... the most offensive refuse contains within itself the essence of things which astound our senses with their beauty" (1876 p. 155). While the "coarse efforts of man in analyzing his so-called waste, are not to be mentioned in the same breath with the perpetual but silent operations of our great mother," it was nonetheless "interesting to observe" that "*as the pressure of the population increases, the efforts [man] is making to utilise every particle of refuse which arises in large communities*" (1876 p. 155, emphasis added). What Wynter, Simmonds, and many others intuitively understood is that a more sophisticated division of labor constantly created not only new problematic residuals, both also new knowledge and niches that paved the way to profitable by-product development.

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20 This story is told in much more detail in Desrochers (2008; 2009; 2012), Desrochers and Reed (2008), Desrochers and Leppälä (2010), and Desrochers and Haight (2014).

This perspective was largely endorsed by Karl Marx who, in the third volume of *Capital* (1909/1894 pp. 120–1 and pp. 95–6), observed that with "the advance of capitalist production the utilisation of the excrements of production is extended" and that the "so-called waste plays an important role in almost every industry," a trend he credited to the search for increased profitability as these "excrements... reduce the cost of the raw material to the extent that they are saleable. For a normal loss is always calculated as a part of the cost of raw material, namely the quantity ordinarily wasted in its consumption. The reduction of the cost of this portion of constant capital increases to that extent the rate of profit." He even described industrial waste recovery as "the second great branch of economies in the conditions of production" after economies of scale.

In a chapter titled "Resources from test tubes, waste heaps, and junk piles," the economist Erich Zimmermann described the "movement away" from "the limitations of nature" that resulted from the activities of both synthetic organic chemists and the reclamation industries. Although nature was once "the only reservoir from which man drew the raw materials of production," by his time "a growing number of industries can choose between virgin, or primary, source of supplies, and secondary sources of supplies, salvaged from the waste heap and the junk pile, or artificial substitutes, especially synthetic products" (1933 p. 762). "By investing natural products with new utilities," chemists had made possible "the fuller use of natural substances" and promoted "the economy of natural resources." Salvage activities, such as lead or steel recovery, similarly enhanced "the value of nature's contribution" by reducing "the drain on her stores" (1933 p. 763).

Because a comprehensive survey of by-product development "would fill volumes," Zimmermann described only a few outstanding examples, such as cottonseed, bagasse (a by-product of sugar production from sugar cane), scrap steel and (mostly) meat packing wastes (1933 p. 769). From these cases he inferred that "the boundary lines between waste products and by-products are vague" and in a modern thriving economy "the transfer from one category to the other is an almost daily occurrence" (1933 p. 768). Scientific and technological advances made it possible "to lower the cost of waste elimination; for reduction in such cost may render profitable, and therefore economically justified, practices of waste elimination which otherwise might be technically feasible but unwarranted for economic reasons" (1933 p. 767). He concluded his chapter by speculating that ""synthetic chemistry, by-product utilization, waste elimination, and the recovery of secondary materials" (1933 p. 763) would over time equalize the distribution of economic activities on the globe and increase true material abundance.

4. DEPLETIONISM AND RESOURCESHIP IN THE POST-WORLD WAR II USA [21]

Interest in the population-resources nexus surged again at the end of World War II. Similar to what one often hears today in debates on food security, John Boyd Orr observed that to provide "sufficient food for all mankind, taking account of the anticipated increase in population, it would be necessary to about double world food production in the next 25 years" and that perhaps as much as "as an increase of 110 per cent would be needed," thus raising the question of "whether the earth can provide sufficient food for the rapidly increasing population" (1952 p.X).

In terms of content, what happened was the re-staging of a classic play in modern garb rather than the discovery of new insights. [22] On the depletionist side, the early actors were by and large former eugenicists whose institutional network obtained a second lease on life by raising concerns about the alleged catastrophic consequences of recent medical advances (e.g. the greater availability of sulfa drugs, penicillin, and Atabrine) and ambitious public health campaigns (e.g. hookworm eradication and DDT spraying). Rapidly decreasing mortality rates, they argued, would result in unprecedented population growth and (at best delayed) deadly blows in terms of resource availability and environmental destruction.

Rebuttals on the resourceship side first came from diverse voices, but neoclassical resource economists soon became more prominent.

Table 1 lists some of the most important semi-popular English books on depletionism and resourceship published between the mid-1940s and the Simon-Erhlich bet.

TABLE 1: SIGNIFICANT DEPLETIONIST AND RESOURCESHIP BOOKS, 1940–1980

Depletionism	Resourceship
Burch, Guy Irving and Pendell, Elmer. *Population Roads to Peace or War* (1945)	Zimmermann, Erich. W*orld Resources and Industries* (1933/1951/1964/1972)
Vogt, William. *Road to Survival* (1948)	Mather, Kirtley F. *Enough and to Spare* (1944)
Osborn, Fairfield Jr. *Our Plundered Planet* (1948)	Hanson, Earl Parker. *New Worlds Emerging* (1949)

21 Jarrett (1958), Luten (1980), Hodgson and Cotts Watkins (1997), and Ahlburg (1998) discuss the range of opinions on population growth and the (un)availability of natural resources in the years or decades prior to their publication. Fairchild (1949) gives a sense of the importance and mindset of the depletionist/soil erosion camp. Wolfgram and Aguirre (2004) survey various schools of thought that emerged in the 1960s. Recent broader treatments of postwar Malthusianism, both in terms of intellectual content and policy, can be found in Linnér (2003), Connelly (2008), Hoff (2012), Robertson (2012), and Bashford (2014). Chase (1977) and Zubrin (2012) are more opinionated anti-Malthusian accounts.

22 Arguably the only significant new argument was the Coale Hoover (1958) thesis that population growth burdened less-advanced countries by hampering capital formation

Osborn, Fairfield Jr. *The Limits of the Earth* (1953)	De Castro, Josué. *The Geography of Hunger* (1951)
Brown, Harrison. *The Challenge of Man's Future* (1954)	Barnett, Harold J. and Morse, Chandler. *Scarcity and Growth* (1963)
Sax, Karl. *Standing Room Only* (1955)	Maddox, John. *The Doomsday Syndrome* (1972)
Paddock, William and Paddock, Paul. *Famine 1975!* (1967)	Beckerman, Wilfred. *In Defence of Economic Growth* (1974)
Ehrlich, Paul. The Population Bomb (1968)	Kahn, Herman. *The Next 200 Years* (1976)
Meadows, Donella H., Meadows, Dennis L., Randers, Jørgen and Behrens, William W. III. *Limits to Growth* (1972)	Simon, Julian. *The Ultimate Resource* (1981)

Source: Compiled by the authors.

What follows is an overview of some of the contributions that set the stage for Ehrlich and Simon to be the representatives of their respective sides.

DEPLETIONISM IN THE POST-WORLD WAR II ERA

Prominent American eugenicists who embraced depletionism after World War II include the sociologist and demographer Kingsley Davis who commented that "in the long-run, earth's population has been like a long, thin powder fuse that burns slowly and haltingly until it finally reaches the charge and explodes," (1945 p. 1), and the biologist Garret Hardin whose eugenics-inspired passages in his classic article *The Tragedy of the Commons* (1968; 1974) are often omitted in environmentalist anthologies.[23] More significant at first though was Guy Irving Burch and sociologist Elmer Pendell's *Population Roads to Peace or War* (1945). In a revised 1947 edition they argued that the land was already full "while our population is large and rapidly growing" and that, by 1951, one could see "forming for the American people, a future marked by conditions like those which prevailed in the times of scarcity and want which Europe used to know so well in past centuries and under which it now suffers" (Burch and Pendell 1947 p. 2). As their title implied, overpopulation would again result in war unless world peace was secured by mandated and organized population reduction.

Two books published the following year proved extremely significant: Fairfield Osborn's[24] *Our Plundered Planet* and William Vogt's *Road to Survival*.[25] Osborn's book was quickly

23 Most prominently that "freedom to breed is intolerable" and those "who are biologically more fit to be the custodians of property and power should legally inherit more."

24 Born Henry Fairfield Osborn Jr., he was the son of Henry Fairfield Osborn.

25 The backgrounds, lives, messages, and impacts of Osborn and Vogt are discussed in more detail in Desrochers and Hoffbauer (2009), Hoff (2012), and Robertson (2012).

reprinted eight times and translated into 13 languages while Vogt's was the biggest environmental best-seller prior to Rachel Carson's *Silent Spring* (1962). It was soon translated into nine languages while condensed excerpts (translated into 11 languages) were published over several issues of *Reader's Digest*. The economist Jacob Oser summarized Vogt's contribution as a "pure, distilled, concentrated dose of all the Malthusian pessimism of these last 160 years" in which Shakespeare's "A pox on you" was "not as a malediction" but "a blessing" (1956 pp. 36–37). Zimmermann observed that both books were "stirring up thought on resource problems as it has never been stirred up before" (1951 p. 814).

In his foreword to *Road to Survival*, the influential financier and political advisor Bernard Baruch summed up Vogt's message: "Because of the great abundance of the earth's resources," he argued, "we have taken them for granted. But now, over most of the globe... we are face to face with a serious depletion of 'resource capital.' More than one country is already bankrupt." Such a state of affairs had "wiped out civilizations in the past" and would again deliver the same result. Decreasing returns could be found everywhere, for widespread mismanagement had reduced much of the earth's productivity to such an extent that "what one man-hour of labor could formerly produce, now requires ten, fifty, or even a hundred man-hours" (1948 p. IX). Vogt further argued that the environmental crisis was then of worldwide proportions as humanity formed "an earth-company, and the lot of the Indiana farmer can no longer be isolated from that of the Bantu" because environmental degradation ultimately affected everyone (1948 p. 285). Not unlike a parasite whose destructiveness "is limited by the absence of intelligence," humans had used their brains to "tear down" nature and compromised their very survival in order to enrich themselves (1948 p. 95).

Among other problems, Osborn discussed the case of Egypt where year-round irrigation had been developed to support the production of cash crops such as cotton and tobacco (1948 p. 110). As a result, Egyptian soil was "steadily deteriorating" while cotton yields were falling. Similar outcomes could be observed in countless overgrazed grasslands, even in Australia where sheep producers had tried "to gain from the land more than it is capable of producing" (1948 pp. 158–159). In time, Osborn argued, environmental degradation would prove even deadlier than the Second World War (1948 pp. VII, 69). Even American success was one "great illusion" because it was built on the "most violent and the most destructive" use of forests, grasslands, wildlife and water in the history of civilization (1948 p. 175). In the end, even the increased lifespan observed in many countries was illusory, for it hid "evidences of a slow, silent, pervading deterioration of human health" through the "appearance of a whole series of 'new' illnesses" commonly referred to as "degenerative diseases" (1948 p. 85).

Both Osborn and Vogt denied the possibility of a technological fix. Vogt viewed a fall in living standards as "unavoidable" because technological advances, far from providing solutions to pressing problems, had made matters worse (1948 p. 80). Agricultural mechanization had been "of dubious value to the land, as it is more purely extractive than older methods," brought lesser quality land under cultivation, was too dependent on rapidly dwindling petroleum reserves and triggered a drift away from rural to urban areas, thereby reducing "the effectiveness of the self-contained rural population as an economic shock absorber"

during future recessions (1948 p. 147). Osborn similarly cautioned that the "miraculous succession of modern inventions" made it difficult to conceive "that the ingenuity of man will not be able to solve the final riddle – that of gaining a subsistence from the earth" (1948 pp. 199–201). Yet the "grand and ultimate illusion" was that "man could provide a substitute for the elemental workings of nature." For instance, "technologists may outdo themselves in the creation of artificial substitutes for natural subsistence," but chemical fertilizers could never be thought of as "substitutes for the natural processes that account for the fertility of the earth" because, in the long run, "life cannot be supported... by artificial processes" (1948 p. 68).

Where Osborn and Vogt differed somewhat was in their prescriptions, with the latter being more radical. Vogt thus commented that while "[e]conomic, political, educational, and other measures" were indispensable, he had no qualms about coercive policies such as linking foreign aid to population reduction provisions (1948 p. 265). For instance, the United States should not "subsidize the unchecked spawning" of poor people in countries like India and China until they adopted a "rational population policy" (1948 p. 77). He further considered public health measures unadvisable, for a high death rate could be considered "one of the greatest national asset" of poor economies (1948 p. 186) and pests like tsetse flies and malaria carrying mosquitoes "blessings in disguise" as well as the "protector of important resources" (1948 pp. 28–31). Indeed, the "flank attack on the tsetse fly with DDT or some other insecticide" carried out by "ecologically ignorant sanitarians, entomologists, and medical men" (1948 p. 257) was actually going to make things worse because there was no "kindness in keeping people from dying of malaria so that they could die more slowly of starvation" (1948 p. 13). The modern medical profession was setting the stage for a disaster of epic proportions by continuing to believe that it had "a duty to keep alive as many people as possible" and, "through medical care and improve sanitation," being responsible "for more millions living more years in increasing misery" (1948 p. 48).

For his part, Osborn was seemingly content to achieve population control by relying on the "complete co-operation on the part of both government and industry, backed by the public's insistence that the job shall be done" (1948 p. 200). Such an undertaking would require "the co-ordinated effort of every group, governmental and private, that is dedicated to the cause of conservation" and would need to be "established throughout our educational system so that coming generations will grow up aware of the situation that lies at the root of the well-being of our nation" (Ibid.).

As Chase observed, in later years Vogt's "argument, every concept, every recommendation [became] integral to the conventional wisdom of the post-Hiroshima generation of educated Americans" (1977 p. 381). Both books became mandatory readings in several institutions of higher education and a "whole generation of impressionable young people were to come under [their] influence," including Paul Ehrlich and Al Gore (Chase 1977 p. 381; see also Cockburn and St. Clair 2000).

The post-war success of the depletionist doctrine, however, cannot simply be explained by its intrinsic appeal. As Kasun documents, eugenicists regrouped at the time, "renaming their organizations, forming new ones, and, above all, burrowing into the councils of

power" (1999 p. 217). By the early 1960s their movement had re-emerged as a Campaign to Check the Population Explosion and, in so doing, "capture[d] the imagination of the mass media" (Ibid.). One can get a sense of then-acceptable opinion through Archibald V. Hill, president of the British Association for the Advancement of Science, who asked publicly "[i]f men were certain that the present overpopulation trends would eventually engulf them, would they be right in withholding such things as insecticides, fertilizers, and anti-malarial and anti-tubercolosis drugs?... If men bred like rabbits should they be allowed to die like rabbits?" (quoted in Hillaby 1952 p. 4).

RESOURCESHIP IN THE POST-WORLD WAR II ERA

While depletionists came to prominence, a few articles, books and studies re-stated and documented the resourceship case, often earning their authors the derogatory moniker of 'Cornucopians,' an allusion to the mythical Greek "horn of plenty" (Cornucopia).[26]

In his massive *World Resources and Industries: A Functional Appraisal of the Availability of Agricultural and Industrial Resources*, first published in 1933 and substantially updated in later years (1951, 1964, and 1972),[27] economist Erich Zimmermann (1888–1961)[28] developed an approach to his subject where, before the emergence of humans, "the earth was replete with fertile soil, with trees and edible fruits, with rivers and waterfalls, with coal beds, oil pools, and mineral deposits; the forces of gravitation, of electro-magnetism, of radio-activity were there; the sun set forth his life-bringing rays, gathered the clouds, raised the winds; but there were no resources" (1933 p. 3). A "static interpretation" of any given resource's value was therefore pointless, for it changes "not only with every change of social objectives, respond[s] to every revision of the standard of living, change[s] with each new alignment of classes and individuals, but also with every change in the state of the arts – institutional as well as technological" (1933 p. 216). As Zimmermann further specified in the revised version of his textbook:

> Resources are highly dynamic functional concepts; they are not, they become, they evolve out of the triune interaction of nature, man, and culture, in which nature sets outer limits, but man and culture are largely responsible for the portion of physical totality that is made available for human use... knowledge is truly the mother of all resources (1951 pp. 814–815).

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26 The expression was used widely in the 1950s (Desrochers and Hoffbauer 2009). For Julian Simon's misgivings about the term, see Dragos Aligica (2009).

27 The latter two editions were published posthumously and the last edition was revised by other authors.

28 Howell (1996) and McDonald (1995) are more detailed biographical treatments of Zimmermann. Bradley (2007; 2009a; 2009b), DeGregori (1987), and McDonald (1995) discuss his key insights, the tradition he came from, and his neglect by mainstream resource economists. One survey of resource economics that mentions Zimmermann's work – although it misspells his name – is Barnett and Morse (1963).

Zimmermann's contribution, however, is typically omitted in surveys of the history of resource economics, perhaps because of its roots in the German Historical School and American institutionalist traditions, but it was and remains somewhat influential in (especially economic) geography.[29] The book also had some impact in the private sector with industry associations such as the American Petroleum Institute buying and distributing copies.

Another salvo against the "dire shadow of the Malthusian principle" was penned by the Harvard geologist Kirtley Fletcher Mather in a short (and typically poorly reviewed) book titled *Enough and to Spare* (1944 p. 10). As Mather reminded his reader, the "subtle hold upon the populace secured by the totalitarian dictators of Germany, Italy, and Japan [was] due in large part to the apparent validity of the [Malthusian-inspired] argument that virile, capable, and ambitious nations must 'grab while the grabbing is good' because the day is close at hand when 'there will not be enough to go around'" (1944 p. 12). While he agreed that "peace, prosperity, and security" were unattainable if the Malthusian principle was valid (Ibid.), this was fortunately not the case. Although this might have been obvious with agriculture (especially since the advent of synthetic nitrogen fertilizer) and hydropower, Mather contended that the supply of minerals would last a few hundred and perhaps even a few thousand years (1944 p. 15).

Despite good news overall, some problems loomed on the horizon, such as the fact that the "discovery of new oil fields is no longer keeping pace with the exhaustion of the older fields" (1944 p. 18). Deficiencies in local production, however, could be made up by "imports from abroad or by synthetic products from other domestic sources, or else [by substituting] other forms of power for that derived from gasoline" (Ibid.). Humans would probably one day, when pressed by either necessity or financial considerations, find ways to extract valuable resources from oil shale whose "known reserves...are almost unbelievably extensive"[30] (1944 p. 21). Additional reserves were also "certain to be discovered whenever the decreasing output of the world's oil wells puts a premium upon other sources of oil" and other resources, including the development of new profitable ways to exploit lower grades (Ibid.). "Summing it all up," Mather wrote:

> for nearly all of the important nonrenewable resources, the known or confidently expected world stores are thousands of times as great as the annual world consumption. For the few which like petroleum are available in relatively small quantities, substitutes are known or potential sources of alternative supply are at hand in quantities adequate to meet our current needs for many thousands of years. There

29 The comments about geography are based on personal observations and conversations with retired geographers. The book was often mandatory reading in graduate courses in economic geography in the 1960s and 1970s and was classified as such in North American libraries. It is still referred to in the sub-discipline (Hanink 2000; Hayter and Patchell 2011).

30 Lest the reader be confused, oil shale (rich in kerogen) is not the same as "fracking" petroleum-bearing shale rock formations for tight oil.

> is no prospect of the imminent exhaustion of any of the truly essential raw materials, as far as the world as a whole is concerned. Mother Earth's storehouse is far more richly stocked with goods than is ordinarily inferred (1944 p. 29).

The bottom line, as stated on the book dust cover jacket, was that the nation or the man looking to conquer 'breathing room' at the expense of his neighbor instead of cooperating with him was doomed. Malthusian theory that had "frightened mankind into warfare" had no basis in fact and the abundance of the earth's non-renewable resources guaranteed "'enough and to spare' for this generation and generations to come."

Resourceship-inspired reactions to Vogt and Osborn

Five detailed contemporary critical assessments of Vogt's and Osborn's books are illustrative of the resourceship stance in the post-war era.[31] A *Time* anonymous reviewer questioned the political implications of Osborn's and (mostly) Vogt's neo-Malthusian stance, for if even rich nations had too few resources to keep their populations passably well-fed, then what should be done if not go conquer and clear other lands of their populations (1948 non-paginated)? Hadn't Germany, a country whose inhabitants had "stretched" the sandy acres of the Prussian plain through innovative farming practices and highly skilled industry, already gone to war twice because of the prevalence of this unwarranted philosophy among its people? He further argued that Vogt's assertions on soil had been totally discredited by "real agricultural scientists" who considered "every main article of the Neo-Malthusian creed" as "either false or distorted or unprovable." Arguing that an acre of soil is inherently limited in terms of its productive capacity or biotic potential ignored the fact that humans were capable of improving it in various ways. Indeed, such a belief could only be held by individuals who had turned their back on progress. While Vogt was correct to point out that humans did not maintain soils as diligently as perhaps they could have, he had ignored tremendous recent progress in this area. Vogt's basic outlook on human reproduction, especially his stance that, as long as food is available, humans would reproduce like "fruit flies," was similarly untenable, for it had long been know that richer people typically tend to have fewer children. In the end, "real scientists" could only find a few iota of truth in Osborn's and Vogt's "errors, prejudices, mysticism and reckless appeals to emotion," although their "static" philosophy gave "great comfort" to the type of state planner who believed that finite resources needed to be strictly controlled.

A few months later, Merrill K. Bennett, then executive director of the Food Research Institute at Stanford University, published a short essay against the "current [overpopulation] scare" in *Scientific Monthly*. His main target was the "conservationists, notably the soil conservationists," including the "outstanding, perhaps extreme, examples" of Vogt and Osborn, who seemingly "uncover[ed]...practically everywhere, evidence of permanent soil

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31 As will be discussed below, some later reports sponsored by the U.S. government and Resources for the Future were also to a large extent indirect answers to Osborn and Vogt

erosion by water and wind, and of depletion of soil fertility" (1949 p. 19). Looking back five decades, a time when "world population growth was enormous," Bennett instead saw marked "evidence of improvement in per capita food supplies."

While demonstrable improvements were "widespread," "positive deterioration suggested in some places" was "subject to doubts not readily dispelled" or could most often "be explained in terms of political interference with economic development" (1949 p. 23). Advances had been achieved not only through increased acreage, but through technological developments of all kinds that increased yields, conserved soils, reduced spoilage, and delivered other benefits. One conclusion logically derived from the historical evidence was that, "in all probability," the "point of maximum productivity will be shifted upward as time passes because technological advances will be made, even if we cannot predict either the degree or the pace of advance." Of course, "nothing in history or theory tells us what the output may be, in volume or value, at the point of maximum productivity" (1949 p. 23). There was no question, however, that even in light of current conditions and knowledge, there existed at the time of his writing a "truly enormous gap" between "actual productivity" and "maximum productivity" under optimum conditions (1949 pp. 23–24). Perhaps this gap could be explained by a range of factors such as the inherent conservatism of some landowners or bad institutions and incentives, but the most compelling, in his opinion, was a "lack of demand or of the development of demand." (1949 p. 24)

Bennett further argued that much valuable land could still be developed, especially in the tropics, if problems such as lack of modern transportation infrastructure and the presence of disease-transmitting insects could be addressed. As far as soil erosion was concerned, he deferred to Charles E. Kellog, chief of the Soil Division Survey at the United States Department of Agriculture, who a few months earlier had debunked much of the cataclysmic soil erosion literature by pointing out that "a large part of the arable soils of the world are made better by good farming than they were naturally" and that it was to be expected that "each popular writer" on the topic "was trying to outdo the others in dramatic statement" (1949 p. 25).[32]

Toward the end of his essay, Bennett wrote that "[p]essimism about maintenance or improvement of per capita food supply, even where population is densest, is not intellectually necessary, not compelled on the basis of historical fact or logic" (1949 p. 26). To follow the path traced by Vogt, Osborn, and other pessimists would "hamper invention, stifle capital accumulation, hinder investment domestically and internationally, and hence to retard the general economic development, one aspect of which is improvement of national diets." If the paths toward progress and sensible policies – and not only in terms of human reproduc-

32 Kellog's full statement read as follows: "Generally, when a rural population becomes poverty-stricken, it fails to maintain its soil. An exploited people pass on their suffering to the land... Where farmers can take a long view of production over a period of ten years or more, there are very few instances of conflict between those practices that give most return and those that maintain the soil from loss of fertility, erosion, destruction of soil structure, or other deterioration-and not only maintain it: a large part of the arable soils of the world are made better by good farming than they were naturally" (1948 p. 479).

tion and land use – were followed instead, "time may prove today's pessimists to have been wrong, as with the pessimists of yesterday." (Ibid.)

Another direct attack on Vogt and Osborn was published by University of Delaware geographer Earl Parker Hanson as *New Worlds Emerging* (1949).[33] Marketed as a rebuttal to the "Jeremiahs of geography, sociology and economics" (1949 p. 369), Hanson argued that "it is never a land that is over-populated, in terms of inhabitants per square mile; it is always an economy, in terms of inhabitants per square meal" (1949 p. 14) and that, at any rate, much was land still available for development in various parts of the world, from the Amazon basin to the lower Arctic. Denouncing the erosion "hysteria" into which the modern world was "being stampeded" (1949 p. 135), Hanson had no patience for the claims that natural resources should be conserved "not sanely by way of making the most of them, but hysterically, as an isolated party of explorers might hoard and ration its dwindling food supplies" (1949 p. 12). He refused to consider people as "liabilities" rather than "assets and potential resources" (1949 p. 13) or that a region could be considered "over-populated" in terms of a population/space ratio alone without factoring in the potential benefits of economic development (1949 p. 14) that would in time produce "more in order to have more to go around" (1949 p. 370). As he put it:

> To proclaim a numerical limit on the world's arable lands, while decrying the technical advances with which that limit can be stretched by many millions of acres, is to turn one's back on reality. Even birth control on a large scale can be accomplished only by raising standards of living through industrialization. Not only do people need money for buying contraceptives, but they need many children for cheap labor so long as they live in poverty and degradation. They will be more likely to think about having fewer children when they are in a position to worry about sending them to college. (1949 p. 272)

Erich Zimmermann's chapter devoted to "resource adequacy" was another scathing critique of Vogt and Osborn (1951). Among other problems, both men argued forcefully that the only way to prevent disaster was to make sure that "birth control spreads over the earth like wildfire," but other than Western "industrial progress" (1951 p. 817), no one knew how "to set and feed that wildfire" (1951 p. 814). Another paradox was that the "very knowledge of ecology on which Vogt and Osborn base their attack against modern methods of production is a gift of industrial civilization" and that the "remedies of reclamation, research, and education depend on the surplus and leisure that industry and the use of inanimate energy give us" for, after all, if "industrial man has raped the earth and wantonly impaired its productive powers, he also has furnished the wisdom to recognize his folly and may yet supply the means to make amends" (1951 p. 815).

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33 Mather (2003) provides much biographical information on Hanson's career. The story of how he came to write his book is detailed in Desrochers and Hoffbauer (2009).

Zimmermann fundamentally disagreed with Vogt's notion that the earth could not be "stretched" by observing that indeed it could, be it from breeding drought and frost-resistant wheat varieties, transforming the pampas so that they could sustain cereal production, developing by-products from cattle waste, reducing spoilage loss by refrigeration, developing animal feed with high protein and vitamin content, or substituting tractors for animal labor, in the process making millions of acres devoted to animal feed available for human food production and compensating for the lost manure with commercial fertilizers. One could also read about the "transformation of run-down farms into veritable gardens of Eden" through the work of "a congregation of experts – soil experts, plant and animal experts, chemists, engineers – and a vast assemblage of machinery – bulldozers, terracers, harrows." (1951 p. 816). These experts were unavoidably "trained in institutions supported largely by the wealth created by modern machine industry" while the "machines and the fuels that power them are the direct products of that industry" (Ibid.).

Finally, the English translation of Brazilian physician and geographer Josué de Castro's *The Geography of Hunger*[34] became a rebuttal to the "Malthusian scarecrow" (1952 p. 15) and to William Vogt, the "standard-bearer of the neo-Malthusians," whom he accused of viewing "famished populations, raising the pressure of the world by their delirium of reproduction" as "criminals" who deserved "an exemplary punishment" and were "condemned to extermination, either by individual starvation or by controlling reproduction until the born-to-starve disappear from the face of the earth" (1952 pp. 16–17). Building on "objective data, biological and social facts" (1952 p. 17) along with the work of authors ranging from Marx to Hanson, de Castro argued that the "first error" of Malthusian doctrine was "to consider the growth of population as an independent variable, isolated from other social phenomena, whereas in fact such increase is strictly dependent on political and economic factors" (1952 p. 15). Among other baseless scares was the notion that "food production cannot be increased because we have reached the practical limits of soil utilization as well as of human saturation," whereas in fact only about 10 percent of the land that could be put under cultivation was being used at the time while "production per acre in most of the world could be greatly increased by rational agricultural practices" (1952 p. 17), including better protection from insects and diseases. De Castro was especially dismissive of Vogt when he commented that "soil productivity, of course, is not an absolute. Like population density, it is a variable, a function of the prevailing kind of economic organizations. The soil has neither absolute productive limits – Vogt's 'biotic potential' – nor absolute demographic limits" (1952 p. 284). He added that the "relation of population to the soil has been handled with an inaccuracy and a blind empiricism repugnant to the scientific spirit" (Ibid.).

Like other anti-Malthusians before him, de Castro made the case for scientific advances and illustrated future possibilities by documenting how, among other achievements, poor Japanese immigrants experienced in working "thankless soils" had purchased "for nearly nothing" degraded coffee-growing land in and around São Paulo and developed a "magnifi-

34 The first edition was published in Portuguese in 1946.

cent green belt" that was then contributing much to the produce supply of the Brazilian industrial heartland (1952 p. 285). De Castro ended his book by highlighting that the real road to survival was "still within the sight of man" and "marked by the confidence he must feel in his own strength." It did not lie "in the neo-Malthusian prescriptions to eliminate surplus people, nor in birth control, but in the effort to make everybody on the face of the earth productive" (1952 p. 312).

Empirical Studies of Scarcity

As detailed in histories of modern environmental economics (Kula 1998; Bradley 2009a), a few landmark studies published in the 1950s and 1960s gave strong empirical support to the resourceship perspective. In the United States, the President's Materials Policy Commission (otherwise known as the Paley Commission for its chairman, former CBS head William Paley) sponsored and published a five-volume report entitled *Resources for Freedom, Foundation for Growth and Scarcity* (1952) that reported an increase in available reserves and a diminution in the price of depletable resources as a result of entrepreneurial efforts and technical advances. Invoking an embryonic version of the precautionary principle, its authors nonetheless advocated some forms of government planning that included, among other things, investment in solar energy research and use of coal as a "bridge fuel."

The work of the Paley Commission was carried on through the creation of the think tank Resources for the Future in 1952. Although somewhat depletionist in its original outlook – Fairfield Osborn was a key founding member (McCormick 1989) – RFF soon published studies on resource availability that confirmed and expanded the commission's main findings, most prominently Neil Potter and Francis T. Christy's *Trends in Natural Resource Commodities* (1962) that presented a wide range of time-series data on resource commodities and Harold J. Barnett and Chandler Morse's *Scarcity and Growth* (1963) that, among other things, interpreted this data. Their short answer was that, with the exception of forestry, resource scarcity was not a meaningful issue. Not only had unit costs gone down in all other sectors, but economizing or saving resources for future generations was deemed nonsensical as "the economic magnitude of the estate each generation passes on – the income per capita the next generation enjoys – has been approximately double that which it received. The most important legacy, they argued, was not "stocks of untapped resources," but "knowledge, technology, capital, instruments and economic institutions" that allowed the future creation of new resources (Barnett and Morse 1963 pp. 247–248).

Other empirical studies with similar results were produced at the time by economists and demographers such as Dale Jorgensen, Zvi Griliches, Richard Easterlin, William Nordhaus, and Allen Kelley (Kula 1998; Hoff 2012), but the work of American economist Simon Kuznets and Danish agricultural economist Ester Boserup had arguably the most significant impact. Interestingly, Kuznets' (1967 p. 171) findings changed his overall outlook from depletionism to a strong belief that "[m]ore population means more creators and producers, both of goods along established production patterns and of new knowledge and inventions." Far from impeding economic development by siphoning off savings and depleting finite resources, he discovered that rising populations increased the capital stock,

created economies of scale, and spurred innovation. For her part, Boserup's studies of less advanced economies shed light on the fact that a rising population increased labor productivity and efficiency in land use by inducing more intensive practices (1965).

REFLECTIVE CONCLUSION

As the chemist and geographer Daniel B. Luten observed on the eve of the Simon-Ehrlich bet, since the late 18th century "the question of limits to growth and optimism and pessimism regarding the human prospect [has been] debated without consensus" while interest in the issue has "waxed and waned more times than can be counted" (1980 p. 125). Depletionists would sound the alarm, but in the context of functioning market economies the resourceship perspective would prove to be correct. In the post-war era, however, depletionism once again captured the minds and hearts of a majority of academics and policy makers. It is with this background in mind that the contributions of Paul Ehrlich and Julian Simon must be examined, along with the way historian Paul Sabin presents their perspectives and draws conclusions from their bet (2013). This will be the subject of the second part of this review essay.

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SNATCHING THE WRONG CONCLUSIONS FROM THE JAWS OF DEFEAT: A RESOURCESHIP PERSPECTIVE ON PAUL SABIN'S THE BET: PAUL EHRLICH, JULIAN SIMON, AND OUR GAMBLE OVER EARTH'S FUTURE. (NEW HAVEN: YALE UNIVERSITY PRESS, 2013). PART 2: THE WAGER: PROTAGONISTS AND LESSONS.

PIERRE DESROCHERS[1], VINCENT GELOSO[2]

ABSTRACT

Historian Paul Sabin's *The Bet* aims to present the first full-fledged account of the 1980 wager about the future prices of five metals between biologist Paul Ehrlich and economist Julian Simon. Ehrlich predicted that a growing population would rapidly deplete the world's finite supply of valuable resources, causing their price to rise. Simon countered that, in a market economy, prices and technological change would result in more efficient use of resources, new deposits discovered and substitutes developed, making resources less scarce and prices lower. Unfortunately, Sabin's account of this bet is marred by a lack of historical perspective, an oversimplification of Simon's theoretical framework, and a quest to find a middle ground between mutually exclusive positions.

KEYWORDS

Paul Ehrlich, Julian Simon, Malthusianism, neo-Malthusianism, Cornucopianism, resourceship

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1. INTRODUCTION

The first part of this review essay revisited arguments over population growth, resource availability, and environmental impact as they developed from the distant past to the dawn of the modern environmental movement. The goal was to introduce readers to the intellectual history missing from historian Paul Sabin's book on the Julian Simon-Paul Ehrlich bet. In the process, it was illustrated that the "resourceship" perspective, of which Julian Simon would be the latest proponent, had historically proven its validity over the depletionist outlook that Ehrlich represented. This second part discusses Ehrlich's and Simon's formative years, along with Sabin's presentation and interpretation of their writings and of the wager. The reflective conclusion discusses why, after two centuries of a one-sided ideological confrontation, the losing side still holds so much sway over highly educated and well-meaning people.

2. PROTAGONISTS

Ivy-league educated Paul Ehrlich and Julian Simon were born in 1932 of Jewish parents and raised within a short distance of each other in the suburbs of Newark, New Jersey. From then on, their lives differed drastically.

At the University of Pennsylvania Ehrlich majored in biology and was able, after completing his doctorate at the University of Kansas, to turn his childhood passion for entomology (especially the study of butterflies) into a permanent position at Stanford University. Influenced by William Vogt (1948) and other depletionists as an undergraduate student, he began to write short pieces and to give public talks on population and resources in the early 1960s, a hobby that eventually led to his 1968's *The Population Bomb* (Turner 2009). He would spend the remainder of his career researching and writing about conservation biology, coevolution, landscape ecology, population dynamics, the people/resource nexus, and cultural evolution, activities for which he won numerous awards and substantial funding, including over $1 million in prize money in the 1990s alone (Sabin 2013 p. 206).[3] A recurring complaint about his character is that he typically addressed his critics with insults rather than debate.[4]

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3 See Ehrlich's personal webpage at https://ccb.stanford.edu/paul-r-ehrlich.

4 Perhaps his most famous dig of Simon was that "[g]etting economists to understand ecology is like trying to explain a tax form to a cranberry. It's as if Julian Simon were saying that we have a geocentric universe at the same time NASA's saying the earth rotates around the sun. There's no reconciling these views. When you launch a space shuttle you don't trot out the flat-earthers to be commentators. They're outside the bounds of what ought to be discourse in the media. In the field of ecology, Simon is the absolute equivalent of the flat-earthers" (quoted in Simon 1998: non-paginated). Ehrlich often referred to Julian Simon as a "specialist in mail order marketing" (Sabin 2013 p. 176) and, in *Social Science Quarterly*, disparaged his writings as "wrong,"

Julian Simon's career path until his untimely death in 1998 was much less straightforward. A Navy ROTC scholarship allowed him to graduate from Harvard with a degree in experimental psychology and a lifelong fondness for philosopher and psychologist William James. As he highlighted on his CV, during schooling he worked as an "encyclopedia salesman, caddy, cost accountant, drugstore clerk, self-employed sign painter, brewery worker, tin-can factory worker, technical writer, free-lance magazine writer, grass-seed factory worker, and cab driver."[5] Upon graduation he spent three years as a Navy line officer, followed by a couple of years of employment in the private sector. He then attended the University of Chicago where he obtained an MBA and, having no academic ambition, a doctorate in business economics in 1961 for which he wrote a dissertation on patterns of book uses in a large library. As he later acknowledged, he never took "a course in demography and only two in economics at any level" (Simon 2002 p. 286). Following a few more years in the private sector in advertising-related positions, he became of professor of (successively) advertising, marketing, business economics, and business administration, first at the University of Illinois and later the University of Maryland (Simon 2002 chapter 24).

Like Ehrlich, Simon maintained interests beyond population economics and wrote much about issues as diverse as advertising and marketing management, research methods, statistics, and immigration.[6] At a more practical level, he was the brain behind the airline oversales auction system. Unlike Ehrlich, he felt like an outcast among academics as he never benefitted from large research grants and often ended up teaching large service classes on topics such as research methods and statistics (Simon 2002). As Sabin (2013 p. 207) further tells us, Simon never belonged to any significant economic journal editorial board, was never "invited to give talks at prominent economic meetings," and increasingly struggled to get his work published in reputable professional journals.

"incompetent," and "moronic," and wondered out loud why he couldn't "at least find a junior high school science student to review" them (Ehrlich 1981:47). The Ehrlichs further called Simon the leader of a "space-age cargo cult" of economists convinced that new resources would miraculously fall from the heavens and that the ultimate resource the world would never run out of was "imbeciles" (Tierney 1990). Ehrlich went so far as to tell a *Wall Street Journal* reporter in 1995 that "If Simon disappeared from the face of the Earth, that would be great for humanity" (Sabin 2013 p. 203). To list a few more invectives from Sabin's book: Writing about the Green Revolution, Ehrlich criticized "narrow-minded colleagues who are proposing idiotic panaceas to solve the food problem" (pp. 22–23). He justified the founding of the (short-lived) Club of Earth in 1988 to denounce the "idiocy you get from economists and politicians" (p. 174). People who didn't understand why he emphasized population, be they academics, politicians, or environmentalists (a prominent target in the early 1970s was Barry Commoner) were "the ones who have to take their shoes off to count to 20" (p. 176) or simply "clowns," "morons," "idiots," and "fools" (pp. 55 and 207).

5 From his online CV at http://www.juliansimon.com/vita.html. See also Dragos Aligica (2007 pp. XI–XIII).

6 From his posthumous website at http://www.juliansimon.com/.

3. PAUL EHRLICH ON POPULATION AND RESOURCES

Viewed in a longer historical perspective, *The Population Bomb*'s (Ehrlich 1968) sale figures (over 2 million copies) are puzzling. As the political scientist Charles T. Rubin observed, the book originally drew little attention because "throughout the sixties, it appears that everybody was concerned about overpopulation" and its basic arguments were by then "familiar" (1994 p. 78). Luten suggests it is best understood as "climaxing and in a sense terminating the debate of the 1950s and 1960s" (1986 p. 298). And yet, thanks to frequent appearances on *The Tonight Show* and the popular impact of the first oil shock in 1973, Ehrlich brought old ideas to new heights and achieved popular celebrity status.

The outlook of Ehrlich and his key collaborators (his wife Anne and physicist John Holdren[7]) on the population-resource nexus was vintage depletionism and remained remarkably consistent over time.[8] He believed in a "stable optimum population size" that would respect "inviolable biological and physical limits" (Sabin 2013 p. 35), denounced "growthmanic economists and profit-hungry businessmen," told Americans to prepare for the "end of affluence" (Sabin 2013 p. 100), and warned of a "coming social tidal wave" over increasingly scarce resources (Sabin 2013 p. 3). He made the case for "population control over technological change to avert looming disaster" (Sabin 2013 p. 30) because "technology could not replace services provided by ecosystems to regulate climate, water cycles, solar radiation, and other essential processes" (Sabin 2013 p. 133). His most influential contribution was the I=PAT identity in which "each human individual has a negative impact on his environment" whether he lives in an agrarian or technological society (Ehrlich and Holdren 1971 p. 1212).[9]

On the resource front, Holdren and Ehrlich (1971 p. 8) claimed that "[t]oday the frontiers are gone, and the evidence is mounting that technology cannot hold the law of diminishing returns at bay much longer." This was especially true with the "rapacious depletion of our fossil fuels" then already forcing producers "to consider more expensive mining techniques to gain access to lower-grade deposits" (Holdren and Ehrlich p. 18). The Ehrlichs explained rapidly rising oil prices by the fact that "[m]ost of the easily accessible sources of

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7 Ehrlich met his future wife when she was an undergraduate studying French at the University of Kansas. As of this writing, Holdren was, among other administrative positions, Director of the White House Office of Science and Technology Policy. His original interest in the population/resources nexus was sparked by geochemist Harrison Scott Brown's 1954 *The Challenge of Man's Future*, a book that, as noted by Sabin (2013 p. 29), showed "elements of eugenic thinking" in terms of "genetic soundness" and the "deterioration of the species."

8 Ehrlich and Ehrlich 1975/1974,1990, 2013; Ehrlich and Holdren 1971; Ehrlich, Ehrlich and Holdren 1977/1970; Holdren and Ehrlich 1971.

9 Ehrlich and Holdren's original formulation was I = P x F, where I = total impact, P = population size, and F = impact per capita. I = PAT refers to I (environmental impact, typically the numerical value of some pollutant) = P(opulation size) x A(ffluence, typically GDP per capita) x T(echnology, typically the amount of pollution per unit of GDP). Preston (1996) and Chertow (2000) are broader histories of the concept, its problems, and the more general impact of population growth on environmental quality. Waggoner and Ausubel (2002) is a techno-optimistic take on the identity.

fossil fuels and mineral resources are long gone, and the rising prices reflect the necessity to dig deeper, travel farther, and refine lower-grade ore in order to obtain them" (1975/1974 p. 100). Indeed, "a genuine world shortage of pumpable petroleum appear[ed] certain by the turn of the century if demand continues to grow as it did in the 1960s" (Ehrlich and Ehrlich 1975/74 p. 44).[10]

To our knowledge, Ehrlich's most concise discussion of the gravest "defects in the cornucopian argument" is the following:

1. The presumption that advanced technology will make energy very cheap;
2. The presumption that abundant, cheap energy — if available — would prove to be a sufficient condition for abundance of all kinds;
3. The serious underestimation of the degree of environmental degradation that would be generated by the proposed cornucopian technologies;
4. The even more serious underestimation of the impact on human well-being that major environmental disruption portends (Ehrlich et al. 1977 p. 954).

Ehrlich and his collaborators then discussed some environmental impacts in more detail, including "[c]arbon dioxide... produced by combustion of fossil fuels in quantities too large to contain [that] may already be influencing climate" and the "gravest threat to human well-being... [i.e.] the loss of natural services now provided by biogeochemical processes" (1977 p. 955). (Actually, Ehrlich's take on increased anthropogenic CO_2 emissions as a "serious limiting factor" to growth goes back at least to the late 1960s (Shelesnyak 196 p. 141)).

Because humanity's choice was limited to either planned decline or collapse, he offered several options for the former. For population control they included mandatory sterilization, temporary infertility (achieved through pills or tampering with public drinking water), parenting permits, drastic restrictions on immigration, triage (selecting a small number of survivors out of a mass of doomed individuals), tying food aid to strict population control measures, the public funding of new birth control techniques, tax disincentives for childbirth, and luxury taxes on layettes, cribs, diapers, diaper services, and expensive toys. For lifestyle choices, he suggested rebuilding city centers, curbing suburban sprawl, overhauling the "entire pattern of transportation in the United States," new efficiency standards for buildings and appliances, survivalism-inspired techniques (gardening, foraging and storing water), and purchasing more resistant clothing (Sabin 2013 p. 99). Overall success, however, mandated the creation of a "powerful governmental agency" to coordinate "whatever steps are necessary to establish a reasonable population size in the United States" and the rest of the planet (Sabin 2013 p. 40). Ehrlich deemed higher employment as a result of these measures unavoidable, but nonetheless preferable to utter social collapse. And in the un-

10 Bailey (1993) contains additional doomsday quotes and predictions by Ehrlich along with short discussions of his intellectual framework.

likely case his prescription was wrong, fewer people would enjoy more resources per capita and the environment would be left better off.

As evidenced in some of his most recent writings, his certainties and philosophical outlook remain unchanged (Ehrlich and Ehrlich 2013). For instance, he recently told a *New York Times* reporter that while he "would not echo everything that he once wrote," he "remains convinced that doom lurks around the corner," that what "he wrote in the 1960s was comparatively mild" and that his "language would be even more apocalyptic today" (Haberman 2015 non-paginated). Indeed, on May 21 2014 he went so far as to claim on a *HuffPost Live* webcast that in the near future humans would have to contemplate "eat[ing] the bodies of [their] dead" in order to survive.[11]

4. JULIAN SIMON ON POPULATION AND RESOURCES[12]

Like many academics of his generation, Simon was originally drawn to population issues because he believed that "rapid population growth was the major threat to the world's economic development" and he could use his expertise to "understand" and "combat" the problem in less advanced economies (1977 p. XXI). Familiarizing himself with the issue, however, he noticed a "contradiction between the bare theory and the bare facts" (Simon 1977 p. XXI). While poor raw data was one possible explanation, he "sought a reconciliation" by looking into the work of scholars such as M. K. Bennett, Theodore Schultz, Ester Boserup, Simon Kuznets, and the "great book which [was his] tutor," Barnett and Morse's *Scarcity and Growth* (Simon 1996 non-paginated).[13]

His final conversion to resourceship occurred in 1969 while on his way to discuss family planning programs with USAID officials in Washington D.C. Passing by a sign to the Iwo Jima memorial, he remembered a eulogy in which the chaplain wondered how many geniuses had unnecessarily perished there. As Simon later recalled: "Then I thought, have I gone crazy? What business do I have trying to help arrange it that fewer human beings will be born each of whom might be a Mozart or a Michelangelo or an Einstein – or simply a joy to his or her family or community, and a person who will enjoy life" (2002 pp. 242–243). With the zeal of a convert, he published a series of resourceship-inspired academic articles. This work culminated in his most academic book on the subject, *The Economic Consequences of Population Growth* (1977), in which he argued that in the long run (a few decades) the overall benefits of population growth greatly exceeded short-term problems. A

11 "Hope On Earth: A Conversation." *HuffPost Live* (May 21, 2014), http://live.huffingtonpost.com/r/segment/hope-on-earth-paul-r-erlich-michael-charles-tobias/537672c6fe34447c4e000323.

12 Dragos Aligica (2009) is another introduction to Simon's thoughts on this issue.

13 These contributions are discussed in more detail in part 1 of this review essay. See also Bradley (2009) and Kula (1998).

1980 *Science* article "reprinted in many magazines and newspapers with a total circulation of many millions" (Simon 2002 p. 267) and the semi-popular *The Ultimate Resource* (Simon 1981b; revised edition 1996) then secured his place as the most well-known public exponent of resourceship and an original contributor to the topic. [1] In the words of Easterlin: "Julian Simon was not the only scholar arguing against the Malthusian and neo-Malthusian view, but there is little doubt that he was the most vehement, persistent, and articulate spokesman of the anti-Malthusians and attracted, in return, the most vigorous attacks" (2000 p. XV). Ahlburg similarly observed that Julian Simon was "among the most prominent analyst of the relationship between population and development as well as the most prolific commentator on issues of public policy concerning population growth" (1998 p. 317).

As he acknowledged in *The Ultimate Resource 2,* his insights were hardly original. The "theory and factual base" of the book's key arguments was "not at all novel or radical, though it seems so to non-economists. Indeed, much of what is written here had been settled wisdom before I came along" (Simon 1996 non-paginated). His real contribution had been to "push these ideas further than most, but this is not a theoretical difference; the main novelty here on resource topics is the broad data that I provide, together with the explicit assertions about non-finiteness which might even be considered implicit in some predecessors' writings" (Simon 1996 non-paginated).

Simon also edited a collection of classic writings on population and resources and gathered numerous historical time series (1998). He dismissed critics who viewed "all the evidence of history [as] merely 'temporary' and must reverse 'sometime'" as being "outside the canon of ordinary science" (Simon 1996 non-paginated). Quoting the development economist Peter T. Bauer, he firmly believed that "it is only the past that gives us any insight into the laws of motion of human society and hence enables us to predict the future" (Simon 1996 non-paginated). If the future was going to differ from the past, he added, "the bias is likely to be in the direction of understating the rate at which technology will develop, and therefore underestimating the rate at which costs will fall" (Simon 1996 non-paginated).

Simon's final conclusion was that "[m]ore people and increased income cause problems in the short run – shortages and pollutions. Short-run scarcity raises prices and pollution causes outcries. These problems present opportunity and prompt the search for solutions. In a free society, solutions are eventually found... In the long run the new developments leave us better off than if the problems had not arisen" (1995 pp. 24–25).

Simon was criticized on a range of subjects, but two recurring complaints are more crucial for our argument. The first is that he was a "population density" determinist who believed that population numbers mattered more than institutions and culture. While there

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1 Simon's broader contribution to population economics (i.e. beyond the population-resources nexus) was more significant than his take on resource economics. In the words of Joseph J. Spengler, arguably America's most prominent population economist of the 20th century, Simon's 1977 *The Economics of Population Growth* "was a path-breaking work, not merely in terms of challenging particular studies incorporated in it but above all in its espousal of a number of theses that run counter to prevailing opinion" (Simon 1977 p. XXIX). Ahlburg (1998) contains a more critical discussion of the book's model, findings, and ethical stance.

is some truth to this, he stated on a number of occasions he considered himself a political economist in the broad tradition of David Hume, Adam Smith, and Friedrich Hayek[2] who believed that "human imagination can flourish only if the economic and political system gives individuals the freedom to exercise their talents and take advantage of opportunities" (1996 non-paginated). In short, the world's problem was not "too many people, but a lack of political and economic freedom" (1996 non-paginated).

The second complaint is that he advocated a "do-nothing" approach to pollution problems. Yet Simon never said that "all is well everywhere," nor did he "predict that all will be rosy in the future" as a "better future does not happen 'automatically' and without effort" (1995 p. 21). What he argued was that policymakers should focus on problems that caused demonstrable harm rather than on false alarms or trivial claims.[3] Simon also rejected the notion that government programs are necessarily superior to the spontaneous actions by individuals and non-governmental organizations (Dragos Aligica 2007 p. 8).

Finally, one can speculate from a few remarks on the work of urban theorist Jane Jacobs (1969) that, had he lived longer, he might have come to focus his attention on the uniquely beneficial role of large and diverse urban agglomerations as the locus of human problem-solving as opposed to population density in the abstract (Kuran 2000 p. 105).

5. SABIN ON ECONOMIC THEORY AND ENVIRONMENTAL POLICY

While the outcome of the bet was extremely favorable to Simon, its terms made it possible for his opponents to dismiss its relevance because of the volatility of commodity prices (that are also affected by political upheavals and technological changes), alternative time-frames (such as a different 10-year period) that would have favored Ehrlich,[4] the alleged ecological irrelevance of commodities (as compared to problems such as the destruction of natural capital), and claims that Ehrlich simply got his timing wrong in terms of unavoidable outcomes.[5]

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2 See, among others, Simon (1996; 2002) and Kuran (2000).

3 Simon's thoughts on pollution are summarized in chapters 15–18 of *The Ultimate Resources 2* (1996). For his thoughts on climate change, see chapter 5 of Myers and Simon (1994a).

4 The paper cited by Sabin in support of this position is Kiel et al. (2010). For a rebuttal of this argument written by a supporter of Simon, see Perry (2013).

5 Ehrlich famously commented: "The bet doesn't mean anything. Julian Simon is like the guy who jumps off the Empire State Building and says how great things are going so far as he passes the 10th floor. I still think the price of those metals will go up eventually, but that's a minor point. The resource that worries me the most is the declining capacity of our planet to buffer itself against human impacts. Look at the new problems that have come up: the ozone hole, acid rain, global warming. It's true that we've kept up food production – I underestimated how badly we'd keep on depleting our topsoil and ground water – but I have no doubt that sometime in the next century food will be scarce enough that prices are really going to be high even in the United States.

Sabin lends credence to Simon's detractors by writing that "when the global economy fell into recession in the early 1980s, economic activity slowed and demand for minerals dropped" (2013 p. 185). Yet one could argue that although there was a severe recession in the USA and other countries at the time, gross world product continued to grow near its strong historical trend throughout the decade.[6]

In our opinion, Simon never intended his bet to be a perfect encapsulation of the resourceship perspective. Instead, one should view it as a ploy by a marketing expert, probability and statistics teacher, and serious poker player to publicize the counter-intuitive notion that natural resources are not finite in any meaningful economic sense. Simon thus knew beforehand he would have won this gamble "at all earlier times in history," but also that his odds were long if the period involved was short because of commodity cycles and market-distorting political interventions (1994a p. 160). Nevertheless, he obviously deemed the risk of giving Ehrlich the opportunity to select a time period of one year worth the publicity.

Apart from issues such as the notion that the Consumer Price Index might overestimate the cost of living[7] or the fact he deemed human life valuable in and of itself notwithstanding falling living standards, Simon discussed the limitations of his wager on a few occasions.[8] He observed:

> Commentators said that a single bet proves little, and they are right. Hence I offered to repeat the wager, but there were no takers. The commentators also said that the bet was too narrow and should encompass environmental and other measures of human welfare. Hence I broadened the offer as follows: I'll bet a week's or a month's pay that just about any trend pertaining to material human welfare will improve rather than get worse. You pick the trend — perhaps the death rate, the price of a natural resource, some measure of air or water pollution, or the number of telephones per person — and you choose the area of the world and the future year in which the comparison is to be made (Simon, n.d. non-paginated)

Simon further specified the following details as to a second wager:

1. Five years or more, to ensure that there is time for conditions to change and to reduce the likelihood of statistical blip.

If we get climate change and let the ecological systems keep running downhill, we could have a gigantic population crash" (cited by Tierney 1990 non-paginated).

6 See, for instance, https://en.wikipedia.org/wiki/Gross_world_product. We would like to thank an anonymous referee for this suggestion.

7 See among others, Lebow and Rudd (2003) and Costa (2001). We would like to thank an anonymous reviewer for drawing our attention to the issue.

8 See especially Simon (1996 chapter 1) and Simon (n.d.).

2. Measures of actual welfare rather than intermediate conditions. That is, mortality and morbidity, for example, rather than incidences of particular diseases.
3. The measures that I would consider most appropriate are: Life expectancy; ambient concentrations of air and water pollutants – that is, the cleanliness of air and water; purchasing power of any group; ownership of specific household goods; costs of natural resources; amount of leisure time; amount of schooling; amount of housing space.
4. I would prefer to make multiple bets – perhaps a collection of countries rather than one country, for example, or a variety of measures of human nutrition – rather than on just one item (Simon n.d. non-paginated).[9]

Simon's stance was best summed up in his (in)famous "long-run forecast in brief:" "The material conditions of life will continue to get better for most people, in most countries, most of the time, indefinitely. Within a century or two, all nations and most of humanity will be at or above today's Western living standards. I also speculate, however, that many people will continue to think and say that the conditions of life are getting worse" (1995 p. 642). As he added elsewhere: "[P]eople in the future will live longer lives than they do now, with higher incomes and better standards of living, and the costs of natural resources will be lower than at present" (1994a p. 160).

The crucial point is that while Simon believed that the scarcity of any given commodity could be measured by "a price that has persistently risen" as a measure of material well-being this indicator was much less satisfactory than the relative weight of any commodity in one's budget or the price of goods in terms of real wages (Simon 1996 pp. 25–26). One problem is that the demand for many goods (e.g. computers and smartphones) increases with income, thus increasing the demand – and therefore the price – of some required raw materials, at least in the short run. Because of this, Simon constantly emphasized the need to go beyond a static analysis of scarcity. To repeat and clarify, once incomes have increased, the derived demand might result in higher commodity prices, but will simultaneously create new incentives to alleviate this scarcity by increasing productivity in the production and use of a resource and by promoting the development of substitutes. Over time the real prices of commodities will drop, but proportionally less so than the increase in real wages.

The economic history literature provides numerous such illustrations through the computation of welfare ratios in which a given wage rate for a fixed number of days worked is divided by a fixed basket of goods. The ratio is then the number of times that fixed basket can be acquired (Allen 2001; Lindert and Williamson 2016). Some researchers also inverse the ratio to see how many minutes, hours, or days of work were required to acquire one such basket or one particular good (Cox and Alm 2000; Sharp and Weisdorf 2012). For instance, an American worker earning the average wage in 1920 would have required

9 Simon (n.d.) then discussed critically the counter bet offer made by climatologist Stephen Schneider and Ehrlich (see Ehrlich and Ehrlich 1996: 100–104 or the relevant excerpt at http://web.stanford.edu/group/CCB/Pubs/Ecofablesdocs/thebet.htm).

approximately an hour of work each to pay for a pound of bacon, a pound of butter, or a dozen oranges while his counterpart in 2014 would have required about a fifth of that time for each commodity.[10] A sole focus on real prices obfuscates rather than invalidates Simon's core argument.[11]

Another issue is that a commodity's price might rise or remain somewhat constant in spite of the lower real prices, greater availability, or more efficient use of the final or intermediary products derived from it. For instance, between 1950 and 2011, energy intensity in the United States decreased by 58 percent per real dollar of GDP (US EIA 2013), a fact often forgotten in discussions of the overall economic impact of rising crude oil prices. U.S. cattle prices between the middle and late 19th century also provide insight into this issue. At the time, slaughtered cattle would yield roughly 50 percent of its "live weight" as "dressed weight" (or meat with some bones, cartilage and other body structure still attached) as many bones, sinews, hooves, internal organs, heads, tails, and other non-edible parts (save leather) were thrown away (Rothenberg 1979). A few years later, however, new developments such as the expansion of the railroad network and artificial refrigeration made possible the rise of great meat-packing complexes in Chicago, Omaha, and Kansas City where once discarded residuals could be turned into a wide range of lucrative by-products (Desrochers and Reed 2008). Greater efficiency of slaughterhouses and improved distribution networks allowed retail prices for beef meat to drop (HSUS 1975), while farmgate price for live animals either increased (Desrochers and Reed 2008) or remained relatively constant (McFerrin and Wills 2013) throughout the period. In other words, because of competition among meat-packers for both raw materials and processed meat market shares, farmers could obtain more (or just as many) dollars per cattle head while consumers paradoxically benefitted from lower prices for meat. In such a situation, prices for live animals would not be an adequate measure of "improvements in the material conditions of life."

Thirdly, technological innovations that increase productivity might drive up the price of a commodity without this truly reflecting the scarcity of the resource. Whale oil is a case in point. The decline of the whaling industry in the United States began around 1850 at which point real prices began to increase (Bardi 2007). However, economic historians agree that this was not because of resource depletion or overfishing (Davis, Gallman, and Hutchins 1988). Kaiser (2013) thus found that the increasing demand for illuminants created pressures on prices, which in turn motivated the development of substitutes like petroleum-derived kerosene. However, whale bone and oil prices did not fall as kerosene production expanded and, in spite of falling demand, prices stayed high and even increased. The answer to this conundrum is opportunity cost as the important surge in American labor productivity was greater than the observed increase in productivity in the whaling industry. This meant that the opportunity cost of using workers, capital, and other resources in the

10 From humanprogress.org, "U.S. cost of groceries, nominal dollars and hours worked, 1920–2014." This website lists several other grocery items.

11 See Easterlin and Angelescu (2012) for a more sophisticated discussion.

whaling industry was great. These workers, capital goods, and other resources were progressively reallocated to other industries. In the process, the whaling industry faced higher costs relative to productivity. While marginal players in the whaling industry exited, the supply of inputs to the whaling industry decreased and prices had to be increased. Hence, prices in that situation are not reflective of depletion or expansion of resource stock.

Sabin also fails to discuss the (typically incidental) environmental benefits of market institutions such as competition and property rights,[12] along with the negative environmental consequences of governmental interventions. For instance, he never tells his readers that U.S. environmental conditions were improving long before Ehrlich and other modern activists rose to fame,[13] that past pollution problems were often addressed through property rights-based legal actions,[14] and that the roots of many 1970s federal regulations are found in earlier actions by large business concerns who preferred to deal with one overarching regulatory framework than many disparate ones at the state level (Desrochers 2002; 2010; Desrochers and Haight 2014). Although not an American case, Julian Simon's finest debating moment is illustrative of the problem with Sabin's ringing endorsement of federal environmental regulations.

> In July 1996, at a public event sponsored by the World Future Society, [Julian] Simon debated Hazel Henderson... who was trying to make a case that government regulation was responsible for reduced air pollution... [She] came armed with a graph showing a decline in pollution levels in London since the late 1950s. The slope of the line was clearly downward, illustrating, she said, the effect of London's Clean Air Act of 1956.
>
> In his rebuttal period, Simon presented a graph of his own. Whenever he presents any data, his practice is to present the figures going all the way back to day one, to the start of record-keeping on the parameter in question. You have to focus on aggregate trends over the long term, he insists, not just pick and choose some little fleeting data chunks that seem to support your case. So his own chart of smoke levels in London stretched back into the 1800s, and the line from the 1920s on showed a constant and uniform downward slope. "If you look at all the data," he said, "you can't tell that there was a clean-air act at any point" (Regis 1997).

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12 Anderson and Leal (2001) is a more detailed discussion of how market institutions often channel self-interest for the environmental good.

13 For instance, air quality in many American cities had been improving for decades prior to the passage of the 1970 Clean Air Act (Goklany 1999).

14 In the United States, polluters could be subjected to legal sanctions based on common law doctrines of trespass (any entry on the property of another) and nuisance (indirect or intangible invasions, such as odors and noises). The outcome could be damages awarded to the plaintiff(s) or an injunction (an order requiring the cessation of an offensive activity or specifying corrective action) (Meiners and Morriss 2000).

The key feature of Simon's argument was that markets would promote environmental conservation, but that they needed to be free. Bad economic and environmental outcomes would be the results of policies as diverse as manufacturing, agricultural, and water subsidies; biofuel mandate; the suspension of property rights to allow industrial concerns to discharge polluting residuals; and government rules that mandate the destruction of production residuals rather than turning them into valuable by-products (Desrochers 2002; 2010). Simon's skepticism about the inherent superiority of governmental action in addressing environmental problems clearly had some real-world foundations. Unfortunately, Sabin does not discuss these considerations nor Simon's comments on environmental degradation in the Soviet Union and its satellite countries in this context (1996 pp. 253–254). Painting Simon as a naïve Panglossian strikes us as somewhat dishonest, at least inasmuch as his optimism was predicated upon institutional contexts.

Another problematic aspect of Sabin's analysis is his lack of discussion of relevant work published during and after the Simon-Ehrlich bet. For instance, many quantitative economic historians (or "cliometricians") have provided further evidence to support Simon's view. The work of Robert Fogel (2004) on mortality, human heights, and calorie availability has recorded the long and gradual elimination of Malthusian pressures in the western world. Giovanni Federico (2008) has documented massive worldwide improvements in agricultural productivity since the 19th century that drastically reduced malnutrition without increasing land use substantially. Wrigley and Schofield (1981) have built long time series of vital statistics to study the relationship between economic activity and population health whose analysis has even led some to question the plausibility of the basic Malthusian scenario before 1800.

More recently, Broadberry et al. (2015), Nicolinni (2007), and Crafts and Mills (2009) suggest to various degrees that in Great Britain, Malthusian pressures were largely alleviated from the 15th century onward because of increased trade and its attending broader division of labor that paved the way to the diffusion of ideas, more efficient organization of economic activities, and the creation of economies of scale. In pre-1815 Germany the existence of Malthusian pressures is said to have been contingent on poor market integrations between different regions (Fertig and Pfister 2012). Geloso and Kufenko (2015) make a similar case with French Canada between the late 17th to mid-19th century. Such data and studies caught the attention of researchers such as Michael Kelly (2013) who rebutted Ehrlich's latest apocalyptic article in the prestigious *Proceedings of the Royal Society B*. Others, like Galor (2011), used them to develop what economists now call "unified growth theory" that explains how humankind escaped the "Malthusian trap." Finally, analysts such as Lomborg (2001) and Goklany (2007) have relied in part on evidence of this kind in their attempt to update and expand upon Simon's works of synthesis on economic, social, and environmental indicators.

Like many depletionists and pessimists before him, Sabin cannot bring himself to endorse Simon's view and resorts to invoking an allegedly global and intractable problem to invalidate the resourceship outlook. As most other critics who no longer invoke soil erosion and overpopulation as major crisis that force us to rethink our economic system (to say

nothing of mass extinction, famine, global cooling, or ozone depletion), his trump card of global warming is attributed to anthropogenic CO_2 emissions (see, among countless others, Earth Talk 2009; Moran 2015). One can't help but notice striking similarities between the rhetoric on overpopulation and global warming, be they simple causality mechanisms or models (population growth → rapidly depleting natural resources; anthropogenic CO_2 emissions → rapidly warming climate) whose predictions do not fit fully with the available facts, or else that political, academic, and foundational support is once again overwhelmingly skewed toward catastrophist scenarios derived from modeling exercises. Of course, the fact that the template to the Intergovernmental Panel on Climate Change was arguably the International Union for the Scientific Investigation of Population Problems founded in 1928[15] or that much of the alarm about population growth stemmed from computer projections and economic models that offered allegedly precise and "scientifically grounded" doomsday scenarios might explain much in this regard.

Yet, even granting Sabin's and other alarmists' take on global warming is insufficient to indict Simon. True, while admitting (like the authors of these lines) he was not a climate specialist, Simon (1996 chapter 18) suspected that anthropogenic climate warming was a dubious scare that was ultimately about fears of population growth. As he put it:

> A World Bank paper on the subject concludes, "The global negative externality represented by rapid population growth in developing countries provides a strong, new rationale for developed countries, in their own interests, to finance programs that would reduce population growth in developing countries." That is, the old rationales for World Bank population-control programs – economic growth, resource conservation, and the like – having been discredited, a new "rationale" has been developed on the basis of speculative assumptions about global warming's economic effects derived from controversial climatological science (Simon 1996 non-paginated).

Although Sabin doesn't explore the issue, fear of overpopulation remains significant among prominent anthropogenic climate change policy actors. For instance, when asked why Indians shouldn't aspire to the same standard of living as Westerners, the former Chair of the IPCC, Rajendra K. Pachauri, answered: "Gandhi was asked if he wanted India to reach the same level of prosperity as the United Kingdom. He replied: 'It took Britain half the resources of the planet to reach its level of prosperity. How many planets would India require?'" (Walker 2007).[16] Executive Secretary of the United Nations Framework Convention on Climate Change Christiana Figueres once said that "We should 'make every effort' to re-

15 A history of the IUSIPP (now IUSIP) can be found on the organization's website at http://iussp.org/en/about/history.

16 Pachauri (2015 p. 1) also described "the protection of Planet Earth, the survival of all species and sustainability of our ecosystems" as "more than a mission" and as his "religion... and *dharma.*"

duce the world's population in an effort to fight Climate Change," that "obviously less people would exert less pressure on the natural resources," and that humanity is "already exceeding the planet's planetary carrying capacity today." She added that population control wasn't enough and that fundamental changes needed to be made to our current economic system (Adams 2015). Professor Hans Joachim Schellnhuber, director of the Potsdam Institute for Climate Impact Research and an influential contributor to the encyclical letter *Laudato si*, estimates the carrying capacity of the planet at "below 1 billion people" (Revkin 2009).

Simon's take on a precautionary approach to increased greenhouse gas emissions as a result of economic development was as follows:

> It does make sense that during the next half-century or century there will be increased energy use as a result of more people as well as increased consumption per person. Some forecasts project that the former component will be larger, some the latter. But contrary to the implications of many such writings on the subject, these events need not be seen as malign. Shifts to nuclear fission and to other new sources of energy may result in reduced total emissions even as total energy use goes up — as was the case in the U.K. and the U.S. over the years (Simon 1996 non-paginated).

Simon's technological optimism on nuclear fission was arguably misplaced, at least inasmuch as it couldn't be a substitute in the transportation sector and its economic cost would be significant. His reference to the substitution of coal by natural gas for electricity production, such as followed the development of North Sea hydrocarbon deposits in the United Kingdom, however, proved prescient. As is now widely acknowledged, during the last decade increased natural gas production through hydraulic fracturing allowed the large-scale substitution of coal by natural gas and delivered significant overall reductions in CO_2 emissions in the United States whereas political mandates and reluctance to adopt fracking in the European Union delivered no such results (U.S. EPA 2015). In addition, Simon's argument that economic development was crucial should be viewed in light of the fact that the areas that would bear the bulk of the effects of global warming are among the poorest on Earth and their poverty would hinder adaptation (Tol 2009).

Besides, another standard take by Simon was that markets should be left free and that government policies, either before or after the identification of a perceived crisis, often create worse outcomes. Fuel subsidies are a case in point. Roughly a quarter of the world consumption of gasoline has for some time been subsidized, the result of which is artificially low prices. Preventing prices from rising to market levels distorts information about resource scarcity and induces, in the case of artificially low prices, individuals to consume greater volumes. Repelling such policies alone would represent approximately 14 percent of the reduction needed in terms of GHG to limit global warming to 2 degrees Celsius and 43 percent of the reduction needed by the energy sector to attain this scenario (Magné, Chateau, Dellnik 2014; Burniaux and Château 2011; International Energy Agency and Organisation of Economic Cooperation and Development 2010 p. 585). More generally, it has

been estimated that perhaps up to two-thirds of the $1,000 billion spent on subsidies related to agriculture, water, fishery, energy production, forestry, and transport prove damageable to the economy (through increased budget deficits, unemployment, and trade distortions) and the environment (through increased pollution and mismanagement of natural resources) (Kjellingbro and Skotte 2005; OECD 2006). In such cases, repelling a market-distorting policy is preferable to the creation of new policies to address them as they typically generate other unintended negative consequences.

Finally, Sabin fails to point out that the correlation between standards of living and pollution level is overwhelmingly in the direction of "richer is cleaner." For instance, over two decades ago Bernstam observed that market economies like the United States were becoming wealthier and cleaner over time while centrally planned economies like the Soviet Union stagnated or regressed while becoming increasingly polluted (1990 p. 348). In other words, the United States was both richer and cleaner than the Soviet Union. Bernstam explained this apparent paradox by suggesting that the elimination of waste, rather than increased production or consumption, ultimately determined the environmental impact of economic growth. Thus, when the growth in output exceeds the growth in resource input required, increased material wealth will be created while pollution levels decline as a result of a better overall use of resources. On the other hand, a poorer economy that uses a smaller amount of resources less efficiently will experience greater environmental damage as a result of greater polluting emissions.

The reduction in levels of anthropogenic greenhouse gas emissions on a dollar of wellbeing basis emitted by developing countries over time is also illustrative. Angus Maddison's historical database of income per capita suggests that the current average income in India and China are equal to the average American income in 1879 and 1927, respectively (Maddison Project 2013). In those years, individual Americans were responsible on average for 3.55 tons and 15.43 tons of GHG (World Resources Institute, 2014) while in 2008 the average Indian produced and Chinese average production of GHG was 1.34 tons and 5.74 tons, respectively (idem). In short, living standards in less advanced economies are now 66 percent less GHG-intensive than they were when western societies were at a similar level. Using Simon's framework, Sabin could have asked what made these positive trends happen and how they could be reinforced...

6. REFLECTIVE CONCLUSION

The Bet pitted two strong personalities in a struggle over fundamentally incompatible views of humanity's prospects. Julian Simon let the data challenge his preconceptions and followed it wherever it led him. He abided by academic rules of conduct, advocated personal liberty, and was proven right by future developments. Despite his remarkable productivity, he earned very little recognition from his academic peers and couldn't even get his home institution, the University of Maryland, to give him a secretary (Michaels 2014).

Paul Ehrlich adopted early on and always adhered to a theoretical framework disproved time and again by the facts. When he engaged his critics at all, it was typically by insulting them through third parties. And while he shouldn't be blamed for policies adopted before he burst onto the public stage, he recommended or endorsed actions that brought much human suffering. In spite of all this, his popular success and academic standing was and remains truly remarkable.

While Sabin hints that Simon deserved better from his fellow academics, the Yale historian's quest for an elusive golden mean where everyone is guilty to some degree and clear-cut outcomes remain open to interpretation in the end does nothing to rectify the record on Simon's theoretical outlook and empirical work. As can also be expected from a professor of environmental studies, the main villain in his account turns out to be Simon who, 15 years after his death, is blamed for creating policy logjams and fueling uncivil discourse. In the meantime, Ehrlich keeps issuing "important warnings" such as a recent prediction that humans might soon have to resort to cannibalism to survive the ecological apocalypse (Prigg 2014).

That the resourceship perspective remains mind-boggling is to be expected. That so many well-meaning academics remain enthralled by scenarios of doom after two centuries of debates in which depletionist projections were repeatedly crushed by future developments is more puzzling. Simon (1996, 1999) ventured a few explanations, such as how the training of biologists did not prepare them to understand market processes. Nonetheless, the fact that Paul Ehrlich keeps being showered with awards despite a remarkably erroneous track record can only make one wonder about academic incentives and feedback mechanisms in environmental science and policy.

In the end, Sabin provides his readers with a simplistic and distorted version of Simon's arguments that will fail to challenge anyone's prior beliefs while giving (largely) undeserved praise to Ehrlich. This is even more regrettable in light of much recent work that has documented and theorized how creative human beings have long come up with new ways of doing things that delivered greater wellbeing and more manageable environmental problems. Ironically, perhaps the greatest problem with *The Bet* is that a professional historian avoided any meaningful historical perspective on his topic. Deep down, Sabin must know he could have never been afforded the luxury of providing dubious rationales for Paul Ehrlich's vision and statements if he had not lived in Julian Simon's world.

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CLASSICAL COMMUNITARIANISM AND LIBERAL ANOMIE: TOWARD AN INDIVIDUAL YET ROBUST THEORY OF CITIZENSHIP

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ABSTRACT

This paper uses the tools of robust political economy to assess a fundamental question of political theory: citizenship. Traditional conceptions of citizenship are found wanting if the criterion is the preservation of liberty and individual rights. Classical citizenship places duties above rights and civic participation over individual autonomy; in the process, it snuffs out the individual in the name of the collective. Liberal citizenship protects the individual sphere from political intrusion and thus offers great promise for civil and political rights. Alas, it contains the seeds of its own destruction, as individuals can lapse into anomie or rebellious chaos. After assessing the weaknesses of each vision of citizenship, this paper closes with a case study from Ayn Rand's *Atlas Shrugged*: the simultaneously classical and ultra-liberal citizenship in Galt's Gulch. While the paper does not offer a resolution – a resolution which many not completely exist – it seeks to move toward an individual yet robust theory of citizenship.

KEYWORDS

Classical citizenship, liberal citizenship, Locke, Rousseau, Rand, robust political economy

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1. INTRODUCTION

Existing conceptions of citizenship are inadequate. Both of the traditional schools have fatal flaws. The "classical" approach ends up snuffing out the individual in a romanticized state that is divorced from the reality of political economy. And the proponents of a "liberal" conception tend to ignore citizenship (at their own peril). In the process of dismissing both schools as dangerous, this paper starts the quest for a new vision of citizenship, one that places the individual at the center of the query without subsuming the individual into the collective or the state. At the same time, a satisfying theory of citizenship cannot ignore the uncomfortable fact that even champions of individual rights, who are skeptical of state power, – and perhaps *especially* champions of individual rights – must contend with the individual's role in the political sphere.

I should start with economist James Buchanan's disclaimer that "I have read some, but by no means all of the primary and secondary works [in political philosophy]. To have done so would have required that I become a professional political philosopher at the cost of abandoning my own disciplinary base. As an economist, I am a specialist in contract." (Buchanan 1975/2000, p. XVI) Still, I contend that the outside eyes of political economy can shed light on questions of political theory.

The question here is as simple as it is complicated: how can individuals live together in harmony, taking advantage of civilization and division of labor in a complex economy? Citizenship provides the answer, but the great difficulty lies in the tension between respecting the individual qua individual, while also finding a mechanism for harmonious cooperation. This paper thus has an intentional libertarian flavor. I turn, once again, to James Buchanan for more sophisticated language to express the same point: "I remain, in basic values, an individualist, a constitutionalist, a contractarian, a democrat – terms that mean essentially the same thing to me." Buchanan then explains the ethical foundation of his political philosophy:

> That is "good" which "tends to emerge" from the free choices of the individuals who are involved. It is impossible for an external observer to lay down criteria for "goodness" independent of the process through which results or outcomes are attained. The evaluation is applied to the means of attaining outcomes, not to outcomes as such. And to the extent that individuals are observed to be responding freely within the minimally required conditions of mutual tolerance and respect, any outcome that emerges merits classification as "good," regardless of its precise descriptive content (Buchanan 1975/2000, p. 19).

I start section I by outlining the two traditional forms of citizenship. I then critique them from the philosophical premise that the individual, and only the individual, counts as the measure of what is good (in sections II and III. In section IV, I work toward resolution and illustrate the problem with a case study from Ayn Rand's *Atlas Shrugged* – a paean to individualism that contains a strong case for classical citizenship.

2. TWO VISIONS OF CITIZENSHIP

The political theory literature differentiates between two visions of citizenship: classical and liberal. For example, Rawls (1985) writes of a "stylized contrast" between "the tradition associated with Rousseau, which gives greater weight to what [Benjamin] Constant called 'the liberties of the ancients,' the equal political liberties and the values of public life," on the one hand, and on the other, "the tradition associated with Locke, which gives greater weight to what Constant called the 'liberties of the moderns,' freedom of thought and conscience, certain basic rights of the person and of property, and the rule of law."

Indeed, Constant articulated the difference in his essay on the "Liberty of the Ancients Compared to That of the Moderns" (Constant 1816). "The liberty of the ancients consisted in exercising collectively, but directly, several parts of complete sovereignty... in voting laws, in pronouncing judgments; in examining the accounts, the acts, the stewardship of the magistrates; in calling them to appear in front of the assembled people, in accusing, condemning or absolving them." The flip side of this direct involvement in politics was what the ancients accepted as "the complete subjection of the individual to the authority of the community.... All private actions were submitted to a severe surveillance. No importance was given to individual independence, neither in relation to opinions, nor to labor, nor, above all, to religion." Constant concludes that "among the ancients the individual, almost always sovereign in public affairs, was a slave in all his private relations."

Constant contrasts the liberty of the ancients with the liberty of the moderns. "Among the moderns... the individual, independent in his private life, is, even in the freest of states, sovereign only in appearance." This means "that [the moderns] can no longer enjoy the liberty of the ancients, which consisted in an active and constant participation in collective power." Instead, the liberty of the moderns "must consist of peaceful enjoyment and private independence." The ancients were willing to sacrifice individual autonomy because they had actual influence in political decisions. By contrast, "this compensation no longer exists for us today. Lost in the multitude, the individual can almost never perceive the influence he exercises... The exercise of political rights, therefore, offers us but a part of the pleasures that the ancients found in it, while at the same time the progress of civilization, the commercial tendency of the age, the communication amongst peoples, have infinitely multiplied and varied the means of personal happiness." Hence the modern attachment to individual independence.

Constant concludes that "The aim of the ancients was the sharing of social power among the citizens of the same fatherland: this is what they called liberty." By contrast, "the aim of the moderns is the enjoyment of security in private pleasures; and they call liberty the guarantees accorded by institutions to these pleasures." He then points to a combination of changes that make the liberty of the ancients impossible in a modern setting: larger political entities that dilute individual votes, the end of an aristocratic leisure to participate in politics that was based on slavery, and the rise of commerce over war as a means of acquiring wealth.

I now sketch the differences between Rousseau's classical citizenship (which is parallel to Constant's "liberty of the ancients") and Locke's liberal citizenship (which fits Constant's "liberty of the moderns").

First, we have the classical vision, which is associated primarily with Jean-Jacques Rousseau. For the quintessence of Rousseau's thinking on the subject, we can turn to the *Social Contract* (Rousseau 2011). In this attempt to find the foundations of legitimate government (Book I), Rousseau develops a social contract, through which all adherents put themselves under the supreme authority of the general will (I.vi), which is discovered through majoritarian democracy (IV.ii). The general will is always legitimate and always strives for the common good (II.iii). Because the sovereign state's power emanates from the general will, a legitimate state can never act contrary to the interests of any individual (I.vii). The state thus disposes of the citizen's very life, as dictated by the common good, because the citizen owes his life to the state, without which he would be in a Hobbesian jungle of rampant exploitation (II.v). Rousseau closes the *Social Contract* with an examination of the civic religion that is required to maintain a free government; while freedom of religion is respected (so long as it does not conflict with the common good), the state has a duty to advance a civic religion that teaches citizens to love their duties, to be good citizens and faithful subjects, and to respect the sanctity of the social contract. While the state cannot obligate its citizens to believe in the civic religion, it can banish unbelievers (IV.viii).

According to this vision, a "citizen [is] someone who is actively involved in shaping the future direction of his or her society" (Miller 2000, p. 3). This conception of citizenship revolves primarily around the duties – rather than the rights – of citizens in their political life. According to the classical vision, also known as republicanism or civic republicanism (because of its emphasis on the *res publica*, public affairs), the good society rests on a citizenry of politically virtuous men and women who sustain a just government. The key elements for the citizen are duty, civic virtue, and political participation (Heater 2004, pp. 4–5). Under this conception, "good citizens are those who feel an allegiance to the state and have a sense of responsibility in discharging their duties. As a consequence they need the skills appropriate for civic participation" (Heater 2004, p. 2). Hutchings explains that Rousseau's conception of citizenship, as the epitome of the classical vision, "involves elements of strong democracy as well as very high expectations of citizen commitment to the community's good" (1999, p. 9). Rousseau, in sum, emphasizes "the moralizing effects of thinking and acting as a citizen in terms of identification with the common good as opposed to individual interest" (Ibid.).

By contrast, we have the liberal vision of citizenship, associated primarily with John Locke and his liberal[2] successors. Locke, like Rousseau, is preoccupied with tyranny – but

2 I note in passing the distinction between classical liberalism and modern liberalism. Classical liberals believe in a government limited to the protection of individual rights (plus a few limited functions of correcting market failures). Modern liberals (also known as left liberals or high liberals) believe in active redistribution of wealth by the state, beyond the mere correction of market failures. See Tomasi 2012 for details. Semantics confuse the issue: both contemporary Republicans and Democrats in the U.S. espouse some version of classical citizenship, where *raison d'état* trumps the individual, if for slightly different purposes. The liberal vision of citizenship today is rare, and advocated only by libertarians, classical liberals, and a few refugees from mainstream politics who are concerned about civil liberties in a rising police state. It would thus be erroneous to

he ends up with different safeguards. Locke starts by noting the inconveniences of the state of nature – individual effort at enforcing natural rights; the problems associated with individuals being judges in their own causes; and the excess of revenge (Locke 2002, II). Civil government is the remedy for these inconveniences (Ibid.). When they enter into the social contract, individuals give up their right to judge and punish offenses against natural rights (VII). While Locke does refer to the common good (XIII), he is cautious to limit the power of government; the state is strictly limited to the protection of natural rights (XI) and natural law always stands above human law in the actions of the state (Ibid.) – the state may not rightly take or destroy property, or enslave or impoverish its citizens (XI). Should the state act in violation of the laws of nature, it lapses into tyranny and its officials must be treated like any other violators (XVIII). In such cases, the people may rebel and replace the state (XIX).

Hutchings explains that "in Rousseau's account of the social contract the individuals who make the compact are born anew as citizens whose identities are indissolubly bound up with the community of which they are a part" (1998, p. 8). He continues: "Whereas Locke moralises politics by giving it the function of securing natural right, Rousseau politicises morality by arguing that a new standard of right is generated by the coming together of a people under the supreme direction of the general will" (Ibid.). From this distinction, we have the liberal approach to citizenship. Under this conception, citizens are "first and foremost individuals who are members of, and participants in, a universal moral order" (Hutchings 1999, p. 5). This vision, by contrast with the classical model, "minimizes the active involvement of the individual in the political order as opposed to civil society" (defined here as voluntary institutions for collective action, such as families, friendships, clubs, churches, and markets). The Locke-liberal version views the "citizen as someone who [merely] chooses between different bundles of (public) goods and services, in the same way as the consumer chooses between different sets of commodities in the market" (Miller 2000, p. 3).

In sum, the classical version of citizenship sees an organic whole within which citizens have duties and without which citizens cannot thrive. The liberal version, by contrast, sees the state as the servant of individuals who operate primarily in the market and civil society. I now turn to a critique of each approach.

3. PROBLEMS WITH THE CLASSICAL VISION

Duty, responsibility, politically virtuous citizens, a just government, republicanism, civic participation, and the common good all sound desirable, if superficially. There is some-

associate republican citizenship with conservatism, or liberal citizenship with modern liberals. To avoid any confusion, I use the moniker "classical" rather than "republican" to describe Rousseau's citizenship; indeed, a republican v. liberal dichotomy could be confusing for today's linguistic community.

thing very appealing to Manent's conclusion that the political community "puts as many things as possible in common among its citizens, or, in Aristotle's formulation, as many words and deeds as possible" (2006, p. 96). Or to Scruton's optimistic vision of civic republicanism, wherein "citizenship is the relation that arises between the state and the individual when each is fully accountable to the other" and within which "every citizen becomes linked to every other, by relations that are financial, legal and fiduciary, but which presuppose no personal tie" (2006, p. 5, p. 7). Scruton concludes cheerfully that "the nation state is accountable to all citizens since it owes its existence to the national loyalty that defines its territory and limits its power" (Ibid.). And Rousseau starts with the premise that the purpose of the political association is the preservation and prosperity of its members (2011, III.ix).

Alas, goals are one thing, but implementation is another. At its best, the classical vision of citizenship is noble and inspires individual contributions to the common good. At its worst, it is naïve, collectivist, and horrifying. I make two critiques, inspired by political economy, which demonstrate that the very foundations of the classical vision of citizenship will lead to an overpowering state that suffocates the individual.

METHODOLOGICAL INDIVIDUALISM: THE MISES CRITIQUE

We start with a critique of classical citizenship from the perspective of methodological individualism.[3] Why would the individual – as opposed to the community or the nation – count as the appropriate ethical and political yardstick? At a most basic level, because only individuals act, and only individuals truly exist. Economists refer to this as "methodological individualism (Mises [1949/2010], chapter 2, section 4). Agassi explains how individuals – and only individuals – act, but they act within an institutional context; he refers to this as "institutional individualism" (1975). But if institutions and groups are key to shaping individual behavior, it is still individuals who are doing the acting.

Neglect of methodological individualism can lead to troubling results. Philosopher Will Kymlicka (in Schäfer 1998, p. 85) encapsulates all that is terrifying with the classical vision of citizenship when he complains about the liberal vision of citizenship that "the bearer of interests – [and rights] – is always the individual and only the individual. Groups, commu-

3 A clarification is in order here. Methodological individualism is often confused with ontological individualism, the doctrine that individuals exist "prior" to society and have the properties they do independently of society. Methodological individualism recognizes that only individuals act – but methodological individualism does not deny that there are many social structures, from language to culture, or manners and more, that have profound influence on people's choices. For example, most Americans speak English. They (generally) do so because they must, in order to be understood by those with whom they live and interact. In many cases, much of their thinking will necessarily take place in English because it is the only language the individuals know. Thus, the English language has a causal role in American life. But none of these considerations imply that, for example, Congress can "act" in any way other than through the actions of individuals such as Representatives. I thank Roger Koppl (see Koppl and Wenzel [forthcoming.], from which I have adopted this example). For a deeper review of these issues, see Langlois 1989 or Lewis 2005.

nities, or other collectives do not appear among the theoretical vocabulary." Well, no! The groups to which individuals adhere – from the family, to clubs, cities, churches, geographical or affective communities, and all the way up to "society" or "country" – do not really exist. They are mental constructs. Mises reminds us that "a social collective has no existence outside of the individual members' actions" (1949/2010, p. 42). A family cannot act. Society cannot make choices. These social constructs can surely be useful, as human beings are indeed social animals and their behavior can certainly change as they form part of a group. But the danger comes in reification, or erroneously promoting a mental construct into an actual, acting thing. Economist Murray Rothbard (1973), quoting Moon 1930, refers to this reification as the "organismic fallacy":

> When one uses the simple monosyllabic "France" one thinks of France as a unit, an entity. When... we say "France sent her troops to conquer Tunis" – we impute not only unity but personality to the country. The very words conceal the facts and make international relations a glamorous drama in which personalized nations are the actors, and all too easily we forget the flesh-and-blood men and women who are the true actors... If we had no such word as "France"... then we should more accurately describe the Tunis expedition in some such way as this: "A few of... thirty-eight million persons sent thirty thousand others to conquer Tunis." This way of putting the fact immediately suggests a question, or rather a series of questions. Who are the "few"? Why did they send thirty thousand to Tunis? And why did these obey? Empire-building is done not by "nations," but by men. The problem before us is to discover the men, the active, interested minorities in each nation, who are directly interested in imperialism and then to analyze the reasons why the majorities pay the expenses and fight the wars.

Ignoring methodological individualism, inventing an acting group, and subsuming the individual into that (allegedly) acting group can have disastrous consequences. As a simple example, what, indeed, constitutes a "community?" If a "community" rejects a new Wal-Mart in the name of protecting small businesses, who is, in fact, the "community?" Voters? The consumers that Wal-Mart, in its quest for profit, predicts will choose to spend money there? Or perhaps a coalition of small businesses seeking to thwart competition? Likewise, neglecting methodological individualism can lead to a violation of rights, as the acting individual loses status as an end (who is thus worthy of rights), and becomes the means to the goals established by some putatively acting group. Thus can the individual's rights be sacrificed on the altar of "community," "national preferences," or other mental constructs that offer a convenient excuse to impose private ends through public means – all too often cloaked in the veil of citizenship, the common good, or a chilling *raison d'état*.

POLITICS WITHOUT ROMANCE: THE BUCHANAN CRITIQUE

In order to be desirable, a proposed political theory or institution must stand up to the rest of reality. To quote Callahan, fantasy is not an adult policy option (2010). We can thus use

political economy to determine whether the classical vision of citizenship is robust enough to withstand the shortcomings of fallible human beings.

In simplest terms, robust political economy recognizes that people are not omniscient, and cannot be assumed to be benevolent (for a detailed case, see Penington 2011; for a briefer outline, see Leeson and Subrick 2006). Which institutions will be robust enough to cope with these two problems? That is, which institutions will minimize harm and maximize the opportunities for human flourishing?

In terms of intellectual heritage, robust political economy borrows the incentive problem from Public Choice theory and the knowledge problem from Austrian economics.

Before the revolution in public choice economics, political analysis was romantically divorced from reality, as "public servants" were assumed to be selfless executors of some "common good." Market actors were assumed to be narrowly self-interested. As a result of these assumptions, markets were seen as yielding suboptimal results that could be corrected by government action.[4]

For Public Choice theory, people are people. It rejects the premise of individuals acting selfishly in markets and selflessly in government, acting for private gain in the market and for public interest in government. In government, just as in markets, people will consider a number of different things that give them satisfaction. But there is no longer a heroic assumption that individuals, upon election to political office or ascension to bureaucratic position, magically grow angel's wings. Instead, people respond to incentives. They seek to maximize their satisfaction within constraints, such as budgets, scarcity of time, laws and other rules of the game, social norms and other informal institutions, ethical and religious considerations, etc. Only through proper institutions can people properly orient their interests to the service of others.

Public Choice theory explains how the political process distorts incentives, leading to irrational and inefficient policies, and yielding incoherent information about voter preferences (for general background, see Gwartney and Stroup 2005, chapter 6; see also Boettke and Leeson 2002). In a market system, consumers must pay for what they want, so they face the consequences of their actions. Likewise, firms face the discipline of profit and loss. The government lacks such a test. Politicians can be changed, but only after their term is completed and only through a voting mechanism that favors incumbents, and bureaucrats are near impossible to fire. The feedback mechanism for governmental activity is weak to non-existent, leading to inefficient outcomes and bad policies in ways that cannot exist within the market's mechanism of information and discipline.

The political process also breaks the individual consumption-payment link. In the market, a consumer who wants more of something must pay for it. One beer, $5, two beers, $10. In collective action, some people can pay much for little or little for much. One need only

4 For a thorough and accessible overview of intellectual history, see the opening chapters of Leighton and Lopez 2012; for a basic primer on Public Choice theory, see Buchanan and Tullock 1999. This section draws on Schlueter and Wenzel (2016).

look at the fact that roughly half of Americans do not pay federal income taxes – but have a say, through the polls, on how tax revenue is spent. As of 2009, the top 50% of taxpayers paid 98% of tax revenue; in other words, the bottom 50% of taxpayers enjoyed 25% of the votes, but paid only 2% of the tax revenue. The top 5% of taxpayers paid more (59%) than the bottom 95%. And the top 1% paid 37% of tax revenue, yet enjoyed only 0.5% of the votes that allocated that spending.[5] We thus have skewed incentives for additional public spending at somebody else's expense.[6]

Through the political process, policies will tend to emerge that concentrate benefits and diffuse costs, transferring wealth from the politically unorganized and invisible many to the politically organized and visible few, while increasing the size and power of the redistributive state. As an example, each American adult pays an estimated $15 per year to subsidize an inefficient American sugar industry that cannot compete in a free market, but relies on trade protections and subsidies.[7] While it is in the interest of the sugar industry to preserve its estimated $3 billion in annual subsidies, it is not in the interest of any individual voter to fight for a $15 refund. Nor will elected officials tend to listen to individual voters over an organized lobby. In fact, most Americans don't even know they are paying this subsidy. Thus, an estimated 5/6 of American wealth transfers (not government purchases, but transfers of wealth through the political process) do not flow from wealthier Americans to poorer Americans. Rather, these wealth transfers flow from the disorganized many to the organized few (see Gwartney *et al.* 2005, p. 139 and chapter 6 generally). In sum, the political process amounts to rent-seeking: the use of government to take, rather than create, wealth. Such rent-seeking amounts to legalized plunder, as political economist Frédéric Bastiat so eloquently explains in his essay, "The Law" (Bastiat 1850/2012). In the words of journalist H.L. Mencken, "government is a broker in pillage, and every election is a sort of advance auction in stolen goods" (1996, p. 331).

A corollary problem involves information (a point emphasized by Austrian economics).[8] In a market, entrepreneurs require information about the goods and services consumers wish them to produce. This information is generated and transmitted through the price mechanism (for a delightful illustration, see Read 1958). What of decisions that require collective action? How are the preferences of individuals, in their roles as citizens (rather than consumers) to be revealed so elected officials can make decisions on public spending and public laws? The distorted incentives of politics will lead to inefficient outcomes because it is possible to advance private preferences through public means: voters can lie about their

5 National Taxpayers Union 2014, http://www.ntu.org/tax-basics/who-pays-income-taxes.html.

6 Of course, this can cut both ways. On the one hand, the top income earners have more means to capture the political process – especially in this era of crony capitalism. On the other hand, the 50% of Americans who don't pay taxes, but can vote, as well as the 50% of taxpayers who pay only 2% of tax revenue, have an incentive to vote for more government spending – at somebody else's expense.

7 Perry 2013, http://www.aei-ideas.org/2013/02/protectionist-sugar-policy-cost-americans-3-billion-in-2012/.

8 See Hayek 1945 or Hayek 1960.

preferences because they can pass the cost to others. In addition, because of concentrated benefits and diffuse costs, the political process will tend to emphasize the preferences of organized interests rather than yielding correct information.

Where does this leave us? Post-romantic analysis of government pushes us to seek institutional designs (including the foundation, in political theory, of citizenship) that will be robust in the face of actors who cannot be assumed to act toward some "common good."

When put to the test of political economy, the classical vision falls apart. Generously, we can say it is a beautiful but unrealistic vision. Less generously, we can say that the classical vision is horrifyingly collectivist. Instead of an idyllic aggregation of deliberation into the general will, politics is a messy process of log-rolling, favor-swapping, and concentrated benefits and diffuse costs.

CONCLUSION: MOVING BEYOND THE PEOPLE'S ROMANCE

To be sure, a romantic vision of the state, citizenship, and public affairs can elevate our hearts and lift our imaginations. While economists and political scientists would do well to shed their romantic analysis of politics, voters (and some political theorists) are still very romantic about politics.[9] Economist Dan Klein, for example, writes about the beauty and danger of the "People's Romance" (Klein 2005). Klein describes situations where people irrationally attribute special powers to their groups. Cheering for one's preferred sports team, wearing a political t-shirt, or flying a flag will usually have no effect whatsoever. But it makes people feel good to refer to a team as "mine," boast that "we" won today, or feel pride in a victory to which they did not contribute. This sort of irrational group-think is harmless, and can build affective bonds in civil society. Moving to the level of government and citizenship, however, such romance can be downright pernicious. We thus see wars stirred by patriotic fervor, or massive government redistribution programs that con people into thinking they are participating in a large-scale effort of national solidarity – when they are really engaged in inefficient but legalized plunder.

Klein writes of the disastrous consequences of romancing the state – a veneer which leads people to venerate actions that would otherwise be reprehensible (2005). "If anyone other than the government issued a serious threat to harm us for employing people at a wage of less than eight dollars per hour, that person would be regarded as a coercive menace." But people grant magical powers to the state, as "the coercive programs force all to admit their subordination vis-à-vis the government and therefore to recognize the government as a unique, super-powerful romantic force." The consequences can be disastrous, but the People's Romance explains "why atrocious policies such as the war on drugs can be enacted and cheered and can persist. Even though Republicans supposedly care about freedom and Democrats supposedly care about 'the little guy,' the politicians do nothing to abate the policy." Historically, the People's Romance has whitewashed bad policies such

9 See the literature on sociotropic voting generally; for two good overviews and discussion, see Brennan's cutting commentary on the ethics of voting (2011) or Caplan on the myth of the rational voter (2007).

as the New Deal (which deepened and prolonged the recession; see Higgs 1997). Through the optic of the People's Romance, the New Deal is not remembered as a disastrous and coercive economic policy, but "as a great event during a time in which 'the country came together' and 'we' did something. What 'we did,' of course, was to assert and advance [the People's Romance]."

The People's Romance finds its epitome in the romanticizing of war. As Randolph Bourne (1919/1964, p. 71) wrote:

> War is the health of the State. It automatically sets in motion throughout society those irresistible forces for uniformity, for passionate cooperation with the Government in coercing into obedience the minority groups and individuals which lack the larger herd instinct. [War] seems to achieve for a nation almost all that the most inflamed political idealist could desire. Citizens are no longer indifferent to their Government, but each cell of the body politic is brimming with life and activity. We are at last on the way to the full realization of that collective community in which each individual somehow contains the virtue of the whole. In a nation at war, every citizen identifies himself with the whole, and feels immensely strengthened in that identification.

Klein concludes, pointing out how odd it is that every major government program ends up being called a war – "the war on vice, the war on illiteracy, the war on poverty, the war on crime, the war on disease, the war on AIDS, the war on hunger, and the war on drugs. Now Americans have the war on terrorism" (2005).

This romantic vision of politics, and the perfectibility of flawed men and women through state action, leaves us with W.H. Auden's 1939 "Epitaph on a Tyrant" (Auden 1976, p. 149):

> Perfection, of a kind, was what he was after,
> And the poetry he invented was easy to understand;
> He knew human folly like the back of his hand,
> And was greatly interested in armies and fleets;
> When he laughed, respectable senators burst with laughter,
> And when he cried the little children died in the streets.

At its core, the classical vision fails because it subsumes the individual into a reified and romanticized community. Nevertheless, there is much to be learned from classical citizenship, and especially its critique of the liberal vision.

4. PROBLEMS WITH THE LIBERAL VISION

After the dangerous group-think and deference to collectives embraced (if inadvertently) by the classical vision of citizenship, the liberal vision is a breath of fresh air. Indeed, under classical citizenship, everything is on the political table, and citizens decide what to exclude through deliberation and voting. For liberal citizenship, certain things (like individual rights) are completely off the table (Miller 2000, p. 58). Instead of attempting to discover the good life through the political process then imposing it through the coercive power of the state, "the liberal position... takes pluralism seriously. It assumes that people have radically different conceptions of the good life, and argues that the way to cope with this is to depoliticize citizenship, to convert the public realm into an ersatz version of the market" (Ibid., p. 53). For the liberal, rights have a pre-political justification for the liberal conception; for the classical, rights have grounds in political discussion (Ibid., pp. 59–60; see also Hutchings 1999, p. 8 as quoted above, on the different approaches to rights in Locke and Rousseau).

The liberal vision, starting with Locke, is quite clear that the state exists for the benefit of the citizen and not the other way around. Rather than a mechanism for human flourishing, the state exists fundamentally (and exclusively) for the defense of individual rights (Heater 2004, pp. 4–5).[10]

As quoted in the introduction, Constant draws a distinction between the liberty of the ancients and the liberty of the moderns. While he is clearly a modern, he also worries that modern liberty can lead to anomie and tyranny – this, combined with the concerns of Alexis de Tocqueville and Adam Ferguson, constitutes the first critique to liberal citizenship I outline here. The second critique involves the erosion under liberal citizenship of the public orthodoxy that forms the "social glue" necessary for harmonious cohabitation of strangers. The third critique involves authority and the potential for anarchy when liberal citizens over-emphasize rights and under-emphasize duty. In the end, does the liberal conception of citizenship sow the seeds of its own undoing?

ANOMIE AND TYRANNY: THE CONSTANT-TOCQUEVILLE-FERGUSON CRITIQUE

Constant – while obviously sympathetic to the liberty of the moderns – also worried about it (1816). "The danger of modern liberty," he wrote, "is that, absorbed in the enjoyment of our private independence, and in the pursuit of our particular interests, we should surrender our right to share in political power too easily." This can easily lapse into political abuse: "The holders of authority are... so ready to spare us all sort of troubles, except those of obeying and paying! They will say to us: what, in the end, is the aim of your efforts, the

10 Of course, there is disagreement on rights; whereas Locke sticks with negative rights (life, liberty, property), later thinkers in the liberal tradition, such as T.H. Marshall (1963), added social and positive "rights." Still, the principle remains that the state serves the citizen and not the other way around. On the impossibility of positive "rights" see Rand 1967.

motive of your labors, the object of all your hopes? Is it not happiness? Well, leave this happiness to us and we shall give it to you." Constant, naturally, rejects this "tender commitment," asking instead that the political authorities stick to the confines established by rule of law, and the preservation of justice, rather than taking over all aspects of life that moderns have abdicated.

This worry is echoed by Alexis de Tocqueville in *Democracy in America*: "When the taste for material enjoyments develops among [democratic people] more rapidly than enlightenment and the habits of liberty, there comes a moment when men are carried away, as if beyond themselves, by the sight of these new goods they are ready to grasp" (1835, Book II, Chapter 14, pp. 951–952). Parallel to Constant's worry about all-consuming commercial pursuits, Tocqueville worries that "preoccupied by the sole concern to make a fortune, [democratic people] no longer notice the close bond that unites the particular fortune of each one of them to the prosperity of all." Wealthy moderns will ignore politics, as "the exercise of their political rights seems to them a tiresome inconvenience that distracts them from their industry. Whether it is a matter of choosing their representatives, coming to the assistance of the authorities, dealing together with common affairs, they lack the time; they cannot waste such precious time on useless works." In the end, by neglecting politics, they neglect "to remain their own masters" by distancing themselves from political involvement (Ibid).

Tocqueville concludes that "the nation that asks of its government only the maintenance of order is already a slave at the bottom of its heart. The nation is a slave of its well-being, and the man who is to put it in chains can appear" (Ibid.).

Tocqueville's concern is echoed in the writings of Adam Ferguson in his "Essay on the History of Civil Society." Ferguson, contra his contemporary classical liberals David Hume and Adam Smith, believed that institutions alone were insufficient to protect liberty; instead he recognized the "necessity of the active participation of citizens" (Varty 1998, p. 182). For Ferguson, "liberty only exists in proportion to citizens' willingness to sustain the 'burden of government'" (Ferguson 1996, p. 252 in Varty 1998, p. 185). Institutions matter, of course, but, "in the end, it is only citizens themselves who can prevent despotism from arising" (Varty 1998, p. 183). Alas, this requires citizens "who have received the kind of political education one only gains by participating in politics" (Ibid.). While public spirit, participation in politics, and active defense of the public good are requirements for a free society, Ferguson worries (with Constant and Tocqueville) that wealth and commerce will lead to a loss of people's political persona and a desire for stability and efficiency over liberty (Ibid., pp. 183–184). To be sure, Ferguson does not go as far as the classical vision in claiming that "citizenship is, or should be, the core of our life" (Ibid., p. 186); he does, however, admonish us to "lessen, rather than abolish, the separation between state and civil society, as it is only through the active involvement of the citizenry in politics that state power can be controlled and liberty preserved" (Ibid., p. 190).

These troubling concerns, coming from such distinguished friends of liberty as Constant, Tocqueville, and Ferguson, should give pause to liberal theorists of citizenship – especially because Constant, Tocqueville, and Ferguson are ultimately advocates of liberal

citizenship! Classical citizenship kills liberty *ab initio*, but liberal citizenship might very well carry the seeds of its own destruction. Plato famously warned that "the chief penalty is to be governed by someone worse if a man will not himself hold office and rule" (*Republic* 1, p. 347c).

PUBLIC ORTHODOXY: THE SCRUTON-MANENT CRITIQUE

The second critique of liberal citizenship involves the requirement of a shared orthodoxy for harmonious cohabitation with strangers. John Stuart Mill was an early articulator of this concern when he wrote of the need for "a feeling of common interest among those who live under the same government" to allow for "cohesion among members of the same community or state" (1879, vol. 2, p. 522). He worried that "free institutions are next to impossible in a country made up of different nationalities. Among a people without fellow-feeling, especially if they read and speak different languages, the united public opinion, necessary to the working of representative government, cannot exist" (Ibid). If there are great national or cultural divisions, the different groups' "mutual antipathies are generally much stronger than jealousy of the government. That any one of them feels aggrieved by the policy of the common ruler is sufficient to determine another to support that policy." If the state oversteps its bounds, and "even if all are aggrieved, none feel that they can rely on the others for fidelity in a joint resistance; the strength of none is sufficient to resist alone, and each may reasonably think that it consults its own advantage most by bidding for the favor of the government against the rest (Mill 1977/1861, p. 547).

If we substitute significant intellectual or cultural heterodoxy for "nationalities," the problem remains. This worry is picked up by contemporary defenders of classical citizenship; despite a communitarian streak that is troubling for individual rights, their critique should give us pause. For example, Pierre Manent (2006, p. 95) longs for a "true democracy that presupposes the long and slow elaboration of a distinct common life." Roger Scruton (2006, pp. 1–3) similarly opines that "democracies owe their existence to national loyalties... Wherever the experience of nationality is weak or non-existent democracy has failed to take root." He writes that while "the nation-state is not the only answer to the problems of modern government... it is the only answer that has proved itself... Territorial loyalty... is at the root of all form of government where law and liberty reign supreme." He concedes that "nationality is not the only kind of social membership, nor is it an exclusive tie" – but it is the only form of membership that sustains democracy and rule of law (Ibid., pp. 10–11). In sum, it is impossible to share a territory without "sharing many other things too," such as language, customs, markets, and religion (Ibid., p. 13).

At a fundamental level, there must be agreement on the form of government – or on limited government, if liberal citizenship and fundamental civil rights are to prevail. Constitutional theorist Russell Hardin (1988) explains that "without support from relevant people, perhaps often in the grudging form of those unable to co-ordinate in refusing support... rules would not be worth the paper on which they are recorded." Similarly, Alexander Hamilton noted of the American Constitution that it was a "frail and worthless fabric" in the hands of the wrong people. Informal constraints, starting with a willingness to be bound

by constitutional constraints, maintain a central importance for constitutionalism (Elster 2000 and Hardin 1999). If a critical mass of individuals refuses to be bound, if it rejects constitutionalism generally or the constitution specifically, if it does not accept the deferral of current power for long-run stability, the entire constitutional undertaking will fail. Expediency will trump principle. Power will prevail over rules. And short-term gain will win over long-term coordination. In the words of Franklin and Baun, "in the constitutional state the rule of law prevails, not because the courts or police say it should, but because there exists a general acceptance of and confidence in the law" (1995, p.VII). Hardin, in fact, models a constitution as a coordination mechanism among the "interests that matter" in society (1999); economist Frank Knight echoes this, concluding that "society depends upon – we may almost say that it is – moral like-mindedness" (1939).

We now return to Miller's assessment (quoted above) that liberal citizenship "takes pluralism seriously" and "cope[s] with this by [depoliticizing] citizenship" (2000, p. 53). He continues, however, by worrying that the extreme version of liberal citizenship "founders on the fact that citizenship at its core concerns common rights and goods enjoyed in common" (Ibid). In sum, liberal citizenship and the ensuing limited state (dedicated exclusively to the protection of individual rights) provides an umbrella under which other associations can co-exist without one "claiming absolute validity" (Manent 2006, p. 201).[11] But there needs to be sufficient agreement – if only about the nature, scope, and function of the umbrella – for people to live harmoniously under it. Liberal citizenship does not address this sufficiently in terms of fostering public orthodoxy and of coping with fragmented opinion.

AUTHORITY: THE PITKIN CRITIQUE

The third problem centers around free-riding.[12] All enjoy the benefits of common life and the protection of government, but all may seek to free-ride by shirking from the defense of the commonwealth or paying taxes. Thomas Hobbes famously asked who will face the enemy's cannon and how the civil/political association can survive if nobody does (Hobbes 2002). Of course, Hobbes solves the free-rider problem in a manner most dissatisfying for friends of liberty, since he would have individual rights subsumed under the protection of Leviathan. But the troubling nature of his solution does not dismiss the free-rider problem.

This problem raises questions of affection for the state (and specifically affection that is strong enough that citizens are willing to die to preserve the state and the benefits it confers). But it is primarily one of authority. And it is best captured in the writings of political theorist Hanna Pitkin on the problem of "obligation and consent" (Pitkin 1965). Pitkin starts by identifying the *reductio ad absurdum* of the radical liberal approach to citizenship:

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11 Ironically, Manent's political umbrella does exactly that – "claiming absolute authority." But the critique is still a serious one.

12 Free-riding refers to attempts (often successful) to obtain a benefit or service without paying for it. Of course, if too many people enjoy the service without paying for it, provision will ultimately cease. Generally, see Buchanan and Tullock (1962).

> Each individual is obligated to obey only while it is best for him, and becomes obligated to resist when that could promote his personal welfare. Thus the same government will be a legitimate authority for some of its subjects but naked illegitimate power to others. And anyone is free to disobey or resist whenever it benefits him to do so; he can have no obligation to the contrary. Indeed, the sum total of such a doctrine is that you have no obligation at all, or none except the pursuit of your own welfare.

Unfortunately "there are bound to be occasions when the public welfare requires serious sacrifices (perhaps even of life) by some individuals. To suppose otherwise seems incredibly unrealistic" (Ibid.). Setting aside the all-too-common invocation of the public welfare as a justification for *raison d'état*, and the use of public means to advance private preferences, Pitkin identifies a real problem. A partial solution to the problem comes from Locke. Indeed, Pitkin argues, the fundamental obligation to obey in Locke's system comes not from consent (which is essentially automatic rather than explicit), but because of certain characteristics of the government, *i.e.,* whether the government acts according to the common good and limits itself to the defense of natural rights. Pitkin concludes – following Locke and the liberal tradition of citizenship – that "if it is a good, just government doing what a government should, then you must obey it; if it is a tyrannical, unjust government trying to do what no government should, then you have no such obligation" (Ibid.).

Bastiat echoes this sentiment when he writes that "the law is the organization of the natural right of lawful defense. It is the substitution of a common force for individual forces. And this common force is to do only what the individual forces have a natural and lawful right to do: to protect persons, liberties, and properties; to maintain the right of each, and to cause justice to reign over us all" (1850). But the law is often abused, and becomes a tool of legalized plunder. According to Bastiat, then, the solution to the Locke-Pitkin problem of authority is straightforward:

> [H]ow is this legal plunder to be identified? Quite simply. See if the law takes from some persons what belongs to them, and gives it to other persons to whom it does not belong. See if the law benefits one citizen at the expense of another by doing what the citizen himself cannot do without committing a crime.

Pitkin, however, is less sanguine. She reminds us that Locke's provision for majority resistance to tyranny and the duty to follow the majority are clear, but individual resistance is "highly ambiguous at best, and is certainly not a duty" in Locke (Pitkin 1965). After stating the question superbly, she ends by admitting her own frustration with the matter of individual choice:

> Who is to say? Who is to say what times are normal and what times are not, when resistance is justified or even obligatory? If we say "each individual must decide for

himself," we seem to deny the normally binding character of law and authority. If we say "society" or "the majority" or "the duly constituted authorities" decide, then we seem to deny the right to resist, since it may be the majority or the authorities themselves that need to be challenged. Yet these seem to be the only two alternatives (Ibid.).

Pitkin identifies a very real problem. While proponents of liberal citizenship do well to be skeptical of classical citizenship and the "common good" veneer that lies thinly over power and tyranny, they must also contend with the problem of authority and its limits. After all, if each individual is free to decide (and without clear parameters) when it is convenient to follow the rules of government, then the whole apparatus of government as protector of rights will fall apart, as minarchy lapses into anarchy. There are, obviously – and perhaps mostly – clear-cut cases, as identified by Bastiat. But Pitkin has identified a paradox with which liberal citizenship has not sufficiently contended. And Pitkin warns us that "there is no... absolute answer, and can be none" (Ibid.).

CONCLUSION: LIBERALISM, ANOMIE, AND THE END OF LIBERTY

Classical citizenship can be readily dismissed as inimical to individual rights. But liberal citizenship – while a lovely aspiration and a good model for the defense of the individual – is fragile, and contains the seeds of its own downfall. In order to be robust, liberal citizenship must address the problems of citizen vigilance, public orthodoxy, and authority. A minimal government that defends individual rights must somehow foster the necessary cultural conditions for its own survival. This includes the micro-level of participation in civil society, and the bourgeois virtues that sustain commerce (see McCloskey 2006). But it also includes the macro-level civic virtues of political vigilance and participation, and willingness to be bound by the constitution. While the former is obvious, proponents of liberal citizenship are often reluctant to address the latter. Beyond Pitkin's paradox of authority, we are left with a second paradox: while a minimal government requires civic virtue, the state cannot produce it without violating its remit (see Read [1964, p. 199] or Rogge and Goodrich 1973). It must thus rely on civil society and markets to foster the civic virtues... but if those fail, the state itself can do nothing more than hope, lest it go beyond its mandate, with the usual barrage of unintended consequences. In the end, citizens themselves must foster citizenship.

5. CLASSICAL FOUNDATIONS TO A LIBERAL ORDER... WITHOUT THE COLLECTIVIST TRAP?

I do not have clear answers to the problems I raise here. What is needed, somehow, is a classical foundation to liberal citizenship, without the collectivist trap of consuming the individual within *raison d'état*, under the guise of promoting some putative "common good."

EXTRA-POLITICAL VIRTUE TO ADVANCE A NARROW COMMON GOOD

A preliminary answer comes from Brennan (2011). As I wrote in a recent book review (Wenzel 2013), "Brennan defines the common good (with delicious narrowness) as a combination of institutions – such as social order, shared ethical/social norms, rule of law, and markets – that are generally to everyone's advantage." After expressing worries about the public choice considerations of voting, Brennan makes a case instead for extra-political civic virtue, which advances republican participation without romancing the state. "Brennan reminds us that in an economy where everybody produces political goods, we would all starve, because those who produce political goods require the services of others for clothing, food, transportation, artistic and intellectual production, etc." (Wenzel 2013). However, in liberal societies, there are many ways to advance the republican ideal beyond the traditional means of voting, or military or political service: "many activities stereotypically considered private, such as being a conscientious employee, making art, running a for-profit business, or pursuing scientific discoveries, can also be exercises of civic virtue. For many people, in fact, these are better ways to exercise civic virtue" (Brennan 2011, p. 44).

In sum, there are ways, outside of politics proper, to advance the classical foundations of liberal citizenship – and, what is most important, these methods do not have the same potential dangers of the classical ideal, taken to its extreme.

GALT'S GULCH: A CLASSICAL CITIZENSHIP IN AN ULTRA-LIBERAL WORLD

We appear to be at an impasse. The classical ideal of citizenship would snuff out the individual, but the liberal ideal could very well lead to its own destruction. There is no clear answer to the puzzle, but at least I am in the good company of frustrated political theorists and political economists. As a potential avenue to resolution, I expand on Brennan's (2011) compromise of extra-political civic virtue by using a case study from literature: Galt's Gulch, a.k.a. Mulligan's Valley, a.k.a. Atlantis, in Ayn Rand's *Atlas Shrugged*.

Galt's Gulch is the secret hideaway in Colorado where the drivers of the economy – the leading entrepreneurs and best minds – gather to escape from the legalized plunder of their property and productivity. In many ways, it exemplifies the extreme of liberal citizenship, as reflected in the "oath that was taken by every person in this valley" (Rand 1957,p. 675): "I swear by my life and my love of it that I will never live for the sake of another man, nor ask another man to live for mine" (Ibid.). What is more, "it is against [the Valley's] rules to provide the unearned sustenance of another human being" (Ibid., p. 701). Clearly, there is to be no redistribution and government – such as it is – is rather limited. *Governance* (rather than government)[13] is limited to a three-man Committee of Safety (implied rather than explicit). This is supplemented by a former judge who acts as arbiter of disputes, but "he hasn't had to be called upon as yet" (Ibid., p. 690). To clarify, though, "we are not a state here, not a society of any kind – we're just a voluntary association of men held together by nothing but every man's self-interest."

13 See Hasnas 2008.

Suspending disbelief – this is, after all, a novel, and a voluntary association of rational geniuses – how does the valley work? Its social harmony, in fact, relies on a shared public orthodoxy. At the most basic level, all immigrants to the valley must agree to, and take, an oath, before becoming a citizen of the valley. The shared philosophy continues, with a rejection of unearned sustenance, and a shared belief in rational self-interest and unhampered exchange. One citizen of the valley explains a further point of common agreement: "[we're] all aristocrats, that's true, because [we] know that there's no such thing as a lousy job – only lousy men who don't care much to do it" (Ibid., p. 665). There is a deep sense of the common good – rightly understood – from the valley's owner who quit the world of plunder for love of principles (Ibid., p. 685), to the judge who left because he saw himself as a "guardian of justice" in a world that had replaced justice and property with plunder and naked use of public means to advance private preferences (Ibid., p. 686). Within this shared public orthodoxy, minimal governance (without coercive government) is possible: "we have no laws in this valley, no rules, no formal organization of any kind... But we have certain customs, which we all observe, because they pertain to the things we need rest from [*i.e.* plunder, redistribution, and arbitrary state power]. So I'll warn you that there is only one word which is forbidden in this valley: the word 'give'" (Ibid., p. 659). The valley itself is privately owned (Ibid., p. 652) and tenants pay rent to the valley's owner for their land – and to the appropriate owner for anything borrowed (technically, also rented, since nothing is borrowed for free). Within this agreement, no state is necessary, because rational men and women recognize that "violence is not practical" (Ibid., p. 698). It is commonly said outside the Valley "that it's hard for men to agree. You'd be surprised how easy it is when both parties hold as their moral absolute that neither exists for the sake of the other and that reason is their only means of trade" (Ibid., p. 736). In an anticipation of market failure theory[14] and the so-called "productive state" that fixes the market's shortcomings, even "public" utilities are privately provided, including "water lines, the power lines, and the telephone service" (Ibid., p. 663).

To be sure, Rand has admirably engaged in the "transfer from our inward nature a human interest and a semblance of truth sufficient to procure for these shadows of imagination that willing suspension of disbelief for the moment, which constitutes poetic faith" (Coleridge 1817). As philosophers, political economists, and social theorists, however, it behooves us to doff our poet's hat and don our scientist's hat, and to question the realism of Galt's Gulch. The story is aspirational, but Rand has given deep thought to the structure of governance and the Valley's underlying philosophical code and civic culture. But we must remember that Galt's Gulch is populated by the best and brightest, who are also governed by rationality, combined with Objectivist self-interest: they recognize what is good, and will work toward it.[15] The free-rider problem is thus sidestepped in a way we could not expect

14 See Samuelson 1954; for a more nuanced view, see Buchan and Tullock 1962.

15 For more details see Rand 1964a.

within the traditional definitions of public choice where individuals are rational but narrowly self-interested.[16]

The same problem emerges in Rand's essay on "Government Financing in a Free Society" (Rand 1964). In this essay, Rand states that imposition of taxes, as an initiation of force, is immoral and unjustified (Ibid., p. 135). However, in a fully free society, government services will be provided through voluntary financing because citizens need them, and rational individuals recognize this (Ibid., p. 136). Rand concludes that "a program of voluntary government financing would be amply sufficient to pay for the legitimate functions of a proper government" (Ibid., p. 137). Granted, government spending would be much lower if government limited itself to its proper activities of defending "life, liberty, and the pursuit of happiness" (through police, courts and the military, period). Let us assume that the American defense budget (about 18% of government spending) is actually devoted to defense, rather than foreign military adventures; add to that about 1.5% for administration of justice, 1.5% for international affairs, and 1% for administration of government, and we are at roughly one quarter of the $3.5 trillion of current government spending, or roughly $875 billion (Boccia 2014). Rational *and* broadly self-interested men and women could indeed finance this voluntarily, to the tune of roughly $4,000 per year per American adult.

Beyond the rationality *cum* enlightened self-interest of its citizens, Galt's Gulch is a small, homogenous community of like-minded individuals. It is, in fact, very much like a Greek *polis*; returning to Constant (1816), we can thus anticipate a high likelihood of success, as the citizens of Galt's Gulch – who cherish a modern understanding of liberty qua individual autonomy – are also called upon to exercise the ancient understanding of liberty qua political participation.

Plainly, it would be disastrous for a state to enforce virtue; but plainly it is just as disastrous for virtue to disintegrate – hence the need for a strong civil society and a strong sense of citizenship.[17] Galt's Gulch shows that a strong liberal citizenship still requires a foundation of classical citizenship – but that classical citizenship cannot be allowed to snuff out the individual in the name of the collective. Ayn Rand's illustration does not offer a complete answer to the puzzle, and relies on Objectivist premises about self-interest; perhaps there is no complete answer. But it sheds light on some of the conditions for a free society, where individuals can flourish in harmony with others.

16 It is a separate, if important question, whether and when we can expect individuals to combine rationality with broad self-interest – whether non-Objectivists, small groups with a shared orthodoxy, or even larger groups. I leave this to further research.

17 See the entries by Meyer and Bandow, and the debate generally, in Carey 1998.

6. CONCLUSION

This is a preliminary exploration born of a sense of frustration with the two existing and competing notions of citizenship. Classical citizenship fails *ab initio* because the public suffocates the private. *Dulce et decorum est pro patria mori*, it is sweet and right to die for your country, wrote Horace. Maybe – on the off chance that the country is indeed my *polis*, and its government limits itself to legitimate activities of enforcing natural rights. Otherwise, emphatically, no.

But the liberal conception of citizenship, with its high risk of anomie and skeptical repudiation of public engagement, carries its own risk of lapsing into tyranny. While rejecting classical citizenship, it would do well to learn from it. Perhaps federalism, polycentric orders, and the writings of the American founding offer fruitful consideration; I leave these questions to future work. In the meantime, with Pitkin (1965) as quoted above, I fear "there is no...absolute answer, and can be none." But I hope my musings have shed some light on the problem.

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A FREE MARKET ALTERNATIVE TO ANARCHO-CAPITALISM

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ABSTRACT

Paying for the protection of private property contradicts the ethical and economic ideas conceptualizing private property ownership. Because of this, a new system of organization of the police, courts, and prisons is suggested. The system is stateless and market-based, i.e., anarchic, and represents an alternative to anarcho-capitalism. The specific structure and organization of the police, courts, and prisons is discussed in detail and it is demonstrated how they can function without external support. A comparison with anarcho-capitalism is drawn. It is shown that the suggested system functions according to the rules of the free market.

KEYWORDS

Austrian economics, anarchism, Ayn Rand

1. INTRODUCTION

A common problem in the Austrian school of economic thought is the way in which the prerequisites for the existence of a free market (namely the availability of a police force, courts, and an army) are to be ensured. A typical solution is offered by anarcho-capitalism, which is stateless and market-based. The aim of the present article is to present an alternative system of organization of the police, courts, and prisons from a normative point of view only. Although the suggested system is also stateless and market-based, it differs significantly from anarcho-capitalism. Its structure conforms completely to Ayn Rand's principle of non-initiation of violence. Comparisons between the suggested system and

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anarcho-capitalism will be drawn. The particular organization of the police, courts, and prisons will be discussed.

2. ETHICAL CONSIDERATIONS

An assessment of anarcho-capitalism and the suggested system will be performed with regard to their conformance to Ayn Rand's principle of non-initiation of violence (Rand 1964, ch. 1) and its direct consequences, such as the equal treatment of all people.

ETHICAL PROBLEMS OF ANARCHO-CAPITALISM

Let us first take a brief look at anarcho-capitalism with regard to how private property protection is organized. In anarcho-capitalism private property owners are clients of a protection services market. In addition, in most cases they pay directly or indirectly for the services they obtain (Tannehill 1970; Rothbard 1973). However, being the client and paying for the protection of one's private property engenders several ethical problems all by itself.

First, people do not pay for the police, courts, and army because they are eager to use their services, but because, unless they do it, their quality of life would deteriorate. Basically, one is forced to pay for these services because the alternative is to suffer losses in the form of stolen property, physical damage (mugging, killing), etc. Unless one takes preemptive action, it is guaranteed that physical aggression would be used on him. The threat of initiated physical aggression is what makes people pay for protection services.

The above-mentioned threat is not caused by the private protection agencies which people would hire to protect themselves under anarcho-capitalism (i.e., it is external to this agent-client relationship), but it is nevertheless a credible one which forces people to take part in that particular market. Such situations, in which the initiation of aggression on the side of one party causes the other party to interact with a third one, are typical nowadays. An example is the compulsory insurance imposed by the state which causes people to insure themselves with a private insurance company. Another one is the regulatory requirements that companies possess a certain good (fire extinguisher, etc.) which in turn force them to buy one from a private producer/seller of such goods.

The discussed threat is, however, fundamentally different from such nature-caused threats such as floods, fires, and earthquakes and from ones determined by human nature (the threat to die of thirst if no water is available, the necessity to eat, to wear clothes, etc.). All those threats to well-being force people to act in order to prevent them or cope with them, but they all have one aspect in common – no force is being initiated by them. Only human beings can initiate force because only human reason has the capacity to purposefully implement a particular course of action. Earthquakes or cold weather cannot choose to occur. Only human beings can choose their particular actions and thus be able to initiate force (Rand 1964, ch.1).

In this sense the threat of being robbed, mugged, killed, etc. is a threat caused by the initiation of physical force. As discussed, anarcho-capitalism suggests that people yield to

this threat and pay to avoid it. However, markets in which one party acts under initiated violence or the threat thereof are not free. From this point of view, anarcho-capitalism offers a non-free market solution. Generally, two entities are able to initiate force: the state and criminals. Anarcho-capitalism has effectively taken care of the former, while letting the threat of the latter determine its structure. From this point of view, contrary to the claims of its supporters, anarcho-capitalism is a non-free market system.

Second, when freedom is obtained through the purchase of a service, as in anarcho-capitalism, the following problem occurs: one gets only as much freedom as one is able or willing to pay for. This is an inevitable consequence of the way the free market works. In a free market, one obtains from a service/good just as much as one has paid for. Because freedom would be the result of a market transaction, one would get exactly as much as one has given. The aftermath is that there would be no common standard for freedom, i.e., there would be "equal" and "more equal" people. In particular, those with more money would be "more equal" than others. Taking the above into consideration, we can say that in anarcho-capitalism people will not be equal with respect to their fundamental rights.

ETHICAL SOLUTIONS

The only way to avoid the above ethical issues is to offer a system in which one is not the client and does not pay for private property protection. In this way, we avoid the aforementioned problems, i.e., I.) people do not yield to the threat of initiated violence and II.) the amount of freedom one gets is not contingent on one's financial status or personal preferences/abilities.

However, if we release private property owners from the obligation to pay for the protection of their own property, who would pay for the police, courts, and prisons? The answer to this question is quite clear from an ethical point of view: the one who has caused the problem, the one who has initiated physical force, i.e., the criminals themselves.

Considering the above, an ethically clean solution for police organization, for instance, would be that criminals themselves pay for the operation of the police. In effect, we would have the police be funded from and by the very act of fighting crime. Thus, when a crime is committed, the police would have the right to catch the criminal and let him pay for its services, for the effort expended in the criminal's apprehension. This would guarantee that private property owners would not pay for property protection. In such a way, a new type of market is suggested, one in which the police are on one side and the other side (the client/the customer) are the criminals themselves.

The first question which begs to be answered is if such a market can exist at all. Let us show how and why its existence is possible. For a market (not necessarily a free one) to exist, an exchange of goods or services is required to take place. A defining characteristic of a market is the existence of market prices, which are the result of the exchange between the trading parties.

Let us take as an example the market for compulsory insurance created by the state. Companies take part in this market under the threat of being punished, i.e., this is not a free market, but a market nevertheless. Market prices are formed, which reflect the prefer-

ences and financial situation of the parties involved. The forces of supply and demand are allowed to function and a compromise in the form of a mutually acceptable insurance price is reached. Thus, what we observe is a non-free market with its resulting market prices. When looking closely, however, what we note is that companies are forced to choose a trading partner among the ones available on the market. In this sense, one of the defining characteristics of a free market, i.e., the freedom to choose, has been severely hampered. At the same time, the other defining characteristic of a free market, namely the mutually beneficial nature of the exchange, is missing. The exchange is beneficial for the insurance companies but not for the company which must insure itself. What the above shows is that a market (not necessarily a free one) can exist without the above-mentioned characteristics, namely the freedom to choose and the mutually beneficial nature of the exchange. In this sense, the suggested prospective police-criminals market could exist even without the above prerequisites.

Here, however, one could object that such a market would not be free. Let us discuss this point. Since the free market is based on non-aggression, then is the market interaction between police and criminals a free market transaction? After all, criminals do not choose to be arrested. The latter seems to contradict the way in which free market services operate, namely by allowing everyone to freely choose or not choose a particular service or goods. In order to answer the above question from an ethical standpoint, it is instructive to review the definition of freedom. Once again, freedom is the absence of initiated force, so if no force is initiated, then one's actions are considered free (Rand 1964, ch.1). In view of the above, the interaction between police and criminals, as outlined, is a free market interaction because both sides act freely. Neither the police nor the criminals are subjected to initiated force. Force is applied to criminals while they are apprehended, kept in jail, etc., but this force is retaliatory/defensive. And since in such a law-enforcement market there is no initiated violence, this would be a free market. It would be a strange kind of market, in which one of the sides (the criminals) does not get to choose who will provide the service, but it would be consistent with free market principles. No contradiction occurs and the existence of such a market is not proscribed. The proposed market stipulates the only way in which physical force can rightfully be applied.

What is left, so that we can say that we have a market is to make sure that market prices are formed on it, i.e., that the forces of supply and demand be free to function. The latter can be accomplished by inserting an impartial intermediary between the police and criminals. This intermediary would make sure that the interests of both sides are preserved and a mutually beneficial compromise is found. An impartial judge would guarantee that both sides find themselves in equal positions. The police would not be able to impose its preferences on the criminal (force him to pay) and the criminal would not be able to evade punishment (not to pay for his crime). If we could organize the system in such a way that judges can be impartial and interested in a compromise between the two parties, then market prices could be formed. The goal of this article is to show that such an organization is theoretically and practically possible, and consequently that such a market can exist.

In order to make our general proposal clearer, it is helpful to highlight the differences between anarcho-capitalism and the proposed system.

In an anarcho-capitalist market of law enforcement, the private property owners are the clients who pay for protection, either directly to a defense company or indirectly to a private property insurance company (Tannehill 1970; Rothbard 1973). In the suggested system, they are neither the clients nor the ones who pay the above-mentioned companies. Instead, the criminals/law-breakers are the clients of the police and pay for its services.

In the anarcho-capitalist civil law market of judiciary/arbitration services the private property owners are the clients who pay for services directly or indirectly (to an insurance company) at first. They are either compensated for their expenses by the opposite side when it has lost the lawsuit or the insurance company covers their court fees, respectively (Tannehill 1970; Barnett 1998). In criminal proceedings, the clients of the court are the defense or insurance companies involved. When they win the case, they would also be compensated for their expenses (Tannehill 1970; Friedman 1979). It is evident that the private property owners pay for the work of the court in all cases, be it directly or indirectly, through having paid the defense/insurance companies beforehand. In contrast, in the suggested system the private property owners do not pay at all. Those who pay for judicial services are the criminals/law-breakers.

In anarcho-capitalism the prison system (also called "debtor's workhouse") is organized in such a way that the defense/insurance companies are the clients of the prison services because they are the ones who determine what these services would be. Prisoners do not have any choice or have a limited choice in deciding which prison they would be placed in, how they would work, and under what conditions they would work and live (Benson 2014). The fact that prisoners have the option to work while serving time does not make the prisoners into clients. Yet they are the ones who pay for prison services. So, in anarcho-capitalism, the private property owners are generally not the clients and do not pay for prison services. In the proposed system, private property owners are similarly not the clients and do not pay. Instead, the real clients who pay for prison services are the criminals/law-breakers.

This is the fundamental difference between anarcho-capitalism and the suggested social system. In anarcho-capitalism, the private property owners are typically the clients of private property protection services and pay for them directly or indirectly, although in some cases for a limited amount of time. In the proposed system, the criminals/law-breakers are the clients and they pay for private property protection. The latter is accomplished by making them a party to the market transactions involving the police, courts, and prisons. Because a defining characteristic of anarcho-capitalism is that private property owners are required to pay for their own protection, then the suggested system is fundamentally different from anarcho-capitalism. Under anarcho-capitalism, people would not pay only if the private protection companies fund their costs themselves, which could only happen with a 100% conviction rate, not possible in practice. The suggested law-enforcement structure does not require a 100% conviction rate in order to exist.

From another point of view, the difference between anarcho-capitalism and the suggested system is that, whereas in anarcho-capitalism the right to pursue justice typically

belongs to the particular private property owner being affected, in the suggested system this right belongs to society. Every company or individual in the suggested system has the right to pursue justice for profit. The latter point will be elaborated later.

Another seemingly small but actually significant difference is the following. In anarcho-capitalism people could be compensated for their expenses for private property protection. For instance, if a private property owner wins a case against another one, then the latter will be required to pay the former his expenses for court and legal fees. It must be stressed, however, that "being compensated" and "not paying at all" are two differing concepts. With "compensation" one must have the money in the first place, then live without it during the court procedure, and only when the court has found the defendant guilty can the prosecuting side get its money back. In other words: one must possess some free capital, live without this capital for some time, and then restore his original capital position. Assuming that one has this money available (which can never be guaranteed in practice), one is denied the possibility to use it productively for some time. Money has a price and it is reflected in the interest banks charge on their loans. In comparison, the suggested law enforcement system does not require from the private property owners to possess any capital, and in such a way never prevents them from using it (if it is available) for productive purposes.

An interesting consequence of the suggested system is that one gets his freedom "for free." In anarcho-capitalism, one obtains freedom through paying for a service, but in the suggested system, the ones who use police and court services are the criminals themselves, not the private property owners. In effect, freedom is a byproduct of "servicing" the criminals. It is the result of a market transaction to which private property owners are not a party. One gets his freedom without asking for it, which is exactly what the definition of a basic human right is, a right which is yours just by virtue of your existence.

3. ECONOMIC CONSIDERATIONS

Paying for the protection of one's private property in any way has negative economic implications. It amounts to a waste of resources that could have been better utilized elsewhere.

By committing a crime against private property, the criminals force the productive part of the population to spend money just for securing what it has. In effect, the money for burglar alarms, fences, etc., could have been used to further improve one's life, either in the form of investments in new goods/services or for personal satisfaction. Just as an example: Buying a lock for your house does not make your life better; it prevents it from getting worse. You could have bought an item of aesthetic value instead, which in itself would have made your life richer/more enjoyable, or you could have saved/invested the money in order to obtain a future benefit.

In the same way, the money spent for police services in anarcho-capitalism is a forced expense on the part of the private property owners, and this expenditure translates into a slower rate of capital accumulation/economic growth. Paying for private property protec-

tion makes perfect sense when there is no way to avoid it because people would be worse off without it, but not so much when the alternative not to pay exists. The latter is what the suggested system offers.

From an economic standpoint, the suggested system would amount to a transfer of economic resources from counter-productive hands into productive ones. The system would punish the people who subvert society without burdening the productive part of the population by forcing it to pay for prisons, for instance.

4. SYSTEM ORGANIZATION

PREREQUISITES

A necessary and sufficient condition for the suggested system to function is the existence of a pre-established, monopolistic body of law governing a certain land area, whose sole intent is to ensure the protection of private property.

The standard anarcho-capitalist proposal with respect to the organization of the law system is the polycentric law, namely when several law systems exist in parallel in the same geographical area (Barnett 1998; Friedman 1979). In order to prove that polycentric law is better than its monopolistic counterpart, authors typically draw a comparison with the existing structure of the law, i.e., the monopolistic law imposed by the state through the initiation of force. From this comparison, they derive the conclusion that the polycentric system would be superior to the existing one. What seems to have been neglected is the fact that monopolistic systems can exist without the state or in general without initiating force. The typical example is the so-called market monopoly, namely, a monopoly created by the free market itself. In the same way, the existence of monopolistic laws does not contradict the free market. There is a way that a monopoly of law can exist without the initiation of force. This can happen in the following way: A land owner is a private property owner and, as such, he is entitled to decide how to use his property (land). The latter, however, also includes the rules which are valid within it, the rules which the people living on this piece of land must obey. A good analogy can be drawn with our own homes. In our home, we have the right to determine who enters, stays, how our life goes, etc. Therefore, private property owners have the right to determine the laws which are valid on their land. If said right was denied to them, this would mean that their land is not theirs, i.e., that their property is not actually private.

However, private property owners may decide that they prefer monopolistic laws and there is nothing to be done about it if the initiation of force is banned. Similarly, there is nothing which can or should prevent private property owners from joining their lands with those of other owners who share their views with respect to what laws they wish implemented on their property. However, a common set of laws over a given land area forms a jurisdiction.

From an economic perspective, it is beneficial for private property owners who share the same views in regard to laws to join their lands because the latter increases the size of the market they jointly control. Economies of scale could be achieved in this way. In other words, the market forces would stimulate private property owners with similar views to create jurisdictions of their own (societies/communities) with laws corresponding to their wishes.

Non-owners who wish to live in such a jurisdiction would have the option to either live there and accept the laws or leave the jurisdiction. The latter would lead to the creation of homogeneous societies because only the people who agree (or at least accept/tolerate) the imposed laws would remain in the particular jurisdiction.

Thus, the existence of monopolistic laws and homogeneous societies supporting them is not proscribed by the rules of the free market. It should be noted, however, that law creation would have market implications. Landowners would not be free to impose whatever laws they feel like because people would leave their land if they disagree. Private property owners need people on their land because otherwise there would be no one to produce goods and services. From an economic standpoint, landowners would be dependent on the people living on their land. This would ensure that the landowners in a jurisdiction could create laws only if these laws correspond to the views of a large enough group of people wishing to live under them. In such a way, different homogeneous societies based on culture, language, faith, race, lifestyle, etc. can be formed. As demonstrated, the formation of such societies does not contradict the rules of the free market. On the contrary, this means that monopolistic laws can exist without a state, i.e., without the initiation of force.

From this point of view the prerequisite for the existence of the suggested system, namely the existence of monopolistic laws, is fully justified. It should be noted that under monopolistic laws one can ban anything (e.g., guns or drugs) without initiating force simply because all land would be private. The laws created to ban a particular activity, whatever it is, would reflect the preferences of the people who live under them. Thus, laws would be based on the market.

POLICE

As discussed, in anarcho-capitalism the clients of the police/defense companies are the private property owners and they are the ones who pay for police services (directly or indirectly) by buying private property insurance. In the suggested system, the clients of the police are the criminals, who are the ones who pay for police services.

Organization of the police and its consequences

In the proposed system, the police would finance itself from and by the act of fighting crime. In particular, when the police capture a suspected criminal, it would send him to court to be sued. If the court finds the defendant guilty, then it would make him pay a market-determined price for the expenses incurred by the police. In this way, we guarantee a direct correlation between the level of criminal activity and the quality/quantity of the police. The latter would ensure that the size and organization of the police forces would correspond to

the actual protection needs of the society. In societies with high criminal rates, the police force would be large and well-organized because there would be more money to be earned there, but where crime is almost non-existent, the police forces would be barely noticeable. Basically, the volume and severity of crime would determine, with the help of market forces, a police system of the right size and organization necessary to counter such crime.

The proposed system allows for the existence of many competing police forces, as in anarcho-capitalism. However, since in our case the police would have different clients (the criminals), some differences in the way the police forces operate would emerge. The most notable one would be the lack of the specific conflict between private police organizations which is inherent in anarcho-capitalism. In anarcho-capitalism, two police forces could have opposing interests if the client of one of them commits a crime against the client of the other, and this could potentially lead to an aggressive confrontation between the two police forces (Rand 1964, ch. 14). Moreover, the police under anarcho-capitalism would frequently find itself in a conflict of interest. This would happen when one of its clients perpetrates a crime against another of its clients. The problem is that the police would have to arrest a person from whom it obtains money for protection (Nozick 1974). Under the suggested system such specific problems among the competing police forces would not exist because the interests of their clients (the criminals) cannot clash like they do under anarcho-capitalism. The reason is that the offenders do not have the right to choose who will serve them and how. They can be served by any police force which manages to capture them.

The structure of this branch of the economy would be the same as the ones in the rest of the economy. This would ensure that the general conflicts between the different police forces and the way these conflicts are resolved would be the same as everywhere else. If conflicts arise (for instance if two police organizations argue with each other over who has captured a particular criminal), a court would resolve these conflicts. If a police company refuses to go to court and accept the court's decision, then it becomes a law-breaker. The reason is that there are laws which specify explicitly what behaviors are allowed and what are not. As a comparison: in the standard anarcho-capitalist system there are no compulsory laws valid for everybody; therefore, a defense company which does whatever it wishes is not necessarily a law-breaker. In the suggested system, if a police company commits a crime, it would be opposed by the whole of society because this society is a homogeneous one. Moreover, it would represent a valuable asset to capture legally for competing police companies. Under such circumstances, an aberrant police company would not be able to withstand the pressure of its competitors and society as a whole for the simple reason that, in order to function, it requires society's support. Such a situation cannot occur under anarcho-capitalism because a police company is not necessarily opposed by the whole society there.

Even if a police company is a market monopoly or the dominant force, it would not be able to break the laws with impunity. Such a situation cannot happen in a homogeneous society. The contemporary police force can be given as an example. It functions in a society where the vast majority of people supports its way of operation and organization. The police are an absolute monopoly, but it dare not overtake the power of the state or reject the decisions of the courts. From this point of view, the temptation for a police company in the

suggested system to drive its competitors out of the market using force would exist as in any other branch of the economy. However, a police company would not be able to act on it for the same reason that prevents competing companies in the other branches of the economy to drive their competitors out of the market by initiating force. There would be sanctions which would make it behave accordingly.

The existence of anarcho-capitalist style protective agencies would be possible, but they would most probably be confined to market niches where clients require specific services (e.g., a personal bodyguard). It would be practically impossible to charge prices for something which one can get for free by the common police.

Because of the suggested structure of this branch of the economy, it would be impracticable to bribe the police. First, the police are not a monopoly, and second, all police forces are interested in capturing all criminals. In effect, one would need to bribe all police forces and probably a large portion of the general population to avoid being arrested for a crime.

Since conflicts between the police forces would be resolved in court, the police companies would not be forced to cooperate with each other in order to resolve them. The latter shows that the suggested police organization is not a network industry. From this point of view, the criticism in Cowen (1992) that the police in anarcho-capitalism is a network industry, and this by itself may lead to collusion between the police forces, does not apply to the suggested system.

Motivation of police

It would be guaranteed that the motivation of the police would be exactly the same as with any other free market sector. In comparison: In the current social system, the police are not motivated to do its job well because there are no standard market-driven incentives. The income of the police is independent of the value of its services; furthermore, it does not bear full responsibility for its actions. Such a situation allows the police not to do its job well and yet not to suffer the full weight of the consequences. Again, in comparison: In anarcho-capitalism, the police are motivated to do its job well, but its motivation is determined not by the level of criminal activity, but by the subjective perceptions of its clients. The police would be more concerned with ensuring that the subjective needs of its clients are satisfied than with objectively persecuting criminals. It would be more important how its actions are perceived by the society than by how much work it has done. In other words, because the police serve private property owners, it would try to satisfy their interests and this would make it efficient from a market point of view, yet this not the same as being efficient in fighting crime. The problem is that the general population would be able to influence how the police does its job, which is wrong because the general population is not an expert in capturing criminals. It lacks the necessary skills and experience. An apt analogy would be for the general population to instruct a surgeon on how to perform brain surgery. Let us illustrate this general problem with an example. Since how much money the police would get would be dependent on the number of private property owners who subscribe to its services and on their willingness to pay, the police would make sure to persecute more vigorously those criminals that have achieved more media attention. The capture of a notorious criminal, for

instance, would bring much more money to their coffers than that of an unknown gangster who has committed similar crimes. Objectively, however, the two cases are identical and should be treated in the same way, which would not happen. Again: in anarcho-capitalism, the motivation of the police forces would be extremely subjective, which is not as effective as we would wish.

Let us now try to evaluate the motivation of the police in the suggested system. The motivation of the police would derive from the crime itself without any intermediary. No preference would be given to conspicuous cases unless the general population is willing to pay for them additionally. The latter would give the people the chance to express their preferences about "seeing justice done." Still, typically the only parameter which would be of importance would be the type of crime, big or small, because this would have a direct impact on the money to be obtained from it. The police would try to be as efficient as possible and would not let the rest of the population dictate how it does its job, just as any company would do. If there is a public gathering, the police in the suggested system would do its best to assess the number of policemen necessary to guarantee the safety of the crowd and deploy just the number needed. In anarcho-capitalism, the number of policemen sent to safeguard the same gathering would likely be much higher than necessary since it would be of an extreme importance that the police presence be noticed by the public and appreciated. In effect, the suggested police organization would adjust objectively to the actual crime protection needs of the society, not to its perceived crime protection needs, as in anarcho-capitalism. This would guarantee efficiency, which is what every market-based company strives to achieve.

Since the police would be motivated by the income it obtains from criminals, it would be on the lookout for new crimes. It would try to anticipate them, predict them, and be where it is necessary in order to capture the criminal. For instance, if there are parts of the city where more crimes happen, then there would be more police there. The simple reason is that there would be more work for the police to do, and consequently, more money to be earned. Thus, the preventive function of the police would be preserved in the suggested system. What is more, the motivation to prevent would be stronger than the one in anarcho-capitalism. In anarcho-capitalism, the police forces are mainly interested that their own clients are not hurt by criminals, not that non-clients are not hurt. Therefore, criminals who commit crimes outside the region of control of the particular police force would not be of immediate interest to the defense company. In the suggested system, all police forces are interested in capturing all criminals independent of where or against whom they commit crimes. In this sense, the interests of all police forces are the same. In anarcho-capitalism this is not the case.

Functioning of the police

When a crime is committed, the police would do its best to find the criminal since this would bring it income. In order to get money from a potential criminal, the particular criminal case would have to stand trial, which in turn means that the evidence the police collected would need to be good enough to result in a conviction. Because the police would

incur significant expenses for capturing the particular defendant/criminal, for keeping him in custody, and for hiring the services of an attorney to sue the defendant in court, it would have to be convinced that the case it has would stand in court. Because if the defendant is acquitted, then the police would not be able to recover its expenses. What is more, if the court does not convict the person detained by the police, the police would have to pay for all court services and for the attorney fees of the acquitted. This would guarantee a responsible action by the police. It would not be tempted to arrest people on insufficient charges because such charges would not be accepted in court. So, the police would bring a case to court only when the evidence it has is solid. What would happen is that the police would take responsibility for its wrong decisions, just as every other private company in the economy, by paying for them.

However, if the defendant is found guilty, the police would be compensated for its work by collecting a certain price for its services from the convicted criminal. This price would be determined by market forces and would correspond to the severity of the crime. (The mechanism will be explained below in the discussion on the way the court system functions). However, since the price for the particular crime would correspond to the severity of the crime itself, the police would have indicators as to what is more or less important to the market. In short, police work would be driven by the market system. Crimes such as murder would have a high price tag; therefore, they would be high on the priority list on the police. On the other hand, crimes such as shoplifting would be quite "cheap," although they may be much more numerous, and consequently they would be of a lower priority for the police. In effect, the market would guide the police in its actions.

Because the police would get paid only when the court convicts a particular person, there would always be a temptation to plant evidence in order to ensure a conviction. The problem is that by doing so, the police itself becomes an outlaw. Such an act would attract the attention of the competing police forces because it would be a potentially lucrative opportunity for them. The already-convicted criminal would always have the opportunity to claim a wrongful conviction because of false evidence. The last option would surely minimize all attempts for planting evidence, although it cannot eliminate them entirely.

Due to the desire of the police to minimize expenses, it would never keep a suspect in custody longer than is necessary to organize a trial. Still, if deemed necessary, the maximum length of detention could be codified in the legislation governing the police.

To be able to sue the criminal successfully, the police would have to hire the services of an attorney. The defendant himself would also be able to get an attorney who will be paid after the court has come to a decision (i.e., the "loser pays" rule would apply). In case the defendant is acquitted, he would not pay at all. The police would have to pay all the expenses. However, in case the defendant is found guilty, he would have to compensate the police and pay all court and attorney fees.

The money to compensate the police would have to be obtained, as already suggested, from the convicted criminal. This money could come from the criminal's savings, from sale of personal property, bank loans, private interest/charity organizations, relatives, and, last but not least, from the criminal's future work in jail. The convicts would be allowed (but not

forced) to work while in jail to repay any debt they have incurred. In case the criminal cannot pay the police immediately, the police would have the right to collect money from the criminal's future income. If the convicted criminal has no property and very little earning power, he may be forced to pay for a long time, possibly until the end of his life.

A typical problem which would arise is that some relatively poorer criminals/law-breakers may not be able to pay what they owe immediately, which could potentially lead the police to persecute richer ones more vigorously. The latter, however, is not a real problem when people who cannot pay immediately are required to pay the current market interest rate on the amount of money they owe. In this way, from a market perspective, the money which was supposed to be obtained now would be equal to the money to be obtained in the future. Thus, it would be immaterial if the persecuted is rich or poor.

A question which might be asked is how the costs for the preventive measures and for the unsuccessful prosecution would be funded. Since the aim of the author is to make the structure of this branch of the economy the same as any other one, then these expenses must be funded in the usual way this is done by the market. Let us take as an example a private company for public transportation. In order for the company to remain profitable, it is necessary that its revenues surpass its costs. What is not required is that every transaction it makes be profitable. It is accepted as something natural when some of the bus routes the company offers do not pay themselves out. After all, nobody can predict the behavior of his clients. Some trips can be almost empty. Do companies charge higher prices in such circumstances? Typically, no. What companies do is to raise their general price level so that their losses on these routes be compensated by the successful ones. Similarly, in the suggested system the police would raise its expected price for successful prosecutions so that it can stay profitable. From another point of view, every company in a free market must pay for its mistakes (since a case in which an apprehended person is not convicted represents a mistake by itself.). The latter guarantees that the company stays vigilant and tries to avoid such situations. From this point of view, if one raises the argument that the size of the punishment must fit the particular crime, then one must explain why, in practice, equivalent situations must not happen in the other branches of the economy.

LAWS

The laws in anarcho-capitalism are based on restitution (Tannehill 1970; Barnett 1998; Benson 2014). It is correct that in order to protect the private property rights, restitution for loses is necessary. Furthermore, it is pointed out that in the current social arrangement, i.e., when a guilty person is kept in jail at the expense of society, one cannot guarantee the compensation of the victim (restitution). Because of this, it is suggested that criminals should work off their debt in prisons (also called "debtors workhouses" or "work facilities"). It is argued that the function of deterrence (i.e., disincentivizing future criminals) would be better implemented by means other than the punishment of prison confinement.

What seems not to be considered is that if punishment for deterrence purposes is intended, it can be implemented in the same way as restitution, i.e., when the inmate pays for his stay in jail by working there (or by using his savings). In this way, punishment can

be given without burdening society. In this sense, it does not contradict private property rights because no force is initiated. In short: the existence of laws based on punishment by incarceration is entirely acceptable. The issue of the effectiveness of these laws, as discussed in Barnett (1998), will not be considered here.

Laws based on retribution as a form of punishment and as a right to which the victim is entitled (Rothbard 1998) are not compatible with the principle of non-initiation of violence because retribution on a personal level cannot be applied according to an objective criterion. Retribution means, in effect, that people would take justice in their own hands and would be sued and punished afterward if they have not performed it properly. The real problem, however, is that if one makes a mistake, this would mean that society approves of violence initiation. In effect, no attempt to stop the initiation of violence would be made, but responsibility would be taken afterward. Being wrongly punished, however, is of little consolation to the injured party after the fact. As an example: The wife of a particular man has been murdered. Believing to know who the perpetrator is, her husband kills the suspect (performs retribution) who later turns out to have been innocent. The husband was not able to objectively assess the situation because he was grieving at the time and looking for somebody to punish in order to alleviate his suffering. However, an innocent man has been killed, and this has been allowed because it has not been discouraged beforehand. In general, no objective criterion for assessment of the situation can be applied when the victim is allowed to take justice in his own hands. In effect, by accepting retribution on a personal level, one accepts the initiation of force.

Another problem with retribution as a victim's right is that it cannot guarantee an end to the circle of violence. If some of the parties involved believe they have been wrongly punished, the conflict can go on forever.

Laws based on retribution as a right vested in the particular community seem to be compatible with the principle of non-initiation of violence. As they are applied by the community, it would be possible to put an end to the initiated violence. It can be argued, however, that such laws would be ineffective from an economic point of view. Retribution in general represents a destruction of resources available to the particular economy which could otherwise have been used to productive ends. As an example: killing a convicted murderer does not help economic development because he will not be able to contribute to the division of labor with his work. Letting him work in jail while serving his sentence there would, however, achieve that end. In addition, it should be noted that killing someone as a punishment for murder could prevent him from paying restitution to his victim's family.

All of the above leads to the following suggestion: laws should be based on restitution and punishment without retribution (for deterrence purposes).

COURT AND LEGAL SERVICES

In anarcho-capitalism, private property owners may or may not be the clients requesting court and legal services, but they always pay for them directly or indirectly. In the case of civil lawsuits, private property owners pay either directly for court services and may be

compensated afterward if the defendant loses the case, or their court expenses are covered by their insurance company. In both cases, private property owners pay for legal and court services directly or indirectly, even if for a limited amount of time. In the case of criminal lawsuits, it would be either the defense company or the insurance company of the plaintiff that would pay for court and legal services. If these companies win the lawsuit, they would be compensated for their expenses by the opposite side. Still, these companies are initially paid by the private property owners, and consequently, the private property owners pay indirectly for court and legal services.

In the suggested system, the private property owners are not the clients and do not pay for court and legal services at all.

Legal services

Not paying for legal services can be accomplished by organizing the market for legal services in such a way that each crime has a market price. In particular, the suggested system could function in the following way: the alleged criminal is one of the parties to the lawsuit. If he loses the case, he is required to pay a market price to the other party. The latter makes profiting from crime possible. But when crime is a profitable option, private property owners need not pay for the prosecution of the criminal. When the potential for profit is available, there would always be people willing to take part. So, the opposing party in the lawsuit would be the police or law companies (or even private individuals seeking profit). They would strive to win the particular case in order to obtain the associated market price. The latter guarantees that the victim of a crime or a private individual seeking justice need not pay for the lawsuit personally. This would be done by the police/attorney at their own expense. In case they win the lawsuit, they would expect a monetary compensation which would exceed their expenses. As can be seen, in the proposed case the victim/private individual seeking justice is not a client at all and in general is not a part of the market transaction. That is why he would never pay for justice. The defendant (a suspected criminal or a private property owner) would also be able to get a lawyer to defend himself in court free of charge. The latter would happen because the profit incentive would serve the defendant as well. In case of an acquittal, the claimant would have to compensate the attorney of the defendant for his expenses. In case the defendant loses the lawsuit, he would have to pay his attorney for the effort expended in defending him. In addition, the convicted person would have to pay the claimant the market price for the particular crime. As can be seen, the defendant would pay only if proven guilty.

The discussed market mechanism guarantees that people who are victims of crimes do not have to pay anything for legal and court services. In such a situation it is irrelevant how rich or poor they are. The opposite side (the defendant) would also not be obliged to pay anything if not guilty.

Because the prosecuting lawyers would pay for court services and possibly for the expenses of the other party if they lose the case, this would guarantee a responsible handling of all cases. Lawyers would try to estimate if the case they are about to undertake has enough supportive evidence to be won in court.

The number and specialization of lawyers would be determined by the demand of the market. When there is more money to be made by suing potential criminals, more lawyers would enter the profession. Similarly, if the level of crime was low, there would be fewer lawyers on the market because the amount of money to be made would be lower.

Court services

The court system would be a free market one. This means that its size, structure, and the organization according to which it would function would be determined by the market. In order for this to happen, the funding for the court system needs to come from its clients.

In the current social system, judges are paid by the state. The idea behind such a structure is that judges need to be independent of the two conflicting parties. Because of their independence, they are able to impartially judge a particular case. However, what is necessary is that judges be impartial, not independent. Independence of the two conflicting parties is just one way of ensuring impartiality. Another possible way of achieving impartiality is for judges to be chosen by both parties, as suggested by many authors. It follows from the last requirement that judges cannot allow themselves to be partial or even to appear partial toward either of the conflicting parties. If a judge is known to be biased toward one of the parties, he would never be chosen by the other one. In effect, for the judge to be chosen, he would need to be and appear as impartial as possible, as this would be the only way for him to win clients. Since the conflicting sides would be free to negotiate with each other as to who is to handle the particular case, they would have to come to a mutual compromise about the choice of a judge.

In the context of the suggested system, if for some reason the above does not materialize, then the laws governing the particular jurisdiction would have to offer a solution. There may be multiple solutions to this problem and any one of them may be chosen as long as the case reaches the court so that justice can be served. For instance, the judge to hear the case may be chosen at random from a list of prospective judges. The qualifications, number, etc. of these judges may be regulated by the laws or left open. Or a single, well-known judge may be chosen. The number of possible correct solutions is unlimited.

In the proposed system, the manner in which judges are paid would be irrelevant. They may be paid by both sides equally or by the losing party. It is up to society to decide on this. In any case, the judge would be equally dependent on both parties, which would guarantee impartiality.

The suggested court system (the number, qualification and specialization of the judges) would be decided by the free market. This suggests that there would always be a sufficient number of qualified judges to satisfy market demand. If there is a shortage of judges, then the price for their services would rise and this would stimulate new ones to enter the profession. When there is an excess of judges, the prices for their services would go down and some of them would leave the profession in search of more lucrative opportunities. At the same time, the manner in which they would operate and the overall structure of the court system would be as efficient as possible because it would be dictated by market forces. There would be a market demand for judges whose fees are low and whose services are of high quality (a quick, well-justified ruling, for instance).

The task of any judge would be to come to a decision about several distinct problems:

I.) If the defendant is guilty, the judge would have to decide how he is to be punished. Such a punishment is necessary in order to deter future criminal acts. It would have to be completely unrelated and independent of any other payments the criminal would have to cover.

II.) The judge would also have to rule on how the criminal is to pay restitution to the private property owner who has suffered damage as a result of the particular criminal act. The latter is very important because only thus could private property be regarded as private. In effect, what would happen is that the damaged private property would be restored from the criminal's property/funds/future work. In this way, private property would move from counter-productive hands into productive ones. So, aside from being punished (with a jail sentence, for instance) for his crime, the criminal would be made liable for any losses he has caused.

It may be the case that the criminal has caused bigger losses than he can reasonably repay. Such losses would never be compensated in full and should be accepted in the same way as natural disasters such as hurricanes, earthquakes, etc. The latter cannot be avoided in any social system because they are a force of nature. Still, the owner of the particular property must be compensated in the best way possible. This may or may not include for the criminal to pay for his wrongdoings not only while in jail but possibly for the rest of his life.

III.) The judge would have to decide on the monetary compensation to the police/lawyers for the capture, detention, and suing of the criminal. This would entail the formation of market prices for the different types of offences, as explained below.

After the court reviews the case, it would issue a verdict. If the criminal does not comply, he would be persecuted/prosecuted by the police/lawyer companies again for not complying with the court decision. The monetary compensation which would be due for not abiding by the court's decision would guarantee their continued interest. In such a way, the court need only issue a verdict which the market would impose.

An interesting consequence of the suggested organization of the judicial services is the following: In anarcho-capitalism, the private property owners are the clients of the court services. The latter may be a problem in a murder case, when the murdered person has not left instructions in his will on how to handle this particular situation and has no relatives to demand justice or his relatives are simply not interested in prosecuting. Such a problem could never arise in the suggested system of organization because the right to pursue justice belongs to everybody in the particular society/community. There would always be individuals willing to pursue justice for a profit.

Formation of market prices for different types of offences

The court would be responsible for ruling on the remuneration of the claimant for its services if the defendant is convicted. For this reason, the judges would have to balance between the interest of the police/lawyers and those of the convicted. If a judge does not pay the police/lawyers enough to compensate for their expenses and generate profit, he would never be chosen by them. At the same time, if the judge makes the criminal pay too much, he would never be chosen by the particular criminal. This, along with the specific criminal code stipulated by the laws of the jurisdiction, would lead to the formation of market prices for the different types of offences. In effect, the judges would be an active party to the price formation process. They would have a vested interest that all types of offences defined in the criminal code are prosecuted and, therefore, they would strive to raise the specific prices of the offences so that the police/lawyers are motivated to catch and sue the perpetrators against the particular rule of law. At the same time, however, they would not be able to raise the prices as high as they wish because they would be bound by the competition for clients, in particular for the criminals, who are an active party in choosing the judge for the case. The defendant would surely choose a judge who typically rules low police compensations. Since the profession of judge would be open to new competition, this would by itself limit any attempts to raise prices too high.

It is very likely that the market prices to emerge from this interaction between the police/lawyers, judges, and defendants would correspond to the severity of the cases as defined by the criminal code. At the same time these prices would probably take into account the average costs for solving a particular type of crime. Crimes, such as murder, which would typically require more expenses, would be better rewarded. Judges would make sure that prices outstrip average costs. In effect, the market price for a petty theft would be much lower than the market price for a murder. This would guarantee that the police treat the murder case as the one deserving more attention because of its importance for private property protection. In effect, market prices would prioritize the offences with respect to their severity.

PRISON SYSTEM

A typical anarcho-capitalist proposal on how the prison system could be organized is the following: When and if a person is convicted of a crime, he is sent to a private jail by the defense/insurance company which has successfully prosecuted him in court. In jail, he would have the opportunity to work, in particular to choose among different types of jobs offered at the particular place. By working, the prisoner would be able to pay for his prison expenses and pay restitution to the private property owners affected by the crimes he has committed. It should be noted that the prisoner would support himself. In this arrangement, however, the prisoner is not a client because it is not he who chooses which jail to serve his sentence in. In comparison, in the suggested system the prisoner is both the client and the one who pays for his stay in jail.

Problems and solutions

The anarcho-capitalist proposal leads to several problems. They stem from the fact that since the prisoner is not the client, a prison is chosen for him (i.e., the prisoner has no way to influence the behavior of the prison system).

The first consequence of the above is that prisoners would typically be treated as dependents, not as clients, similarly to the present situation, and therefore they would sometimes be mistreated. Nowadays, the latter takes the form of prison guard brutality and inter-prisoner violence. It is suggested that, because anarcho-capitalist prison guards would be kept more stringently responsible for the brutalities that may occur, this would solve the problem. If the latter actually occurs, it might improve the situation as compared to the current prison conditions, but it could not by itself generate a sustained interest in the prisoner's well-being, as is usual for the clients of all other branches of the economy. Even if the prisoner works in jail and his particular employer is interested in his well-being, this would have no significant effect on the prison system. The reason is that the interests of the prison system and those of the employers allowed to function there may not coincide. The prison system would try to satisfy the interests of its clients, namely the defense/insurance companies, not those of the inmates. In short, because prisoners are not clients, prison institutions would have no vested interest in resolving the above problem by themselves.

From another point of view, the primary purpose of imprisonment is to punish the criminal for his wrongdoings by limiting his access to/separating him from society. Punishing the criminal by subjecting him to bad living conditions has never been the original intent of the law, but this is what happens in reality because the prison system has no motivation to offer adequate and acceptable living conditions. Again, there are no market-induced incentives for this to happen because the prisoner cannot choose the prison and influence the conditions offered there. Similarly, in anarcho-capitalism, the choice of what the conditions in a prison would be is left to the organizations that have sent the prisoner to jail. The problem again is that the interests of these organizations and those of the prisoners do not coincide. The defense/insurance companies would be mainly interested in minimizing their expenses, whereas the prisoners would clamor for improvements in their living conditions.

The suggested system solves the above-mentioned problems by changing the clientele of the prisons. In particular, as clients the prisoners would be able to choose in which prison to go and pay for their stay there in any way they can. This option would significantly change the relationship between prisons and inmates. In effect, the prisoners would become cherished clients to be taken care of because they are the ones who pay for their stay. Prison brutality would be virtually non-existent because prisons would be highly motivated not to allow it. In addition, since the system would be market-based, the quality and quantity of its services would be defined by the market, which by itself guarantees constant improvement and updating of the living conditions.

Similar to the anarcho-capitalist proposal, prisoners would be able to contribute to society with their work even while in jail. Thus, rather than a burden on society, they would be productive citizens.

Functioning of the prison system

In the suggested system, the convicted criminals would be allowed to choose the prison they would like to go to. However, their choice would be limited to just where to serve their sentences, not if. There is no problem if the criminal code defines different classes of prisons with a range of limitations on the prisoner's access to society. The prisoner would just have to choose a prison in the respective class, as given in the judge's ruling.

Since prisons would be dependent on the number and wishes/financial situation of their clients, the number and quality of prisons would be directly determined by the needs of society. If there are more would-be prisoners, more prisons would appear; if less, their number would decrease. The quality of the services in jail would be determined, first, by the criminal code and, second, by the prisoners themselves. However, there would be a general tendency for the prisons to develop and offer modern, cheaper, and better services as any other private company in the market economy. Competition would drive them. If, however, a particular prison is tempted to offer more amenities/freedoms than stipulated in the criminal's sentence, then this prison could be sued by the police for breaking the law. The monetary reward from suing the particular prison would guarantee that the police would monitor the inner workings of the jails.

While in jail, prisoners would have all the rights normal people have except the ones postulated in the particular laws/sentences. The prisons themselves would be motivated to offer everything not forbidden by the ruling of the judge/criminal code.

Working while in jail would be common and ordinary. Still, if a criminal has the funds to support himself in jail by paying for his stay there without working, then this would be allowed. The prisoner would enjoy as much luxury/goods/services as he is able or willing to buy, as long as these are not forbidden under the conditions of his sentence. Working in jail would usually be necessary for the prisoners to support themselves. The market would offer incentives to prisoners in the form of better living conditions so that most of them would willingly choose to work. Work may even be necessary just to repay the debts one has, in particular when one has to pay the police for its services and the compensation for the committed private property violation.

Prisoners would be able to choose prisons matching their financial situation or earning power. Still, it is very likely that some of the prisoners would refuse to work despite being unable/unwilling to support themselves while in jail. Those would most likely be transferred to minimum-amenities jails. Hopefully, when they see the big difference between the lifestyle the working inmates would be able to afford and their personal situation, they would be incentivized to start working. Such minimum-amenities jails would have to be supported by either the prison system itself or by charity organizations, private companies, etc. (i.e., without burdening society). It would be in the prison system's best interest to support minimum-amenities jails for which prisoners do not pay and consequently receive the bare minimum of services necessary for their survival. Experiencing the difference between what one gets without working and the privileges extended to the productive inmates would be a good, market-based incentive to start working and be transferred to a better-quality jail. Criminals too dangerous to be allowed to work and people unable to work will have to rely on the public for support while in jail.

5. CONCLUSIONS

A new system of social organization has been offered. This system conforms fully to Ayn Rand's idea of non-initiation of violence. However, the proposed system differs significantly from the anarcho-capitalist social organization. Here the people who always pay for crime protection are the ones who have caused the problem in the first place. In this way, society would be able to achieve a quicker economic development, since the productive part of the population would not be burdened with expenses for the police, courts, and prisons, and the convicted criminals could be converted from counterproductive actions to productive ones. The proposed system ensures the freedom of its citizens for free, since they never pay for law-enforcement. Freedom in this case corresponds exactly to the definition of a basic human right, namely a right which is yours just by virtue of your existence.

New, market-based structures of the police, courts, and prisons have been offered. The police/law companies would be allowed to finance themselves directly from the criminals. The courts would be able to finance themselves directly from the police/law companies, thus avoiding the necessity of state or private property owner support. The prisons would be funded and chosen by the prisoners themselves. The latter would ensure that the prisons function in full compliance with the principles of the free market.

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