A Certain Quantity of Work to Be Done

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Introduction: 'the nastiest motives of nasty people'

At times, over the last 20 years or so – never mind how long precisely -- I have felt like Captain Ahab in pursuit of the whale as I have wrestled with the so-called "lump-of-labor fallacy." Having finally sized the beast up, I am convinced that the fallacy claim is little more than a "pasteboard mask" behind which, "some unknown but still reasoning thing puts forth the mouldings of its features." That hitherto unknown thing is a theodicy, or, perhaps it would be more accurate to call it theo-*dicey* in recognition of its perilousness.

A theodicy is "an attempt to reconcile the goodness and justice of God with the existence of evil," Jonathan Cook explained in *Inscrutable Malice: Theodicy, Eschatology, and the Biblical Sources of Moby-Dick*. In the case of the fallacy claim, it is not the goodness and justice of God, *per se*, that is at stake but the rationality and benignity of the capitalist system, the "invisible hand" that supposedly impels narrowly self-interested actions to promote the general good of society and the tendency toward equilibrium by means of which prices and quantities of trade "find their own level."

"The great merit of the capitalist system, it has been said, is that it succeeds in using the nastiest motives of nasty people for the ultimate benefit of society." To seek to intervene wantonly in such a divinely-ordained contrivance is thus to exhibit an unseemly absence of faith. Austin Robinson's sarcastic remark, quoted above, is usually mangled and misattributed to John Maynard Keynes, who, to be sure, did indeed comment (half-jokingly?) on the need to "pretend to ourselves and to everyone that fair is foul and foul is fair; for foul is useful and fair is not" and who saw avaricious money-making as a "comparatively harmless channel" for "dangerous human proclivities" that might otherwise "find their outlet in cruelty, the reckless pursuit of personal power and authority" -- as if the two pursuits were mutually exclusive rather than complementary. But we haven't even gotten to that alliterative "paradox of poverty in the midst of plenty" yet.

The lump-of-labor fallacy's alleged -- albeit unsubstantiated -- assumption of a "fixed amount of work to be done" rewords a staple of 19th century classical political economy, the "certain quantity of work to be done" determined by the number of workers who could be profitably set in motion by a previously-accumulated capital consisting of subsistence goods – a "wages fund." Who did or didn't say "a certain quantity of work" or "a fixed amount of work" is the key evidence for or against the fallacy claim and, consequently, the theodicy claim.

The "certain quantity of work" also happens to be symptomatic of the adaptation from religious to secular theodicy. Classical political economists didn't invent a static universe. They inherited it from the same natural law enlightenment of the old Great Chain of Being as their Panglossian optimism. Montaigne's proposition that "one man's gain is another's loss," and Machiavelli's notion of a "fixed quantity of happiness" in the world at any one time are notable specimens, as was Francis Bacon's observation that "the increase of any estate must be upon the foreigner (for whatsoever is somewhere gotten, is somewhere lost)…"

Originally overt and unabashed in the wages-fund doctrine of 19th century vulgar political economy, the static premise has had to go incognito in modern academic economics, masked behind simplifying assumptions, methodological conventions, *ceteris paribus,* dead metaphors, unexamined analogies and reams of "math." Unlike theodicy proper, the political economy dispensation didn't set out to make suffering bearable for the sufferers, but only to yield, all too lustfully, to a temptation whose role as "a component of the self-consciousness of European humanity" must never be underestimated.

Misattributions are commonplace. Often it is simply the assignment of a saying to a historical celebrity because, "who ever heard of Austin Robinson?" Mark Twain, Abe Lincoln, Gandhi, Stalin and Winston Churchill are said to have said many a saying they never said.

Sometimes, though, the intention is to put incriminating words in the mouth of a bogeyman or to burnish an obscure opinion by attributing it to some illustrious personage. In the case of the lump-of-labor fallacy, the false attribution of a fallacious belief to the economically-naïve workers or trade unionists is a disavowal and projection of the economists' own unacknowledged -- possibly subliminal -- convictions about the inherent rationality and

benevolence of the market-deity who cunningly enlists "the nastiest motives of nasty people for the ultimate benefit of society [except, of course, for that obligatory residual of 'poverty in the midst of plenty']."

The temptations of theodicy are formidable. Neither was Marx exempt, with his "dialectical" projection of a revolutionary proletariat, forged in abjection and class struggle. Even the truth, as Ernest Tuveson remarked in a review of Melville's *The Confidence Man*, "is no guaranty of either happiness or freedom." But what we can do is to expose and repudiate the facile satisfactions of the economic pseudo-theodicy we know and to re-evaluate those perspectives that the econo-theodicean orthodoxy has condemned or discounted.

To recap, in this manuscript, I develop the following theses:

1. The lump-of-labor fallacy claim is not a substantive argument but a performative one that disavows and projects the unacknowledged and now illicit founding premise of the economists' own core commitment – sometimes fervent, sometime reluctant – to the intrinsic rationality and benevolence (or at least, "efficiency") of private property and market exchange.
2. This core commitment emerged, along with its accompanying storyline, in early modern natural law political thought from the same mold as rational theodicy with which it shared both its optimism and founding premise of a static universe in which there was a "fixed amount of happiness" at any given time (Machiavelli) and one man's profit was another's loss (Montaigne).
3. The metaphysical "mechanisms" purportedly producing public benefits from private vices, the invisible hand that leads people to contribute to the public good although they have only their self-interest at heart, the process by which the volume of trade and prices "find their own level" – in short, the hypothesis of equilibrium, are deductions from the zero-sum "conservation principle" of a closed system.
4. The defects and pitfalls of rational theodicy have been analyzed, criticized and satirized by philosophers from Voltaire and Kant to Sartre and Levinas, the latter two specifically in the context of the industrially-augmented atrocities of the 20th century. The large

debt of economic thought to theodicy has also by discussed by Joseph Vogl, John Milbank and others. My original contribution is to trace the process of disavowal and projection that has both insulated economics from scrutiny of its hypocritical fealty to a noisily disavowed premise and stymied efforts to establish alternatives to an ethically-bankrupt, intellectually-moribund status quo.

5. Maurice Dobb and Robert Hoxie are two economists who defended the positions that mainstream economists derided as fallacious. Ira Steward's eight-hour theory was disparaged by the orthodox. Although Sydney J. Chapman's theory of the hours of labor was at one time considered canonical, it too was unceremoniously substituted by a view more congenial to the mathematical modeling of mid-20th century macroeconomics.
6. Building on the insights of these authors -- and of Marx, who explicitly rejected vulgar political economy's "so-called labour fund" – I have proposed the perspective of labor power as a common-pool resource. From this perspective, In the final chapters, I analyze how long hours of work "immiserate" workers subjected to them and how progressive reduction of the hours of work might be used as a policy to reduce greenhouse gas emissions and thus combat climate change.

In The Not Too Distant Future

In the early days of the 1956 presidential campaign, U.S. Vice President Richard Nixon envisioned the achievement of a four-day, 32-hour workweek in the "not too distant future." Sixty years later, the average workweek in the U.S. for full-time workers was 42.5 hours. Seventy percent of all employed persons worked 40 hours a week or more.

Nixon was not the only visionary to misjudge the future of working time. In the 1930s, John Maynard Keynes had famously speculated about a 15-hour workweek as an economic possibility for "our grandchildren." Towards the end of World War II, he offered a more modest, but more imminent opinion that a 35-hour workweek would be appropriate for the post-war U.S. economy.

In 1954, *Fortune* editor Daniel Seligman predicted a 32-hour workweek by 1980 – or sooner if workers chose to take a greater portion of their share of productivity gains in leisure rather than income. The First National City Bank of New York calculated in 1957 that it would take 31 years to achieve a 32-hour workweek, assuming the same mix of income and leisure as had prevailed from 1909 to 1941. Alternatively, a four-day workweek could be attained in eight years if productivity gains were applied exclusively to work time reduction. Four years later, economist Clyde Dankert suggested 1980 as the date by which "the thirty-hour workweek should be widely established and some progress made toward the twenty-five-hour week."

As it turned out, from 1954 to 1989, annual productivity gains averaged 2.1 percent a year. Assuming 40 percent of actual historical productivity gains, ten paid holidays, and four weeks annual vacation, a 32-hour workweek should have been realized by around 1990 – leaving aside the likelihood that progressive reductions of the hours of work could have accelerated productivity gains. Edward Denison estimated in the early 1960s that approximately ten percent of the productivity gains in the first half of the twentieth century could be attributed directly to the reduction of hours. So, adding in a ten percent productivity boost from worktime reduction itself, a 32-hour workweek could have been achieved by 1984.

Why those reductions didn't materialize is a riddle that perhaps will never be completely solved. One element that must have contributed to that outcome, though, is the peculiarly ambivalent attitude of economists toward work time reduction. On the one hand, as the plethora of predictions suggests, economists were confident that reductions would occur virtually automatically. Many affirmed it would be a good thing, too. On the other hand, economists almost unanimously expressed misgivings or outright hostility to policy initiatives that would mandate shorter hours – whether through legislation or collective bargaining. Suspicion of shorter work time *policy* enjoyed a rare and unholy consensus among both interventionist liberals and laissez-faire conservatives.

Two significant facts are concealed by the economists' curious unanimity. First, that shorter working time is an unequivocally good thing for workers and second, that most employers tend to resist work time reductions like the plague, making the spontaneous reduction of working time highly unlikely and the imposition of shorter working time by policy an imperative for achieving reductions. These are not the opinions of radicals or crackpots but the conclusions of theory and empirical research conducted by economists of the first rank.

In 1902, the report of the U.S. Industrial Commission concluded that "reduction of hours is the most substantial and permanent gain which labor can secure." It went on to explain that a wage increase "can readily be offset by secret agreements and evasions… but a reduction of hours is an open and visible gain and there can be no secret evasion." The report also observed that "strenuous objections and alarming predictions" have been the inevitable reactions to demands for shorter hours "but after a very brief period of trial these objections have disappeared."

Thirty years later, John Hicks reiterated that historical experience offered "no ground for supposing that the reduction takes place at all easily." The reduction from the long hours worked during the industrial revolution had been achieved "mainly by State regulation and Trade Union Action" over the objections of employers, to most of whom it was inconceivable "that hours could be shortened and output maintained."

By the 1930s, the case for shorter hours had been vindicated – at least among leading economists. Sydney Chapman's 1909 theory of the hours of labour was acknowledged as canonical by leading economists. It was no long necessary, assured Lionel Robbins in 1929, "to combat the naïve assumption that the connection between hours and output is one of direct variation, that it is necessarily true that a lengthening of the working day increases output and a curtailment diminishes it."

Up until 1957, labor economics textbooks concurred with Hicks's view that reductions in hours were gained by trade union pressure, either directly through collective bargaining or by legislation promoted by organized labor, as Stanford economist John Pencavel recently observed. Following publication in 1957 of an article by H. Gregg Lewis, "Hours of Work and Hours of Leisure," however, there was a "radical change in economists' thinking about working hours." Subsequent textbooks echoed Lewis's empirically-unsubstantiated hypothesis that workers freely choose their hours, based on their individual preferences for income or leisure.

On the final evening of the 1960 U.S. election, Nixon, then the Republican candidate for President was asked what his stand was on the 32-hour workweek. "Well," he replied, "the 32-hour workweek just isn't a possibility at the present time." Nixon continued,

> I made a speech back in the 1956 campaign when I indicated that as we went into the period of automation, that it was inevitable that the workweek was going to be reduced, that we could look forward to the time in America when we might have a 4-day week, but we can't have it now. We can't have it now for the reason that we find, that as far as automation is concerned, both because of the practices of business and labor, we do not have the efficiency yet developed to the point that reducing the workweek would not result in a reduction of production.

There is a faint echo of 1930 Keynes in 1960 Nixon's "we can't have in now" deferral. A few paragraphs after making his prediction of a future 15-hour work week, the renowned economist cautioned,

> But beware! The time for all this is not yet. For at least another hundred years we must pretend to ourselves and to everyone that fair is foul and foul is fair; for foul is useful and fair is not. Avarice and usury and precaution must be our gods for a little longer still. For only they can lead us out of the tunnel of economic necessity into daylight.

Nearly ninety years later, must we still pretend that "fair is foul and foul is fair"? Are avarice and usury truly leading us "out of the tunnel… into daylight" or are they dragging us ever deeper into an abyss of debt, inequality and degradation?

"No idea so groundless and absurd"

The oddest form taken by economists' objections to legislated reductions of working time was appeal to an alleged "lump-of-labor fallacy" that was supposedly the “idea behind” proposals for shorter working time. It is a bewildering expression. "Labor" usually refers to labor supply while the *demand* for labor is typically called "work" or "jobs." But in the case of the fallacy, the lump refers perversely to a supposedly fixed demand for labor. This lexical muddle is customarily brushed away with an inevitable supplement about the fallacy being a belief in a "fixed amount of work to be done."

The lump-of-labor fallacy is often cited in connection with debates about regulating the hours of work, pensions, immigration, automation and trade. Sometimes it appears under an alias: the lump-of-work or lump-of-output fallacy, the Luddite fallacy, the zero-sum fallacy, the fallacy of the fixed Work-fund or the image of limited good. Closely related to this fallacy are the mercantilist fallacy (or just plain mercantilism), Malthusianism, systematic soldiering and restriction of output.

It is convenient to distinguish between the alleged fallacy, the fallacy *claim* and a simplifying assumption. If I assume, as a fact, that the amount of work is fixed, I commit the fallacy. If I say that you assume a fixed amount of work, I make a claim. It is also common to provisionally assume a fixed amount of work, for the sake of argument.

There are two distinct parts to the fallacy claim. The first attributes a belief: the lump of labor is a "belief so firmly entertained by a large section of our working-classes." The second part identifies what the alleged belief is: that "there is a certain fixed amount of work to be done, and that it is best in the interests of the workmen that each shall take care not to do too much work, in order that thus the Lump of Labour may be spread out thin over the whole body of work-people."

Rarely do fallacy claimants present evidence for the belief. When they do, it is almost always a circular and conjectural, based on the formula "if they advocate x, that implies they believe y."

For example, in *Economic Principles*, A. W. Flux wrote, "a labour doctrine of a definite amount of work to be done… is the distinct implication of the theory, that an effective way to provide for the unemployed is for every man at work to decrease the amount of work he does, or the number of hours he works."

Instead of supporting the assertion of a belief, or *implied* belief, with evidence, fallacy claimants typically focus on why the amount of work to be done is not fixed, a matter that is hardly in dispute. Often fallacy claimants are not content to establish that the amount of work is variable but insist hyperbolically that it is "infinite" or that employment expands proportionally to labor supply.

"Lump" is a recurrent term in Cockney slang. "The lump" or "lump hotel" refers to a workhouse. "Lump o' lead" is rhyming slang for head. The expression, "lump o' labour," appeared in dialogue in an 1843 novel by John Mills. The characters were a "mud lark" and his son -- scavengers who searched the banks of the Thames for stray items that could be used or sold. The father used the expression to refer to an expenditure of effort for which a proportionate reward was due. The expression "lump work" refers to subcontracted labor, typically in building construction or longshore work, which is let out in an allotment to be divided up between a number of workers and hours per worker by the subcontractor.

David F. Schloss, who coined the phrase, "theory of the lump of labour" in 1891 had been an investigator in Charles Booth's study of poverty in London. He evidently borrowed the phraseology without a great deal of concern for fidelity to its original reference. Presumably the point of appropriating a picaresque term from the "lower orders" was to signal benign condescension rather than to promote terminological clarity. Schloss's "theory of the lump of labour" was not an actual theory. It was a mock theory conceived to fill the void left by behavior or statements that did not conform to the orthodox theory subscribed to by the critic.

Although he coined the expression that has become a standard label, Schloss did not invent the fallacy. Nor did it originate with Alfred Marshall, who called it the "fixed Work-fund fallacy" in his 1890 *Principles of Economics* – an allusion to the recently discredited wages-fund doctrine of

classical political economy. In the late 18th century, the Lancashire magistrate, Dorning Rasbotham, reproached unnamed culprits who, according to Rasbotham, avowed the false principle that there was "a certain quantity of labour to be performed." A century earlier, Sir Josiah Child had enumerated twelve "common proverbial errors," the sixth of which was "We have people enough, and more than we can employ."

While it is plausible ordinary people may have crude notions about economics, it is less so to suppose that they formulate such notions into pseudo-theories with axiomatic assumptions. It is even less likely that such picaresque pseudo-theories were "widely-held." If the notion had been widespread among workers or unions there would presumably be published evidence of it in political tracts or newspapers. Extensive full-text searching of 19th century historical newspapers and monographs reveals nothing of the sort.

The implication of this zero-sum principle is that "one man's profit is another's loss," as Michel de Montaigne put it in the title of a 16th century essay. Montaigne referenced a first century account by Seneca, who in turn probably picked up the expression from Publilius Syrus's adage, *Lucrum sine damno alterius fieri non potest* -- "Profit cannot be made without another's loss." Obviously, the idea is much older than British trade unions.

The antithesis to the alleged fallacy is an argument, commonly called Say's Law, that supply, in effect, creates its own demand. That is not exactly what Say wrote nor did he originate the argument. There is considerable controversy about the interpretation of the principle, with many defenders arguing for greater nuance than the adage suggests. Whether “supply creates its own demand” is the antithesis or a corollary of “one man’s profit is another’s loss” is subject to interpretation. The essayist William Hazlitt remarked that Montaigne's essay, "nearly anticipated Mandeville's celebrated paradox of private vices being public benefits…"

The affinity between these presumably antithetical maxims may be more than superficial. The notions that one man's profit is another's loss and that there is a certain quantity of work to be done and a certain number of workers to do it were part of the primordial soup of early modern political thought out of which political economy evolved as a distinct discipline. Those

who scooped the first ladles from that soup were subsequently scorned as "mercantilists." Classical political economists disavowed and disdained parts of the mixture while retaining others. But such conceptual sifting is more fraught with snares than it may appear to those who think they are doing it. The various ingredients of the soup often were systematically inseparable – anti-mercantilism often tacitly assumes the same principles it explicitly disavows.

Furthermore, the process of explicitly disavowing an assumption that is also a hidden premise began before many of the pertinent questions could have been answered empirically. It was only in the mid-1820s that governments began to publish systematic social statistics of any description, yet already in 1827, the political economist John R. McCulloch proclaimed the soundness of Dorning Rasbotham's 1780 assertion and concluded, definitively, "There is, in fact, no idea so groundless and absurd, as that which supposes that an increased facility of production can under any circumstances be injurious to the labourers." McCulloch's adamant rejection of any disagreement was symptomatic. Not only was the idea groundless and absurd but it was the *most* groundless and absurd idea.

As unyielding as McCulloch's claim may seem, it still can be upheld as a sort of high-water mark of intellectual integrity for the lump-of-labor genre. Unlike most of his successors, he cited a source! He offered estimates – however conjectural – to support his claim. Most instances of the fallacy claim are content to cite unspecified "economists" as their authority, untold "history" as their data and persons unnamed as the perpetrators of the fallacy. My mission in this book is to supply the missing experts, evidence and suspects so that the reader may better judge the case.

(Most) Economists Balk

In a recent article, "Whose preferences are revealed in hours of work," Stanford economist John Pencavel noted the "radical change in economist's thinking about working hours" following the 1957 publication of H. Gregg Lewis's article, "Hours of Work and Hours of Leisure," Labor economics textbooks published before Lewis's article attributed reductions in hours to pressure from trade unions, either directly through collective bargaining or by legislation promoted by organized labor. The earlier textbooks also addressed the effect that hours of work have on productivity, with reductions in hours usually leading to increases in hourly output and sometimes even to "no decline in total daily output."

In later textbooks, the orthodoxy followed Lewis's explanation that workers choose their own hours, based on their preferences for income or leisure. The connection between output and shorter hours vanished, as did the role of trade unions in achieving reductions of working time and the resistance of employers to shorter hours. But, Pencavel wondered, "If 'employers are completely indifferent with respect to the hours of work schedules of their employees,' [as Lewis had posited] why did employers oppose so resolutely workers' calls for shorter hours?"

In a footnote, Pencavel also mentioned that in Lewis's 1957 model, employers face no obstacle "to replacing shorter hours per worker with more workers." This is an interesting point because many economists' arguments against the employment potential of shorter working time rest on claims that workers and hours are *not* suitable substitutes. That conclusion is reached by smuggling back in the output/hours relationship concealed in a Cobb-Douglas production function with the unheralded (and probably unconscious) simplifying assumption that the current hours of work are optimal for output, so that any reduction of hours would result in a *reduction* of output. The assumptions are, of course, directly contradictory.

Although earlier textbooks and economists acknowledged the connection between hours of work and output, most were silent on the discrepancy -- or at least the magnitude of the discrepancy -- between the hours that would maximize output and those that would maximize worker welfare. Cecil Pigou, Philip Sargant Florence, Lionel Robbins, John Hicks and Edward

Denison treated the output optimum as the economic ideal. Richard Lester and Lloyd Reynolds, authors of institutionalist labor economics textbooks, showed more sympathy to trade union arguments but did not emphasize the discrepancy between the output optimum and worker welfare.

Sydney Chapman clearly distinguished analytically between worker welfare and the output optimum but his presentation was obscured by digressions that dwelt on shift-work as a palliative and on the philosophical necessity of paying more attention to the non-tangible aspects of culture. Clyde Dankert clearly distinguished between the output optimum and worker welfare but raised the objection that although "maximization of worker satisfactions" rather than output should be the social objective, shorter hours would have to be postponed "in view of the current cold war situation." Only Maurice Dobb, in 1938, clearly and concisely stated what was at stake (although he left out the increasing value of leisure):

> ...trade unionists in the nineteenth century were severely castigated by economists for adhering, it was alleged, to a vicious 'Work Fund' fallacy, which held that there was a limited amount of work to go round and that workers could benefit themselves by restricting the amount of work they did. But the argument as it stands is incorrect. It is not aggregate earnings which are the measure of the benefit obtained by the worker, but his earnings in relation to the work he does — to his output of physical energy or his bodily wear and tear. Just as an employer is interested in his receipts compared with his outgoings, so the worker is presumably interested in what he gets compared with what he gives. A man who works longer hours or is put on piece-rates, and increases the intensity of his work as a result, may earn more money in the course of the week; but he is also suffering more fatigue, and probably requires to spend more on food and recreation and perhaps on doctor’s bills.

To compare "what the worker gets" with "what the worker gives" requires above all some way of estimating the value of what is given relative to what is being received. One may even suggest that constructing reliable estimates was the job economists should have been doing

instead of castigating trade unionists and other advocates of shorter hours for adhering to a vicious "lump-of-labor" fallacy.

A Fine Kettle of Lumps

In *The Interpretation of Dreams* and again in *Jokes and their Relation to the Unconscious*, Freud recounted the joke ("whose right to be called a joke might be doubted") in which a man accused of damaging a copper kettle he had borrowed defended himself by insisting "First, I never borrowed a kettle at all; secondly, the kettle had a hole in it already when I got it from him; and thirdly, I gave him back the kettle undamaged."

Each of the kettle borrower's alibis might, if true, be exculpatory. However, it is not possible that they could *all* be true at the same time. The surfeit of contradictory excuses throws his truthfulness into doubt.

Something like that happens when one investigates the various supplementary explanations and inferences presented on behalf of the lump-of-labor fallacy claim. Daniel Kinderman observed that the proverbial "fixed amount of work" stood for a ceiling in some accounts and a floor in others. Those two half arguments don't add up to a coherent whole but they do facilitate tactical maneuvering by economists, enabling them to shift back and forth, from floor to ceiling, as circumstances of the debate require.

The various "explanations" for the otherwise self-evident truism that employment is a variable and not a constant are not merely *ad hoc* and inconsistent; some of them are mutually exclusive, like the kettle excuses. The key to this mutual exclusivity is the device known as *ceteris paribus* or "all other things being equal." For example, in some explanations, the demand for labor falls because of an increase in wages (*ceteris paribus*); in other explanations, the demand for labor rises because improved productivity has lowered the price, which is likely to induce an increase in the demand for products (again, *ceteris paribus*). Each of these outcomes is plausible.

But what happens if wages go up at the same time as productivity has improved? Obviously the answer depends on *how much* wages have gone up and *how much* productivity has improved. Those are details that the partial explanations don't address.

The classic supplementary explanation is a version of Say's Law -- the proposition that an increased supply of one kind of good creates a reciprocal demand for all other goods. Thus there can be "no such thing as overproduction." In this explanation, the amount of work to be done is not fixed because any increase in the productivity of labor or in the labor supply will also result in an equivalent increase in the demand for labor. In this view, incidentally, the economic system is assumed to be self-adjusting.

But there is also a wage-cost explanation, which maintains that increasing the number of workers is not a perfect substitute for reducing the hours worked. Thus higher labor costs lead to reduced demand for labor. The same argument applies when workers are demanding that they receive the same weekly wage for fewer hours in the work week.

An eccentric "post-Keynesian" variation on the wage-cost explanation comes with a rebranding as the lump-of-*output* fallacy. In this version, it is not the increased wage cost that reduces the demand for labor but a higher rate of inflation resulting from lower unemployment that will cause the central bank to intervene in order to return to a "non-accelerating inflation rate of unemployment" (NAIRU).

In the 1890s, John Rae offered another unusual rebuke to the supposed fixed amount of work delusion. In his account, increased productivity resulting from shorter hours implied that no more workers would be needed to "redistribute" the abbreviated hours of the current employees. Ironically, this is the opposite effect that an increase in productivity is expected to have when it is machinery that is credited with the productivity gain.

Two further explanations are little more than grasping at straws. In one recent improvisation, reduced hours of work are supposed to result in a decrease in consumer demand and thus contraction of the economy. An equally improvisational rationale was offered in the late 1940s by Clyde Dankert. Dankert conceded that shorter hours could indeed relieve unemployment but he objected that the effect would not be permanent.

What these various supplementary explanations have in common is that they try to kill two birds with one stone. They attempt to demonstrate why a particular policy initiative is doomed to failure at the same time as they explain why the amount of work to be done is not fixed. Thus the truth of the latter proposition is supposed to serve as proof of the former assertion. The attempted syllogism is as follows:

> If the amount of work was fixed, shorter hours would reduce unemployment; the amount of work is not fixed [and here's why], therefore shorter hours will not reduce unemployment.

Logically, this is a propositional fallacy known as denying the antecedent ("if A, then B; not A, therefore not B"). Superficially, it resembles a valid argument form, *modus tollens*, which can be expressed as "if A, then B; not B, therefore not A"). But resemblance is not enough in a logical syllogism – the conclusion is invalid because the conditional if-clause excludes the possibility of A without B but not of B in the absence of A.

Rebuttal to the lump-of-labor fallacy claim involves three elements. One has to do with the prevalence of the alleged belief:

- While it is plausible some advocates of any policy articulate simplistic views, there is no evidence that the lump of labor is a "widely held theory"
- Even if some proponents do have fallacious views, the policy may still be viable. There is a strong theoretical case for shorter work time that fallacy claimants systematically ignore.
- The fallacy claim is itself incoherent and inarticulate, although the amount of work is indeed not fixed, fallacy claimants are unable to present a consistent, coherent explanation for what that has to do with the case for shorter working time. Fallacy claimants themselves commit multiple fallacies in their tortured efforts at discrediting policy positions they insist are based on a fallacy.

Who said there is only a certain quantity of work to be done?

TASK (V.) to appoint a person *a certain quantity of work to be done* in a certain time.

According to James McCleary, who served in the U.S. House of Representatives from 1893 to 1907, there was an "oft-repeated error" behind statements from union leaders made to the congressional committee on labor, which he sat on. "It was rarely if ever put into words, but it was the unspoken major premise of many an attempted syllogism, the unstated basis of many an appeal."

A half century later, steel industry executive William Caples stated that the alleged error was "one of the most tenaciously held and generally least articulated of trade union beliefs..." The alleged belief, then, was quite the enigma: unspoken, unstated -- but often repeated; most tenaciously held -- but least articulated.

McCleary's and Caples's inability to cite an example of a union leader saying what they were supposed to tenaciously believe is understandable. No such overt statement can be found -- even today with the help of computerized full-text searching of historical archives. What can account for this conspicuous void? More to the point, what can account for the heap of parroted attributions about a phantom belief that was "rarely if ever put into words..."?

Some people did indeed put the belief into words but they weren't naïve populists, shiftless workers or shifty union bosses. They were political economists and popularizers of orthodox political economy, who explicitly stated the premise in the 1820s, 1830s and 1840s. Contrary to McCleary's and Caples's speculations, those believers have names: Thomas Chalmers, William and Robert Chambers, Frederick Chaplin, Daniel Raymond, William Thornton. Chalmers, Raymond and Thornton were political economists of some distinction. William and Robert Chambers were journalists and publishers. Chaplin was the administrator of a workhouse.

In an 1820 article in the *Edinburgh Review*, Chalmers argued, with regard to certain kinds of employment, such as harvesting or household services, "there is a certain quantity of work to be done; and this quantity, generally speaking, does not admit of being much extended, merely on the temptation of labor being offered at a cheaper rate..." A few years later, in 1826, he used similar wording to contrast immediate and local effects of population with longer term, universal

outcomes. "In every such parish, there is a certain quantity of work to be done, and a certain number of labourers would suffice for the doing of it."

In his 1823 *Elements of Political Economy*, Daniel Raymond, the first American political economist of note, contrasted a dynamic economy to a stationary or retrograde one, "where there is but a certain quantity of work to be done, the more numerous the labourers are, the greater will be the competition, and the lower will be the wages."

Defending the New Poor Law in 1835, Frederick Chaplin wrote, "there is a certain quantity of work to be done, and the question is who ought to do it -- those who live by their labour, and their labour only, or those who have thrown themselves on public charity." Using that same phraseology, a tract published by the Chambers brothers to popularize orthodox political economic doctrine of the wages-fund claimed, "There is a certain quantity of work to be done here and elsewhere, and a certain quantity of hands to do it. If there be much work, and comparatively few hands, wages will rise; if little work, and an excess of hands, wages will fall."

In 1846, William Thornton wrote, "In every place there is only a certain amount of work to be done, and only a certain amount of capital to pay for it; and, if the number of workmen be more than proportionate to the work, employment can only be given to those who want it by taking it from those who have it." Two decades later, Thornton was to become one of the chief critics of the orthodox wages-fund doctrine but in his 1846 treatise on population he was duly reciting it, as confirmed by his misgivings about "the cry of a 'fair day's wages for a fair day's work.'"

The wages-fund doctrine was a conceptual device that performed as the transmission belt between the worker's self-interest and the public good. Nassau Senior explained it as "the elementary proposition, that the rate of wages depends on the extent of the fund for the maintenance of labourers, compared with the number of labourers to be maintained." It needs to be emphasized that the proposition Senior called obvious, trite and nearly self-evident harboured a not quite so obvious rationale for self-exertion by the workers. To borrow a metaphor from Adam Smith, the wages fund functions as the proverbial "invisible hand," which leads the worker, who "intends only his own gain" (or to avoid his own pain) "to promote an end which was no part of his intention." It was precisely the *limitation* of this fund, its characteristic of being "only a certain quantity" that made it effectual as both carrot and stick.

In fact, the first premise of Adam Smith's famous metaphor about an "invisible hand" leading individuals to promote the public interest, although they intend only private gain, was that there is only so much work to go 'round. That is, Smith assumed there was a certain quantity of work to be done -- a "lump of labor." He didn't tacitly assume it -- he stated it plainly:

> As the number of workmen that can be kept in employment by any particular person must bear a certain proportion to his capital, so the number of those that can be continually employed by all the members of a great society must bear a certain proportion to the whole capital of that society, and never can exceed that proportion.

Smith didn't present his invisible hand metaphor until six paragraphs later. But the argument about individuals promoting the public good in spite of seeking only private advantage is in the paragraph immediately following the above passage. The subsequent reference to an invisible hand merely emphasized and amplified the argument. Smith's premise about the proportion between the number of workers and the amount of capital defined, with minor modification, what came to be known as the wages-fund doctrine of classical political economy. Instead of the whole capital restricting the number of workers that could be employed, however, the wages-fund argument specified that it was only that portion of capital that consisted of wage-goods that imposed the limitation.

Few subsequent authors have noted the connection between the classical wages-fund doctrine and Smith's version of it. One who did was Henry Hoyt, governor of Pennsylvania from 1879 to 1883. In Protection versus Free Trade (1886), Hoyt credited Smith with having "laid down, as quite fundamental, this proposition… [as] one of the pillars of his free-trade system." He then categorized Smith's statement as a version of the wages-fund doctrine:

> We shall see later on the essential vice of this statement as a statement of fact. It is not true that industry is limited by capital, and, as a matter of fact, there has never been any limitation on the employment of labor by reason of lack of capital. It is one mode of formulating the wages-fund theory.

Thirty years after Hoyt, Leopold Amery delivered a series of lectures in which he criticized "The Fundamental Fallacies of Free Trade," paying particular attention to Smith's "terminological

inexactitude." Smith's concept of capital viewed the capital of a nation as merely an aggregate of individual capitals. The difference, Amery explained, was that an individual's capital "is the result of saving, and grows by saving from profits or by credit based on profits" while the capital of a nation, "grows by the exercise of the qualities and energies of which it consists." In the jargon of systems dynamics, Smith mistook a stock for a flow.

As Hoyt had done, Amery identified Smith's error with the wages-fund doctrine but also with "its daughter fallacy," which he specified as "the restriction of output":

> It is upon this confusion, upon this terminological inexactitude, that they have based their exposition of many a plausible and mischievous fallacy - the long since exploded "wages fund" theory for instance, with its enduring legacy of class hatred, and with its daughter fallacy, the restriction of output, a fallacy involving most harmful consequences to the prosperity of the working man…

In contrast to the wages-fund doctrine, which was boldly proclaimed by the champions of free trade and laissez faire, this so-called "daughter fallacy" (also known as the "theory of the lump of labour") had no declared suitors.

For adherents to the work-fund doctrine, the positive motivation to work harder came from the fact that the aggregate fund from which wages were paid could only be increased by increasing the productiveness of labor. The negative incentive was provided by the "wholesome terrors" of poverty, as Thornton put it -- with seeming approval. According to the doctrine, it was futile to try to obtain higher wages through threat of a strike because the subsistence goods to be had at any given time were limited and increasing the wages of one group of workers could only be done at the expense of other workers. The wages fund thus imposed the discipline of delayed gratification *precisely because it was fixed,* at least in the short term.

Given the wages-fund's conceptual fixedness, the only practical, short-term remedy for the "glut of workers" was emigration. Nassau Senior was unequivocal about it. "The only immediate remedy for an actual excess in one class of the population, is the ancient and approved one, *coloniam deducere*." But that was not all. Besides being an immediate remedy, emigration was also a precondition for bringing about a more enduring solution, "not only is emigration the sole

immediate remedy, but that it is a remedy preparatory to the adoption and necessary to the safety of every other." According to historian R. V. Clement, emigration continued to be the economists' pet remedy for unemployment caused by a surplus of workers right up to the 1870s. Some unions even established emigration funds, to no avail.

In a pamphlet published by the Society for the Diffusion of Useful Knowledge, *The Results of Machinery: namely, cheap production and increased employment exhibited: being an address to the working-men of the United Kingdom,* Charles Knight offered an innovative variation on this standard remedy, "[t]here is a glut of laborers in the market. If you continue in the market of labor during this glut, your wages must fall. What is the remedy? To go out of the market."

Knight's remedy was the occasion for considerable ridicule from labor activists and hilarity from their working class audiences. But it carried with it the quasi-official imprimatur of authority. Henry Brougham, Lord Chancellor of the Whig government from 1830 to 1834 was chairman and founder of the Useful Knowledge Society. Some of Knight's tracts for the Society have even been mistakenly attributed to Brougham, which perhaps reflects the fact that they were "published under the supervision" of the S.D.U.K. thus putting the Society's chairman in the role of "executive author."

Knight's brief discussion of the self-equalizing of wages inadvertently revealed the fly in the equilibrium ointment. If profits are excessively high relative to wages, competition between capitals supposedly "immediately comes in to set the matter right." However, competition between workers for subsistence has the opposite effect. Rather than equalizing the relation between wages and the supply of labor, it makes things worse, "[w]hen wages fall by a glut of labor, you not only continue to work, but you work harder; and thus increase the evil."

Ten years earlier, Thomas Chalmers had made the same argument about low wages intensifying a labor surplus rather than relieving it, "If the price of labour is reduced, while at the same time it is paid according to its quantity, the workmen will naturally strive to make up by the latter, what they lose in the former." But Chalmers came to a less optimistic conclusion regarding the effectiveness of withdrawing from the market. If only a fraction of the workers go out of the market while those who remain work longer and harder, the surplus of labor will persist.

Chalmers's argument reiterated a point made in 1814 by Patrick Milne, M.P. The Scottish manufacturer and landowner testified before the House of Lords on the effect on wages of a rise or fall in the price of grain. Milne's view was that when the price of grain and other provision rose, wages fell because laborers were compelled to do more work to maintain their standard of living. Assuming a given demand for labor, the increased supply of labor -- albeit from the same number of workers -- drove wages down even further, rather than adjusting to a lower wage with a reduced supply.

Leaving aside the conflicting conclusions of Chalmers and Knight about the efficacy of withdrawing from the market, what they agreed on was a refutation, rather than a confirmation of the doctrine of the self-correcting tendency of supply and demand. When radical Chartist writer and labour leader John Francis Bray subsequently condemned the "fallacy of demand and supply" he singled out Knight's glib "go out of the market" advice as a prime example of the "incomprehensible and contradictory doctrines which they [capitalists and political economists] have brought forth to account for much work existing in connection with little wages."

The phrase "a certain quantity of work to be done" appeared in Bray's *Labour's wrongs and labour's remedy : or, The age of might and the age of right* in the form of a citation and critique of the orthodox doctrine. Similarly, Chartist leader, orator and publisher of the radical newspaper *The Northern Star*, Feargus O'Connor parodied the Chambers's "certain quantity of work to be done here and elsewhere, and a certain quantity of hands to do it" to refute the purported truths associated with it. In a speech to a meeting of tailors in London, the journalist and reformer Henry Mayhew objected to the advice of economists to "keep down your numbers," based on their premise that, "there is a certain amount of work to be done, a certain amount of capital to be divided out in wages…"

In short, the "oft-repeated error" was not a "tenaciously held" belief of trade unionists. On the contrary, it was an affirmation that labor was a commodity like any other and a demonstration of how the doctrine of supply and demand applied to labor. The trade unionists rejected the claim that labor was like any other commodity. By the time William Thornton debunked the wages-fund doctrine in the late 1860s, the ground had been well prepared by trade union critics of orthodox political economy. Besides Bray, O'Connor and Mayhew, other labor advocates from the mid-1800s

spoke about a certain quantity or amount of work to be done as an illustration for the sake of argument, clearly indicated by an if clause.

"*If* a certain quantity of work is done in ten hours it does not follow that a proportionally greater quantity would be done in sixteen," wrote Charles Wing in 1837. In 1858, Robert Dick wrote, "*let us suppose* that there is a certain amount of work to be done, and that there are twelve men to perform it." At a trade union meeting in 1852, William Newton, one of the founders of the Amalgamated Society of Engineers reckoned that, "*if* two hundred men are forced to do a certain amount of work by working fifteen hours a day, it is evident that by only working ten hours a day it would require three hundred men to perform that same amount of work in the same time." George Reynolds, publisher of *Reynolds's Newspaper,* offered a similar "for instance" to a London meeting of the building trades in 1860:

> …*if* there were a certain amount of work to be done, and if there were, for argument's sake, ten thousand persons to do it in a proper and reasonable time, it stood to reason that if the master employed only nine thousand that two results must follow: namely, that the nine thousand must work for extra hours and that there must be one thousand men excluded from all employment whatsoever.

In his letter to the *Morning Chronicle* of August 22, 1850 on "Labour and the Poor," Henry Mayhew criticized orthodox economists for insisting that wages were solely determined by supply and demand. Once again, the "certain quantity of work to be done" appeared in a conditional clause. In his analysis of wages in the cabinet trade, Mayhew pointed out that wages had declined over the previous twenty years in spite of the demand for labor having increased and the supply having diminished. His explanation for that counter-intuitive result was the maldistribution of the available employment. His conditional "certain amount of work to be done" was explicitly a counterfactual assumption:

> Assuming a certain quantity of work to be done, the amount of remuneration coming to each of the workmen engaged must, of course, be regulated, not only by the number of hands, but by the proportion of labour done by them respectively; that is to say, if there be work enough to employ the whole of the operatives for sixty hours a week, and if two-

> thirds of the hands are supplied with sufficient to occupy them for ninety hours in the same space of time, then one-third of the trade must be thrown wholly out of employment; thus proving that there may be surplus labour without any increase of the population.

An 1860 report on *Trades' Societies and Strikes* contained an account of a conference discussion regarding whether labor was a commodity just like any other and therefore whether or not unions violated the laws of political economy by trying to regulate wages and hours of work. This discussion centred on a paper by Edmund Potter, who maintained that labor was a commodity, plain and simple and that "Practically, unless demand and consequent supply can be left level for all classes of labour, it must prove itself a commodity, and sink or rise in value."

The transactions of a miners' conference held at Leeds in 1863 denounced the hypocrisy of political economists and employers who were "constantly telling the men that wages must be reduced in consequence of over-supply [of labor]" but at the same time ridiculing the "ignorance and folly" of those who would attempt to regulate long hours, which were supposedly the "infallible and inevitable result of demand and supply":

> The hours of work and the rate of wages were, in many instances, brought forward as grievously oppressive. Of course, the very mention of these as grievances will be set down as proof of ignorance of the first principles of political economy. The infallible and inevitable result of demand and supply will, we are told, regulate these perfectly and completely, and that any other regulations have always proved failures, and will always remain proofs of ignorance and folly.

The miners were not mistaken in their portrayal of the claims of political economists. After admitting that "short hours… [are] indicative of high wages and long hours of low wages," John Ramsay McCulloch offered the following rationale for opposing legislation to limit the hours of work:

> If, however, the longer be introduced by the custom of the country, in preference to the shorter period, it is a proof that there is, if not an excess, at all events an extremely

> copious supply of labour; and that the labourers are, in consequence, obliged to submit to the drudgery of lengthened service.
>
> Now, such being the case, the question is, will their condition be really improved by the legislature interfering to reduce the hours of labour? To this question an answer must, we apprehend, be given in the negative.

McCulloch reasoned that had it been possible to reduce hours without reducing wages the "working classes" would have been able to do so without government interference therefore it was hard to imagine how hours could be reduced by law "without, at the same time, and by the same act, reducing wages." McCulloch thus appears oblivious to the supply-and-demand implications of his own coyly-hedged assumption of an "extremely copious" supply of labor.

During the 1860s, the "certain quantity of work to be done" and its paraphrases were subtly transforming from orthodox article of faith to symbol of ignorance and folly. An 1861 letter to the *Times of London* from someone styling himself "A Master Builder" alleged that George Potter, secretary of the carpenters' union, and his associates had "absurdly argued that there was only a certain amount of work to be done" during a 1859 strike and lock-out of the London building trades. No evidence of such an argument appears in the several items of correspondence from Potter outlining the union's position in the 23-page report on the strike and lockout by G. S. Lefevre and T. R. Bennet published in 1860 by the National Association for the Promotion of Social Science. There was, however, a similar allegation made at the time of the strike. The unions "assume that there is a certain quantity of work to be done," claimed the *Daily News,* in August 1859, "which will take so much time to do. They propose to spread the work compulsorily among a larger number of men, not dividing the wages as well as the work, but paying according to number, and not to time or work."

The *Daily News*'s report that the union *assumed* a certain quantity of work to be done is somewhat closer to Reynold's conditional, *for argument's sake*, sentence than was the Master Builder's claim that the union argued there was only a certain amount of work to be done. But there was still considerable ambiguity regarding whether that assumption was hypothetical or was a belief about what was actually the case. The similarity between Newton's clearly hypothetical assumption from

1852 and Reynolds's eight years later suggests that the formula had become somewhat of a commonplace, which the *Daily News* and the Master Builder misrepresented, either mistakenly or mischievously.

Rhetoric around the 1859-60 and 1861-62 builders' strikes in London appears to mark a watershed in the evolution from orthodox doctrine to fallacy claim. But there are some precedents of note. The most immediate precedent was testimony before the 1838 Select Committee on Combinations. Somewhat more remote was Dorning Rasbotham's 1780 pamphlet on the use of machines in the cotton manufacture. At a further remove was an earlier 18th century response to a comment about the employment of beggars by pioneer of actuarial statistics, John Graunt.

In his testimony to the Select Committee on Combinations, Edward Murray, an architect and builder from Dublin alleged that the society of carpenters enforced a regulation that restricted the amount of work that could be done by a worker, "there was only a certain quantity of work *allowed* to be done, so that if one workman could turn more work out of his hands, he dare not go on with it." In the opinion of Mr. Murray, the purpose of this rule was to compel employers to pay the bad workers as much as the good ones. Regardless of what one may think of such a rule, or even whether there actually was such a rule, limiting the amount of work that can be done by any given worker is not the same as *assuming* that the total amount of work to be done is limited. Murray's testimony was cited six years later by Nassau Senior in an article published in the *Edinburgh Review* that purported to explain the indolence of Irish artisans.

Decades before the wages-fund doctrine had become a staple of orthodox political economy, the Lancashire magistrate Dorning Rasbotham wrote *Thoughts on the use of machines in the cotton manufacture,* in 1780, in response to factory rioting that had occurred the previous year. He sought to dispel what he viewed as a false principle. "There is, say they, ***a certain quantity*** **of labour to be performed**," Rasbotham wrote. But, he objected, "**There is not a precise limited *quantity* of labour, *beyond* which there is no demand**." Rasbotham's reassurance was supposed to allay fears about machinery throwing workers out of jobs or depressing their wages but he didn't deny those unpleasant effects. Instead he minimized them, pointing to widespread benefit compared to hardship for a few, which at any rate, hopefully, would only be temporary. Besides, the magistrate philosophized, "It is a sacrifice we ought to make chearfully to the common good."

To view Rasbotham's refutation of a false principle as a rejoinder to trade union policies or beliefs would be an anachronism, as would thinking of it as a response to the yet-to-be-formulated wages-fund doctrine. There was an earlier articulation, however, of *almost* the same concept in 1662 by John Graunt, "if there be but a certain proportion of work to be done; and that the same be already done by the not-Beggars; then to employ the Beggars about it, will but transfer the want from one hand to another…" Thomas Cooke, in 1702, objected to Graunt's argument, claiming that Graunt was mistaken in "limiting Men's Labour to one particular imploy." Seventy-eight years later -- in the same year as Rasbotham's tract was published -- Samuel Johnson defended Graunt's argument by reversing the usual assumption and instead challenging the "supposition that there is a certain portion of work left undone for want of persons to do it." The coincidence of Johnson's remark suggests that Graunt's argument may have become by the late 18th century a commonplace topic in debates about employment of the poor.

There are subtle but important variations in phrasing between the different specimens: "only a certain quantity of work *allowed* to be done…"a certain quantity of *labour* to be *performed*…" "if there be but a certain *proportion* of work to be done…" Even the word "certain" is ambiguous. On the one hand, it has the connotation of sureness and exactitude. On the other, the adjective performs a coy evasion of specifics, as if it would be pedantic or unseemly to harp on particulars. A certain quantity might refer to either a more or less hazy collection of things that, in principle, could be quantified or it might refer to a collection of things the number of which remains, *ceteris paribus*, more or less unchanged regardless of some other change in the environment. Furthermore, that certain quantity might refer to an actuality or be embedded in a conditional if-clause, for the sake of argument. There is also a slippage in meaning between Graunt's "proportion" and Johnson's "portion," with the latter hovering ambiguously between quantity and relation.

These variations and ambiguities enabled a sort of prosecutorial improvisation in which trade unions were alternatively or simultaneously accused of tyranny for restricting production and mocked for their foolishness for assuming that output was limited. As mentioned above, the London builders' strikes of 1859-60 and 1861-62 appears to have been a watershed in the pivot of a certain quantity of work from orthodox doctrine to disparaging fallacy claim.

What happened? It would be ideal if we could cite a contemporary account by a credible informant outlining a concerted, malicious propaganda campaign in the press against trades unions and their demands for shorter working time. Frederic Harrison will do.

Harrison was appointed to the Royal Commission on Trades Unions in 1867. His dissent, along with Thomas Hughes and Lord Lichfield, from the Commission's final report formed the basis for the subsequent Liberal government's Trade Union Acts of 1871 and 1875.

Harrison's interest in labor issues had been spurred by his investigation of the strike and lock out in the London building industry in 1861 and 1862. He read his account of the stonemason's strike at the 1862 meeting of the National Association for the Promotion of Social Science. After presenting a comprehensive account of the events of the strike and lockout, Harrison noted that, "the first thing, in fact, to be noticed in the foregoing account is, its entire disagreement with most reports circulated by the press." He then elaborated:

> It is impossible for the public to form any true judgment upon a case of this kind, unless the facts are fairly stated and they have the means of knowing what it is that either side claim or reject. No danger could be more serious than that the working classes should come to feel that suppression or distortion of the facts of trade disputes are employed against them by the organs of the wealthy, and nothing can so much prejudice any cause as the use of such artifices in its support.

Following Harrison's presentation there was a discussion among 14 or 15 members of the society. Most of their comments simply rehearsed prior opinions on whether or not a reduction of hours was good for the men and whether or not it conformed to the laws of supply and demand. Three of those present concurred with Harrison's judgment of bias in the press. Mr. Pollard-Urquhart thought, "the first strike in the building trades in 1859 has been unduly abused because it was not understood." Charles Bray, concurred with Harrison's analysis, arguing that, "political economy is on the side of the workman, though I am sorry to say that the *Time*s and the greater part of the Press is on the other side." Mr. G. Lushington agreed, "All the public papers look with suspicion and distrust upon them and deal in very harsh terms in regard to this question."

On the other side, Mr. Cockerell reverted to the master's defence that had been stressed in the hostile press, lamenting "that the men were induced to put forward their claim on a pretence which was not the true one—that they wanted more time for the improvement of their minds." He believed the real reason for the demand for shorter hours was they wanted more money.

Reflecting on the builders' strike a half century later in his autobiography, Harrison quoted from his private diary his thoughts from May 28,1861:

> It was the sense of this systematic and interested misrepresentation which roused me and others to place the matter before the public in its true light. I vowed that night to do my best to see justice done. We went amongst the men, attended their meetings, committees, and their homes, examined their case step by step, and resolved to make it public.
>
> I can never forget that time. What an abyss of social tyranny, wrong, and false witness it opened. One seemed to be living in the midst of an oppressed race bent on their own emancipation and improvement, and yet kept down by power of wealth and by literary sophistry.

In a detailed report appended to the Royal Commission dissent, Harrison examined "that part of the evidence which relates to certain rules and practices commonly imputed to unionism, as injurious to the interests of the artizans and also to the public." Specifically, those regulations had to do with piece-work, equalization of wages, limitation of production, apprentices and resistance to machinery. Harrison dismissed "the impression that it is a constant feature of unionism to fix a limit on production" as "clearly a very partial truth." On the contrary, he concluded, "the practice of limiting production is so completely discredited by the workmen themselves, and is so exceptional, as to be worthy of no serious consideration when looked at with reference to the productive power of the country." He similarly found "no evidence that the restriction on apprentices has ever been carried to a point at which it has stopped the required supply of labour." With regard to resistance to machinery, he found "no ground whatever for supposing that this is anything like a settled policy of unionism, or at all supported by the intelligent leaders of the societies."

The story of how Harrison, Hughes and Lichfield's dissent, rather than the majority report, became the basis for subsequent labor legislation was told in Sidney and Beatrice Webb's *History of Trade*

Unionism. More recently, Mark Curthoys presented a comprehensive history and analysis in chapter five of *Governments, Labour, and the Law in Mid-Victorian Britain: The Trade Union Legislation of the 1870s.* The short version is that Harrison systematically eviscerated a draft report by James Booth that was grounded in the orthodox political economy dogma. Paragraph by paragraph, the analytical meat of Booth's draft was abandoned by the Commission's majority until all that was left was a bland mush of hollow platitudes.

On the crucial question of the objections of political economy to the rules and regulations of the unions, the best the final report could muster was a feeble nod in the direction of paragraphs 92 to 128 of Booth's draft report. Sure enough, in paragraphs 99 and 104 respectively, are to be found both a reiteration of the orthodox wages fund argument against unions raising wages and the claim that union rules and regulations are based on an unsound theory. Paragraph 99 declares that the "attempt to create a monopoly" in any particular trade "must prove abortive" because the resulting higher costs would drive away consumers and thereby "diminish the fund out of which the work men must be paid." Aside from the materialistic defect of diminishing the wages fund, Booth's draft claimed that "even if the wages fund were a fixed quantity" it is manifestly unjust for a trade union monopoly to "make the shares of some [workmen] larger by shutting out others."

Paragraph 104 of Booth's draft report delved beyond the practical and moral consequence of union monopoly to directly confront their *theoretical* folly – "the whole theory of the anti-competition advocates is founded on a fallacy." And just what is at the core of that fallacy? "It assumes that the work of the employer is a fixed quantity, not depending for its continuance on the cost at which it can be executed." If that is a myth then what is the reality? "The amount of work to be done, and the consequent demand for labour from time to time, depends on the profit that can be made, and this depends on the cheapness of the work."

Booth's draft performs a subtle manoeuvre. It assumes a fixed amount of wages while accusing the union theory of fallaciously assuming -- a fixed amount of wages. Of course Booth would rationalize the double standard by pointing out that his fixed amount of wages is different than their fixed amount of wages. He would have a point, albeit not a compelling one unless one is a capitalist or political economist.

The fixed quantity from which Booth imagined dividing up shares among workmen was theoretically fixed in proportion to a variable average cost of labor. Therefore, if the cost of labor increased, the amount to be divided up would be smaller, whereas if the average cost of labor decreased, the total amount would grow. By contrast, the fixed quantity he attributed to the unions' alleged theory was an empirical observation of as much as there currently is and intuitive expectation of little or no change. Given the assumption that "the amount of work to be done… depends on the cheapness of the work," however, higher wages for some workers can only be obtained by taking either work or wages away from other workers. The rhetorical advantage of Booth's theory is that it relies on mental abstractions – obstinately referred to as "immutable laws" -- that cannot be tested because they cannot be observed, let alone measured.

To put those supposedly immutable laws of political economy in sharp historical context, Curthoys called attention to the timeliness of John Stuart Mill's recantation of the wages-fund doctrine, which appeared in the May/June 1869 issue of Fortnightly Review "as Harrison's proposals were being brought before parliament."

Long before John Stuart Mill recanted the wages-fund doctrine, Sir Edward West exposed the fallacy of the fixed wages-fund doctrine as resulting from "the supposition that the commerce of society is carried on without the intervention of money."

> …if wages were all paid in kind, and not in money, an increase of capital must precede any increase of the demand for labour and of wages. These wages would be the real wages of labour, and they could not be increased without an increase of capital, that is, of the necessaries &c. of which the real wages are constituted.

West objected that the increase of capital for the maintenance of labor was "the effect and not the cause of the increased demand for labour." He illustrated the fallacy of relying on the analogy to barter with the example of coats and cloth:

> Wages certainly in this sense could not be increased without an increase of capital; nor could the number of coats be increased without an increase of the quantity of cloth. But

we might just as well say that the demand for coats depends upon the quantity of cloth as that the demand for labour depends upon the quantity of capital. Though the number of coats cannot be increased without an increase of the quantity of cloth, increase the demand for and the price of coats, and the cloth will soon be manufactured; so increase the demand for and the price of labour and the necessaries which the labourers require will soon be raised and manufactured.

The So-Called Labour Fund

Karl Marx was scathing in his ridicule of what he called the "*so-called* labour fund." Marx singled out Jeremy Bentham "that insipid, pedantic, leather-tongued oracle of the ordinary bourgeois intelligence of the 19th century" as the progenitor of the dogma. Actually, Bentham's principle, "no more trade than capital" was preceded by Smith's contention that "The general industry of the society never can exceed what the capital of the society can employ." Bentham appears to have been no more aware of Smith's priority than Marx was, arguing that Smith, "without ever saying a syllable about it, conforms to it in every recommendation he gives [and] writes almost throughout as if it were constantly uppermost in his thoughts." Not only did Smith say more than "a syllable" about it, he used many of the same 'syllables' Bentham did:

> Bentham: 'In a state of civilized society, no branch of industry can be carried on at all, much less in an augmented degree, without a certain quantity of capital.
>
> Smith: "The general industry of the society never can exceed what the capital of the society can employ."

Marx contrasted his own analysis "that capital is not a fixed magnitude, but is a part of social wealth, elastic and constantly fluctuating" with the view of classical political economy that "always loved to conceive social capital as a fixed magnitude of a fixed degree of efficiency." According to Marx, the fixed, unchangeable nature of this "so-called labour fund" had the apologetic purpose of excluding the workers from having any say about the distribution of social wealth:

> …on the one hand, the labourer has no right to interfere in the division of social wealth into means of enjoyment for the non-labourer and means of production. On the other hand, only in favourable and exceptional cases, has he the power to enlarge the so-called labour-fund at the expense of the "revenue" of the wealthy.

Kenneth Lapides, summed up the ideological function of the wage[s]-fund doctrine in *Marx's Wge Theory in Historical Perspective:*

> The wage-fund doctrine was the quintessential product of what Marx termed vulgar political economy; a dogma concealing real economic relations, on the one hand, and justifying them, on the other. It was a transparent effort to disarm the working-class movement, and an attempt (largely successful) to rally public opinion behind bourgeois resistance to the demands of working people for a better life. It was the principal ideological weapon in the arsenal of capital in its disputes with labor over the level of wages.

When that doctrine was finally discredited and disavowed by economists, a bizarre makeover took place: what was formerly upheld as the reason for denying the demands of working people suddenly began to be portrayed as the unsound belief underlying the demands of working people and thus as a new and improved rationale for denying those demands. Economists seemed to reach the same conclusion from denying the premise as they previously had from affirming it.

The rhetorical sleight of hand requires careful unpacking. First, workers don't actually make the assumption they are alleged to have made. It is pure assertion, repeated without supporting evidence. Repetition of the false claim lends it an undeserved aura of plausibility. Second, the argument leading from the alleged erroneous belief to its ill-fated outcome relies on a supplemental, unstated assumption. That unstated assumption is none other than the wages-fund premise that wages form a rigidly-fixed proportion of total output. Finally, in place of the unstated assumption, the fallacy claimant proclaims the truism that the amount of work to be done – which is to say, the total output – is not fixed. Thus the fallacy claim substitutes the indisputable question about whether the amount of work is fixed for the contentious one about the proportion of wages to total product.

The persuasiveness of that rhetorical legerdemain may seem counterintuitive. But it is consistent with a well-established propaganda technique called "accusation in a mirror" described by French psychologist Roger Mucchielli in *Psychologie de la Publicite et de la Propagande* (1970). The technique consists of falsely accusing an adversary of intending to carry out precisely the misdeeds that the accuser intends to do. The false accusation pre-empts

exposure of the accuser's intentions, puts the adversary on the defensive and establishes a disorienting hall of mirrors that neutralizes any subsequent rebuttal or counter-claim.

Soon after John Rae published his fallacy accusations in 1894, Charles Beardsley published a rebuttal that defended "the argument of workingmen that the general adoption of an eight hours' day would raise wages and absorb the unemployed" and described Rae's reliance on the wages-fund doctrine. "Mr. Rae's position seems perfectly clear," Beardsley explained, "but it depends on a half-truth. *Ceteris paribus*, wages vary with the productiveness of industry, but only *ceteris paribus*. The theory that wages depend entirely on the efficiency of labor, or on the product of industry, is a new form of the old doctrine of the wages-fund." The error of this view, according to Beardsley, "is in the implication that the proportion of wages to the total product of industry is at any given time rigidly fixed."

The claim by economists that advocates of shorter hours commit a lump-of-labor fallacy is thus a resurrection of the discredited wage-fund doctrine in disguise. Instead of saying "the total amount of wages is fixed, therefore you can't have higher wages" the economist now says, "YOU assume the amount of work is fixed but it isn't, therefore you can't have higher wages."

The wages-fund doctrine was debunked in 1826 by Sir Edward West. It was "recanted" in 1869 by John Stuart Mill. The lump-of-labor fallacy CLAIM was shown to itself rely on the discredited fixed wage-fund assumption by Charles Beardsley in 1893. So why do economists (& CEOs) still cling to this dogma?

Because it conceals real economic relations, on the one hand, and justifies them, on the other. Because it disarms working-class movements and rallies public opinion behind bourgeois resistance to the demands of working people for a better life. Because it is the principal ideological weapon in the arsenal of capital in its disputes with labor over the hours of work.

Proxy for a general glut

> …a product is no sooner created, than it, from that instant, affords a market for other products to the full extent of its own value. – J.-B. Say

Raymond Bye, whose introductory economics textbooks were widely used from the 1920s to the early 1950s, denounced the "lump of work" idea because it failed to comprehend the "true nature" of exchange:

> Every laborer creates a product which is offered in exchange for the products of other laborers. The demand for labor thereby grows as fast as its supply; the one cannot be greater or less than the other, for they are the same thing.

Bye's "true nature" of exchange was a rendition of the principle known as Say's Law. Jean-Baptiste Say's aphorism about the relationship between the making of products and the market for them was not baptized "Say's Law" until late in the 19th century. Previously, it reigned as the doctrine of the impossibility of overproduction -- or a general glut -- that was fiercely debated in the first two decades of that century. Prior to publication of Keynes's *General Theory*, John Kenneth Galbraith observed, "acceptance of Say was the test by which reputable economists were distinguished from the crackpots."

Carefully defined and given the appropriate qualifications, a general glut of products is indeed impossible – in a barter economy. To be precise, it is a tautology. People don't stop buying things just because there is too much stuff. But whatever the proximate causes may be, commercial crises do happen and when they happen, people do stop buying. The debate over the impossibility of a general glut thus boils down to whether one defines said "embarrassment of trade" as the chicken or the egg.

But what does a general glut have to do with the lump of labor? There are some strange incongruities at play in the translation from the doctrine of the impossibility of a general glut to the lampoon of a lump of labor. On the one hand, Say's Law has been called a *corollary* of the

wages-fund doctrine. On the other, the idea of a fixed amount of work has been denounced as a "trade unionists' version" of the discredited doctrine. Recall that Alfred Marshall dubbed his version of the lump-of-labor fallacy, the "fallacy of the fixed work-fund" – an obvious allusion to the classical terminology.

Incongruously, then, the fallacy is a fallacy because it violates a well-established law of political economy, but at the same time the fallacy is a fallacy because it conforms to the exact same principle. What exactly is going on here?

Say's paradoxical law is both trivially true and actually false. It is true in the rarified abstraction of *ceteris paribus* – all else remaining the same but mistaken as a description of reality. Would it be too obvious to point out that the "laborer creates a product which is offered in exchange" *if and only if* that laborer is employed? Modern commerce is not a barter economy and labor power is not a commodity, regardless of whether it is treated as such. This is not to deny the potential analytical usefulness of the abstract model. Properly qualified, the perspective could act as a safeguard against jumping to facile conclusions. Reduced to a maxim, though, it became a catalyst for jumping to facile conclusions and enshrining them as scientific truth.

The fixed amount of work offers a far more onerously restrictive assumption than a simple glut of labor supply. It is, of course, easier to show that the demand for labor is not fixed than it is to prove that demand automatically adjusts to be equal to supply. The fallacy claim thus performs as rhetorical bait and switch. It substitutes an easy proof for an impossible one.

An added advantage of such a rhetorical substitution is that it evades the substantive debate concerning the general glut doctrine conducted by Sismondi, Malthus and Chalmers in the early 19th century and in the 20th century by economists such as Veblen, Hobson, Hansen and Keynes. With that evasion, all of the qualifications, exceptions, concessions and equivocations defending the "law" are also concealed. Unlike theories of overproduction or under consumption, the more extreme assumption of a fixed amount of work has had no confessed devotees – only alleged perpetrators (or victims).

Crowding out

Say's Law and/or its corollaries reappear in a variety of disguises. In the 1920s, it was the "Treasury View" that guided government policy. Half a century later, "crowding out" became the euphemism for the discredited Treasury View. The hypothesis of crowding out is one of the prime rationales for government austerity. "Before Keynes," explained Alan Blinder and Robert Solow in a 1973 paper, "it was commonplace that government spending and taxation were powerless to affect the aggregate levels of spending and employment in the economy – they could only redirect resources from the private to the public sectors." In an earlier paper, Roger Spencer and William Yohe had elaborated on this connection between so-called Say's Law and crowding out:

> The most elementary case for crowding out may be examined in a "Say's Law" framework. Say's Law is widely known as "supply creates its own demand." … In an economy in which Say's Law is operative, attempts by the Government to increase total spending, by raising Government expenditures and financing the increasing budget by either borrowing from the public or taxation, merely induce changes in relative prices so as to reallocate the same level of real output.

Crowding out was thus a new label for what Keynes had referred to as the Treasury View, which Winston Churchill had elaborated in 1929:

> The orthodox Treasury view, and after all British finance has long been regarded as a model to many countries, is that when the Government borrow[s] in the money market it becomes a new competitor with industry and engrosses to itself resources which would otherwise have been employed by private enterprise, and in the process raises the rent of money to all who have need of it.

Joan Robinson offered a more succinct and revealing summary of the infamous Treasury View: "there is a certain amount of saving at any moment, available to finance investment, and if the government borrows a part, there will be so much the less for industry." The Treasury

View/crowding out are avowals of a belief in a certain quantity of wages – in other words, a wages fund. The old dogma never goes away; it just gets repackaged in new terminology.

Recently, the term "crowding out" has also been adopted by the fallacy scolds to refer to concerns that postponing the retirement of older workers would "crowd out" job opportunities for young workers or that immigrants "crowd out" native workers. In a paper on retirement and youth employment Banks, et. al found, "no evidence of long-term crowding out of younger individuals from the labor market by older workers." Gruber and Milligan investigated "the extent of such 'crowding out' in the United States over time." Munnell and Wu noted that "research exploiting the large variation in immigrant flows across US states reports little crowding out of hours between immigrants and natives." All of these researchers cited the lump-of-labor view as the basis for concerns that such crowding out would occur.

The chain of reasoning here once again replicates the kettle logic: unless the retirement age in raised, increased spending on pensions will crowd out other government spending because total spending needs to be restrained so as not to crowd out private investment. But on the other hand, fears that older people staying in the workforce will crowd out younger people from employment are unfounded because the amount of work to be done is not fixed. In short, the funds available are a given quantity when it is labeled "investment" but not when it is called "the amount of work to be done."

The Temptation of Theodicy: supply creates its own demon

In his 1934 BBC radio broadcast, "Is the Economic System Self-Adjusting," Keynes addressed "the problem of poverty in the midst of potential plenty." Two years later, in *The General Theory of Employment, Interest and Money,* he revisited the theme of "the paradox of poverty in the midst of plenty." That problem/paradox arises within a theoretical matrix Keynes called the classical doctrine, which, as he put it, "used to be expressed categorically in the statement that 'Supply creates its own Demand" -- the doctrine was also known as "Say's Law."

Keynes's statement, of course, is not *exactly* what Jean-Baptiste Say said. Some defenders of the classical doctrine have objected to Keynes's formulation of it. But, after quoting explanations of the doctrine by John Stuart Mill and Alfred Marshall, Keynes admitted that "[t]he doctrine is never stated today in this crude form." Nevertheless, Keynes continued, those "who might hesitate to agree with Mill, do not hesitate to accept conclusions which require Mill's doctrine as their premise." For those who cling to the classical doctrine, the main conclusion is "that the existing economic system is in the long run self-adjusting, though with creaks and groans and jerks, and interrupted by time-lags, outside interference and mistakes."

The presumed self -adjustment of the economic system is based on what Keynes described as "an optical illusion" that money not spent on current consumption is inevitably invested to provide for future consumption – "if people do not spend their money in one way they will spend it in another." But for new investment in capital goods to exactly equal the gap between income and current consumption requires automatic adjustment of the inducement to invest, which depends "on the relation between the schedule of the marginal efficiency of capital and the complex of rates of interest on loans of various maturities and risks." Such adjustment, Keynes cautioned, is "pure assumption. There is no theoretical reason for believing it to be true. A very moderate amount of observation of the facts, unclouded by preconceptions, is sufficient to show that they do not bear it out."

What might those preconceptions be that would cloud observation? In *The Specter of Capital*, Joseph Vogl called attention to the recurrence in liberal economics of a project of vindication

characteristic of theodicy. Vogl identified what he calls the "oldest and most deep seated convictions" of liberal economy as arising from "the conviction that market activity is an exemplary locus of order, integration mechanisms, harmonization, appropriate allocation, and hence social rationality, and that it demands to be represented in a coherent, systematic way." At the core of this system is the notion of individual actions motivated only by self-interest leading unintentionally to a socially-beneficial outcome.

Vogl was not the first to comment on the affinity between economics and theodicy. Chapter two of John Milbank's *Theology and Social Theory* is titled "Political Economy as Theodicy and Agonistics." Milbank concluded his discussion of Smith, Steuart, Malthus and Chalmers with the following observation:

> Political economy was not, we can conclude, an emancipated secular science which explored the formal aspects of economic relations in abstraction from moral considerations. Rather, it imagined and helped to construct an amoral formal mechanism which allows not merely the institution but also the preservation and the regulation of the secular. This 'new science' can be unmasked as agonistics, as theodicy and as a redefinition of Christian virtue.

In a review of *Traité de la monarchie,* Michael Sonenscher concluded that "Physiocracy… was a kind of theodicy" deeply indebted to the moral theory developed by Nicholas Malebranche:

> … much of the point of the more familiar features of Physiocracy — *laissez-faire, bons prix, avances primitives, grande culture, despotisme légal* — may simply get (or remain) lost unless they are connected to the complex set of physiological, moral and theological problems that the eighteenth century inherited from the seventeenth and that, in several of their many guises, seem to have motivated Quesnay's unusual intellectual concerns.

Jon Elster, in *Making Sense of Marx,* outlines the indirect influence of Leibniz's theodicy, by way of Hegel, on Marx. In Elster's account, Hegel retained "the idea that history had a goal" from Leibniz's philosophy of history but excluded the role of an "intentional agent whose actions were guided by that goal. Hegel's philosophy of history is a secular theodicy," Elster concluded,

"which is to say that it is nonsense." Elster likened Hegel's "ruse of reason" to "Mandeville's 'private vices, public virtues' and Adam Smith's 'invisible hand'." Marx, in Elster's view, "to some extent took over this pattern of thought." Nevertheless, Marx was himself an early critic of economic theodicy, complaining that it was "[t]hrough the process of a very trivial abstraction… Mr. Bastiat has put together his economic theodicy, the *Harmonies economiques*."

Malthus's theodicy was explicit and undisguised by pseudo-secular euphemisms about invisible hands, Geist or Walrasian auctioneers: "Evil exists in the world not to create despair but activity." His contemporary, William Hazlitt, condemned Malthus's contention that "the wants of the poor arise from the impossibility of procuring food for them, while the rich roll in abundance, or, we will say, maintain their dogs and horses, &c. out of their ostentatious superfluities," as an assertion of "what he knows not to be true." It was "the institutions of society, or the caprice of individuals" not the the laws of God and nature that dictated "the arbitrary and artificial distribution" of the earth's bounty.

According to Vogl, there are several faults in this vindication of the market, including reliance on an assumption of a tendency toward equilibrium that is inconsistent with the financial market's debt-fueled expansion and the absurdity that the economic actor has complete information about the market yet is somehow unaware of the ultimate social consequences of his own actions. Noam Yuran called attention to that peculiarity of the religion at the heart of economics:

> It is a religion that demands that its subjects do not believe. And it is a science of human action predicated on real people's obliviousness to its own knowledge. It is when economic conduct is explicitly or implicitly social that its theological residues resurface. When a person sees his self-seeking conduct as contributing to the welfare of society, or as a way of belonging to community, he already diverges from the solipsistic assumptions of economics as a science and practices it as a religious dogma. When a capitalist invokes Smith to justify himself by saying that in seeking his own good he contributes to the good of society, he is no longer the Smithian subject on which economic knowledge came to be modelled.

Whether or not it is considered a fault, a recurring feature of theodicy is the assumption of a closed system, "characterized by constancy of sum and the preservation of energy," as Vogl described Leibniz's metaphysics. This hidden premise of a divinely-designed self-adjusting system is, of course, antithetical to the conclusions of modern economists that there are "very few situations in economics which have a structure that can be characterized by a constant-sum game."

As theodicies go, the economic religion may not be all that unique in its desideratum of disbelief. Nick Trakakis, for example, argued that theodicy is "part of the problem" of evil rather than a consolation. That is, rather than "vindicating the justice of God," theodicy "ends up effacing our humanity and God's divinity." Agreeing with Sartre that "evil cannot be redeemed," Kenneth Surin charged theodicy with complicity in "mediating a social and political practice which averts its gaze from the cruelties that exist in the world." The problem of detachment originates in the "purely theoretical and disinterested" approach that theodicists take to the realities of suffering. In Trakakis's view, these distancing strategies intrinsic to theoretical inquiry, "only add to the evils of the world rather than illuminating or counteracting them."

Where complacency toward evil may be an unintended consequence of theoretical attempts to vindicate God's power and goodness in the light of evil, when it comes to the economic theodicy complacency is upheld as a paramount virtue -- *laissez faire*. Theoretical detachment generates policy prescriptions that counsel practical detachment from the problems of poverty and unemployment. Direct interventions, it is claimed, will "only make things worse" because they will cause the poor to depend on further interventions. Relief of suffering will have unintended perverse effects because it subverts the inscrutable but presumably omnipotent logic of the market. Detachment is a deliberate strategy of economics on both the theoretical and practical level. Unlike theodicy proper, economic theodicy's practical urging of complacency is not inadvertent.

The principle that insures the harmonization of the behaviors of individuals acting in their own self-interest is equilibrium. But the assumptions, both tacit and explicit, that underlie the equilibrium analysis are not only devoid of theory and empirical evidence – they are also static.

Alfred Marshall was emphatic about this over a century ago. The static analysis, analogous to physics, is only applicable to the fiction of the stationary state:

> This state obtains its name from the fact that in it the general conditions of production and consumption, of distribution and exchange remain motionless; but yet it is full of movement; for it is a mode of life. The average age of the population may be stationary; but each individual is growing up from youth towards his prime, or downwards to old age. The average size of the business firms may be stationary; but at any moment almost every business is either rising or falling. The average value of grain may be stationary; but the current price fluctuates with successive harvest flows. …
>
> The fiction does not require that the numbers of the population should be stationary. Nearly all the distinctive portions of the stationary state may be exhibited in a place where population and wealth are both growing, provided they are growing at about the same rate, and there is no scarcity of land: and provided also the methods of production and the conditions of trade change but little; and above all, where the character of man himself is a constant quantity.

In such a stationary state, sure enough, there is *only a certain quantity of work to be done*. The particular mix of tasks may change but the average aggregate amount of work remains constant – or changes more or less in proportion to changes in the labor force. This placid fiction is the condition for equilibrium!

A strategy of disavowal comes into play in warding off objections to policies that counsel "benign neglect" on the pretext that interference with the laws of supply and demand will only smother the divinely-ordained incentives for activity. Cornered by its own circular reasoning, economic theodicy employs a strategy of disavowal to escape from the implication of a stationary state. Disavowal is a means for evading the portent of a distressing challenge from the outside world while at the same time accommodating the fact in a symbolic fiction. The fixed amount of work economists deride as a "populist" fallacy, obstinately held by workers or

trade unionists is, in fact, the suppressed premise of the equilibrium that excuses the persistence of poverty in the midst of plenty.

Early pioneers of economic thought such as John Locke and William Petty's colleague, John Graunt plainly stated assumptions such as "surely no gain falls to you which does not involve somebody else's loss" or that "to employ the Beggars about it, will but transfer the want from one hand to another." Those zero-sum assumptions were consonant with the premises of rational theodicy. William King's *De origine mali*, translated by Edmund Law as *An Essay on the Origin of Evil,* held that promotion to a superior place in "the great chain of being" was predicated on the demotion of someone previously occupying that higher place, as Tillyard and Lovejoy explained:

> This was a strictly consistent deduction from the theory, if it was assumed that each degree of possible difference can have only one representative at a time; and this assumption was required by the principle of the identity of indiscernibles. Two creatures occupying precisely the same place in the scale would be the same creature. But the consequence that no one can ever rise in the world except at the cost of another's fall was, it is evident, a morally monstrous one.

Not only is this consequence "morally monstrous," it is also contrary to the imperative of perpetual growth. Presumably, under King's scheme one could only accumulate wealth at the expense of someone else losing it. This was not, then, a "populist fallacy." It was an influential doctrine systemized from medieval thought that above all upheld the propriety of distinctions of rank. That is to say, it was a distinctly elitist doctrine and one that early political theorists and political economists embraced. Later economists disavowed the premise but retained the conclusion that requires it as a premise.

A fixed quantity of happiness

In his 1893 *Philosophy and Political Economy in Some of Their Historical Relations,* James Bonar described Machiavelli's notion of a "fixed quantity of happiness" as "in keeping with the prejudices of Machiavelli's times." Indeed, Machiavelli's contemporary, Michel de Montaigne, cited Seneca's observation that "no profit is made save at a loss to someone else." Francis Bacon later expressed a similar conception with regard to the balance of trade in his essay "Of Seditions and Troubles": "the increase of any estate must be upon the foreigner (for whatsoever is somewhere gotten, is somewhere lost,)..." During Julius Caesar's realm, the mime Publilius penned the maxim, "Profits in trade can be made only by another's loss."

The sense of Montaigne's essay merits closer scrutiny in light of Hazlitt's remark that it "nearly anticipated Mandeville's celebrated paradox of private vices being public benefits..." The loss that Montaigne – and his source, Seneca – referred to was not something that originated in the exchange transaction. Loss (or lack) was something that occurred prior to the the exchange and precipitated it. The exchange only transformed this loss into monetary terms. Furthermore, the transaction supplied a remedy for the extant loss. But there is a double edge to Montaigne's and Seneca's argument. The fact that one man's loss may result in another's profit creates an incentive for the latter to desire the former's misfortune. Here we have Mandeville's fable of the bees, Say's law of markets and Frederic Bastiat's parable of the broken window all rolled into one!

The institutionalist perspective throws a different light on the same set of circumstances. Robert Hale, for example, argued that "all incomes whether derived from ownership of property or from personal services, are not 'products' created by the recipients; they are payments derived from the rest of the community by the exertion of some sort of pressure." John R. Commons offered a related observation with regard to wealth:

> Going back over the economists from John Locke to the orthodox school of the present day, I found they always had a conflicting meaning of wealth, namely a material thing and the ownership of that thing. But ownership, at least in its modern meaning of intangible

> property, means power to restrict production on account of abundance while the material things arise from power to increase the abundance of things by production, even overproduction.

The ambiguity surrounding profit and loss, supply and demand, private vice and public virtue arises from confusing the privilege of ownership with the utility of the thing owned.

According to Bonar, the sense that one party's gain was another's loss was also "the impression of the earliest economical thinkers; or, at least, it was a popular prejudice, which they were not entirely able to throw off." This was demonstrably the case for major 17th century pioneers such as John Locke, William Petty and John Graunt.

Although he is more frequently thought of as a pioneer of population studies and vital statistics than of economics, Graunt ranks along with William Petty, Charles Davenant and Gregory King as a major pioneer of "the art of reasoning by figures, upon things relating to government." His *Natural and Political Observations on the Bills of Mortality* (1662) is acknowledged as a founding text of "political arithmetick."

Graunt's argument, in that latter work that, "…if there be but a certain proportion of work to be done; and that the same be already done by the not-Beggars; then to employ the Beggars about it, will but transfer the want from one hand to another…" can be taken as the prototype of the phrase that came to characterize the wages fund doctrine and then to stigmatize the lump of labor fallacy. In his expression, however, he was almost certainly referring to a regularity and not an absolutely unchanging quantity.

Proportion was central to Graunt's methodology. The word appears no fewer than 68 times in Graunt's *Observations on Mortality*. The methodological significance of this word for Graunt cannot be overstated. Phillip Kreager has highlighted the analytical role of proportional checks from bookkeeping and Graunt's *Observations,* founded on the necessity of a population achieving "at least an equilibrium of income and expenditure over time, if it is to survive." Kreager describes that bookkeeping method as follows:

> On the basis of his daily journal of transactions, a merchant was supposed to classify and tabulate every entry according to a few major types of account. Successive transactions pertaining to an account were then entered twice in a ledger, in parallel columns, one entry showing the changing balance of debt, and the other of credit. The comparison or **proportion** of the two columns relative to starting and subsequent balances provided the merchant with an immediate evaluation of the current and past status of the account, relative to others. This made it possible to spot accounting errors, to isolate losses, and to distinguish real profits from diverse fluctuations in income.

It is hard to find an economically-significant proposition that doesn't involve "certain proportions" between two or more quantities. GDP per capita gauges a certain proportion between economic output and population. Productivity measures a certain proportion between economic output and hours of work. Economic growth reflects a certain proportion between one year's output and the next's. The unemployment rate considers a certain proportion between the labor force and the number of people who are looking for work. It is certain proportions all the way down.

Graunt's *Observations* had a widespread and immediate impact. The Royal Society made him a charter member. Mathematicians and natural scientists such as Huygens, Leibniz and Halley were impressed by Graunt's practical application of quantitative reasoning. John Locke owned a copy and paid homage to Graunt's method by keeping a record of mortality statistics in his notebooks during the time he was exiled on the continent.

In "The scientific method of Sir William Petty," Ullmer pointed out that Petty's data in his pioneering accounting of national income came almost entirely from Graunt's *National and Political Observations* -- the rest was conjecture. In *John Locke and Agrarian Capitalism*, Wood credited Graunt with having "had the advantage of being able to use parish records in his examination of the city of London mortality rates," while Petty and Locke had to rely on "commonsensical estimates."

Referring to Locke's influential 1668 memorandum on interest, *Some of the consequences that are like to follow upon lessening of interest to 4 percent*, Wood observed that "Locke's

memorandum abounds with such speculative calculations, which serve as points of departure for chains of numerical deductions."

Recent Locke scholars have argued that his famous chapter five, "Of Property," of his *Second Treatise of Government* can only properly be understood in the context of explicit arguments from the 1668 memorandum and in his *Essays on the Law of Nature*, which appear to have been written in 1664. Recall that Graunt's *Observations* was published two years earlier and was an immediate sensation.

Proportion is the central analytical concept of Locke's 1668 memorandum. The word occurs in the text sixty times. Even "certain proportion" occurs twice:

> For there being a certain proportion of money necessary for driving such a proportion of trade, so much of this money as lies still lessens so much of the trade.

> That in a country open to the commerce of the world and that uses money made of the same materials with their neighbours, any quantity of that money will not serve to drive any quantity of trade, but that there must be a certain proportion between money and trade.

Proportionality is also a key concept in Locke's final essay/question on the law of nature. Locke composed the essays in Latin but two recent translations agree in their translations:

> The human race has only one patrimony and this is always the same and it is not increased in proportion to the number of births.

> In point of fact, the inheritance of the whole of mankind is always one and the same, and it does not grow in proportion to the number of people born.

The question Locke was addressing in this essay was whether the law of nature could be based on self-interest. His answer was that it couldn't because the bounty of nature did not increase in proportion to the increase in the number of people, therefore "no gain falls to you which does not involve somebody else's loss." Or, to put it another way:

> …when any man snatches for himself as much as he can, he takes away from another man's heap the amount he adds to his own, and it is impossible for anyone to grow rich except at the expense of someone else.

In Locke's view, then, the law of nature is a zero-sum game – *if every person acts in their own self interest*. Locke suggested instead that obedience to the law of nature generates utility in the form of "peace, harmonious relations, friendship, freedom from punishment, security, possession of property, and – to sum it all up in one word – happiness." Paradoxically, then, food, clothing and other goods are limited but possession of property isn't because it is a socially-generated utility. The dilemma is abated by generosity, "a great number of virtues, and the best of them, consist only in this: that we do good to others at our own loss." Again, here is the zero sum but this time featuring as a socially-generated utility.

It is widely acknowledged by Locke scholars that his economic views were essentially mercantilist. Keynes suggested that Locke stood with "one foot in the mercantilist world and one foot in the classical world." However that may be, in chapter five of his *Second Treatise on Civil Government*, "Of Property", Locke stood with both feet firmly planted in the mercantilist world.

In chapter 5 of his *Second Treatise on Civil Government*, Locke doubled down on the zero-sum view that he had outlined in his essays on the law of nature. Money plays a pivotal role in repealing what subsequently became known as the spoilage limitation. Someone who took so much that it spoiled before he could use it all did a foolish, dishonest thing -- equivalent to theft. But money could nullify that limitation. The person who gathers more perishable goods than he can use can exchange it for durable Gold or Silver.

Locke was a staunch metallist who insisted on the intrinsic value of Money as represented by its weight and fineness. Locke's well documented views on Money were decisive in the monetary reform and re-minting of British coinage in the 1690s. According to Locke, it was not the absolute quantity of Gold and Silver a nation held that determined its wealth but the proportion of Gold and Silver it held relative to the holdings of the rest of the world: "Riches do

not consist in having more Gold and Silver, but in having more in proportion, than the rest of the World, or than our Neighbours, whereby we are enabled to procure to our selves a greater Plenty of the Conveniencies of Life…"

Locke's money manoeuvre transferred the zero-sum game from useful things that might spoil to a contest over the relative proportions of whatever given supply of money there is. One person's gain is *still* someone else's loss but at least it does not become a net loss through spoilage. This later proviso, though, only holds good for money with an intrinsic value of specified weight and fineness.

In his "Treatise of Taxes & Contributions" (1662) William Petty argued that a definite proportion of money was required to drive a nation's trade. Locke emphasized the same point six years later in his memorandum on interest, "there being a certain proportion of money necessary for driving such a proportion of trade, so much of this money as lies still lessens so much of the trade."

Yet another parallel between the texts of Graunt, Petty and Locke appears in their discussions of "intrinsic value." Graunt's distinction between intrinsic and accidental, or extrinsic, value comes in his conclusion, in which he stressed that the purpose of "all this laborious buzzling and groping" was to inform the "art of governing and the true politics… how to preserve the subject in peace and plenty," the foundation of which "is to understand the land, and the hands of the territory to be governed, according to all their intrinsic and accidental differences…":

> It were good to know, how much hay an acre of every sort of meadow will bear? how many cattle the same weight of each sort of hay will feed and fatten?… It is no less necessary to know how many people there be of each sex, state, age, religion, trade, rank, or degree, etc. by the knowledge whereof trade and Government may be made more certain and regular; for, if men knew the people as aforesaid, they might know the consumption they would make, so as trade might not be hoped for where it is impossible.

For his part, Petty contrasted intrinsic and extrinsic value in the course of his discussion of usury, where he proposed "a survey of the figures, quantities and situations of all the lands,"

which would compare the suitability of lands for various crops and of those crops for feeding livestock:

> As for example; ¡f there be ten acres of Land, I would have it judged whether they be better for Hay or Corn; if for Hay, whether the said ten Acres will bear more or less of Hay then ten other Acres; and whether an hundredweight of the said Hay will feed or fatten more or less, then the same weight of other Hay… This I call a Survey or Inquisition into the intrinsick Values of Land, the extrinsick or accidentall follows.

In what followed, Petty outlined the rudiments of a labor theory of value: "If a man can bring to *London* an ounce of Silver out of the Earth in *Peru*, in the same time that he can produce a bushel of Corn, then one is the natural price of the other…"

Locke took a radically different approach to intrinsic value, arguing that the intrinsic natural worth of any commodity was due to its serviceability to the necessities of life but "that there is no intrinsic natural settled value in anything as to make any assigned quantity of it constantly worth any assigned quantity of another commodity." According to Locke, intrinsic value is conferred by consent on gold and silver money by virtue of its scarcity and durability. This intrinsic value is not natural, "yet being universal has generally but not always... the same effect as if it were natural."

> The necessity therefore of a proportion of money to trade depends on money not as counters but on money as a pledge… First, because a law cannot give to bills that intrinsic value which universal consent has annexed to silver and gold.

The almost obsessive focus on proportionality in both Graunt's and Locke's texts is no proof of Graunt's influence on Locke. The proportional view was central to Aristotle's *Politics* and *everybody* in early modern humanism "up to and including Adam Smith" was doing Aristotle. You didn't have to read Aristotle. The commentaries on Aristotle were ubiquitous. For Aristotle, the economy of the household -- and of larger constituent groups – was circumscribed by the logic of proportions.

Although the relevant passages in the *Politics* and *Ethics* are sparse, Aristotle's writings on the management of the household were taken as authoritative in early modern political thought. "In the Politics," Kreager has pointed out, "population is a recurring topic, extensively discussed and integral to the overall argument." "The first part of a state's equipment," according to Aristotle, "is a body of men, and we must consider both how many they ought to be and with what natural qualities,"

Graunt's "if there be but a certain proportion of work to be done" can thus be interpreted as a statement consistent with the thesis that good government depends on conscientious attention to the maintenance of due proportions between trade, population, land, labor, consumption and social trust "so as trade might not be hoped for where it is impossible." The thesis was supported by data, at a time when data was scarce. What Graunt contributed, Kreager has argued, was a synthesis of humanist Aristotelianism with the techniques of merchant bookkeeping "in which population totals are treated as open or relative accounting balances, rather than closed aggregates; his method arose as a direct response to the need to calculate balances in the body politic."

Graunt didn't invent economics but he did invent the science of population statistics, without which there could be no modern social science. As for his contribution relative to Petty's, Walter Wilcox aptly summed up the impression, "To the trained reader Graunt writes statistical music; Petty is like a child playing with a new musical toy which occasionally yields a bit of harmony."

The historically-specific case for equilibrium: coinage, usury and bills of exchange

There is a historically-pertinent operation of the zero-sum game that also implicates the Utopia of equilibrium: bills of exchange. One of the prime motivations for early modern merchant bankers to adopt the novel and challenging technique of double-entry bookkeeping was to "prove an alibi" against suspicions of usury. The way that bills of exchange were accounted for made them one of the favorite financial instruments for avoiding an appearance of usury. Raymond de Roover explained:

> As a result of the usury prohibition, bills [of exchange] were never discounted but were bought at a rate of exchange which fluctuated up and down according to the conditions prevailing in the money market. There is no doubt that interest was received by the banker who invested his money in the purchase of bills, for a hidden interest was included in the rate of exchange. Because of this subterfuge, the structure of the money market was such that exchange fluctuations were caused either by a change in the rate of interest or by a change in the terms of international trade.

Interest was thus concealed in the exchange rate charged by the banker. As a consequence, the profit on any given transaction was uncertain. A banker, however, could rely on his long-run observation of the fluctuations in the terms of international trade to achieve a high degree of predictability covering a large number of transactions.

By the middle of the 16th century, the use of bills of exchange had become common enough in trade between England and the Low Countries to raise suspicions about manipulation of exchange rates by bankers. This suspicion was articulated in the memorandum prepared for the 1564 Royal Commission on the Exchange, which noted the 'usurious' undercurrents of different exchange rates prevailing simultaneously in London and Antwerp:

> …when the English pound is paid for a month before hand [in London], then the price thereof in reason ought to be the less; and when the English pound is not paid for in

> Flemish money until a month after hand [in Antwerp], then the price in reason ought to be the more. But here you may perceive that this necessary and fair name Exchange might be truly termed by the odious name of buying and selling of money for time, otherwise called usury.

The memorandum then went on to describe "how private gains may be made when the Exchange goeth too low" and "how the bankers do cunningly fall [or raise] the exchange at Antwerp." Among the remedies proposed for such manipulation of exchange rates was to "govern this realm by good policy" such that would "temper and forbear the superfluous delicacies" of imported goods and cause English exports "to be wrought to the best value before they are vented." The resulting trade surplus would raise and maintain the value of the English pound.

Of course not every country can run a trade surplus all the time. For the world as a whole, the balance of trade is indeed a zero-sum game.

There are, however, not one but three issues bound up together in the memorandum on exchange. The first is usury and its concealment in the exchange instrument. The second is the effect of exchange fluctuations on the profits and losses of bankers and merchants. And the third is the manipulation of exchange rates, either by bankers for the private gain or by government to counter the cunning tricks of bankers.

In *Gresham on Foreign Exchange,* de Roover sought to contextualize the memorandum attributed to Thomas Gresham (perhaps incorrectly) in relation to early modern English monetary standards and foreign exchange mechanisms. That memorandum, written to inform the 1564 Royal Commission on the Exchange, subsequently became a much cited and plagiarized source for 17th century English debates about trade policy, which are now characterized as "mercantilist."

Metallic money has two complicating characteristics resulting from its mintage into coins that lead to further complications. Coins wear out and the mint charges seigniorage on the bullion

that it buys from merchants. This means that older coins in circulation will eventually contain less silver or gold than new coins. At some point, people are tempted to hoard new coins or "clip" them. The mint may initially debase new coins as a countermeasure and subsequently as a source of revenue.

Thus the price of silver or gold cannot fall below the seigniorage price because the mint will buy it at that price. It also can't rise too high above the nominal value of the coins or people will melt down coins to sell as bullion. Thus there is a small but significant range within which the price of bullion can fluctuate. This finite band of fluctuation is a crucial premise for the concept of equilibrium to apply to price movements.

The small perturbations are magnified in international trade. Meanwhile, piracy and bad weather create disincentives for shipping sacks of specie or stacks of bullion back and forth across the seas. Bills of exchange enable accounts to be settled on paper.

Bills of exchange also had another useful feature. They enabled interest to be charged on loans without it being considered usury. That is because the banker's profit on a bill is uncertain due to fluctuations in the exchange rate between currencies. The exchange rate for a bill is determined by the par values of the two currencies, the terms of trade between the two countries and the supply of and demand for credit. The otherwise certain profit of usury is made uncertain by the other components of the exchange.

Needless to say, bankers almost always profited on these financial instruments. This led to suspicions of manipulation in the foreign exchange market and proposals for remedies for such suspected frauds. Although some sharp dealing inevitably took place, bankers didn't have to be manipulating the money market. They *knew* the money market. They monitored seasonal fluctuations in trade of different commodities. They observed the debasements and re-coinages of governments and estimated their effects. Equilibrium was the bankers' friend.

Because of their unique characteristics, foreign exchange money markets did indeed usually tend toward equilibrium. But here is where I would like to suggest that what would appear to

be a tendency toward equilibrium taking place in time was as much a movement in virtual space. Bills of exchange had both a term and a terminus. A merchant could draw English money in London to be repaid, say, in Flemish money a month later in Antwerp. The fluctuations over time in the values of the respective currencies reflected the movements of commodities between locations as well as policies enacted by authorities in the two locales.

Foreign exchange markets tended toward equilibrium *only because of their unique characteristics.* These characteristics are not shared by commodity markets in general. There is no "mint" that buys capital equipment at a mandated price to stamp it into some other kind of capital equipment.

One might conclude from the history of bills of exchange that interest was the fee that merchant bankers were entitled to for their superior knowledge of foreign exchange markets. Nassau Senior invented a different theory, though. He credited "abstinence" as the money lenders' unique gift. In his view, interest is a payment to the lender of money for the service of abstaining, for the time being, from consumption. According to Waterman, Senior "was the most important writer on scope and method among the classical economists, and the one whose work was most influential for the twentieth century development of economic methodology."

Some 26 years after Senior delivered his inaugural lecture at Oxford, Cardinal Newman, in his inaugural lectures at the Catholic University of Ireland, rebuked Senior for the presumptuousness of claims he had made on behalf of political economy. Newman characterized Senior's argument as "just so far true, as to be able to instil what is false."

Newman quoted Senior's assertion that "The endeavour to accumulate the means of future subsistence and enjoyment, is to the mass of mankind, the great source of moral improvement." Newman interjected to exclaim that Senior had rated the pursuit of wealth as "not merely a source, but the great source" of not merely "social and political progress—such an answer would have been more within the limits of his art,—no, but of something individual and personal, 'of moral improvement.'"

That was only the warm up. To Senior's claim that "No institution could be more beneficial to the morals of the lower orders... than one which should increase their power and their wish to accumulate..." Newman observed that this excluded Christianity, "for it expressly says, 'Lay not up to yourselves treasures on earth... for where thy treasure is, there is thy heart also."

"But it is not enough that morals and happiness are made to depend on gain and accumulation," Newman exclaimed, continuing:

> ...the practice of Religion is ascribed to these causes also, and in the following way. Wealth depends upon the pursuit of wealth; education depends upon wealth; knowledge depends on education; and Religion depends on knowledge; therefore Religion depends on ‘the pursuit of wealth.'

Thus did Nassau W. Senior deduce faith and redemption from usury, while redefining usury as "abstinence." Medieval canon law strictly condemned usury and prescribed excommunication as the punishment for usurers, excluding them from the sacraments of the church and from the society of other Christians. How did such a remarkable doctrinal reversal, from sin to sacrament, come about?

Once again the history of double-entry bookkeeping offers a clue. Surely one of the motivations for early modern merchants to adopt the novel and challenging technique was to "prove an alibi" against suspicions of usury. Not only were the financial instruments for evading the prohibition complicated, the subterfuge carried over into the terminology used in bookkeeping:

> The ledgers of medieval bankers do not contain any account called Interest Income. Nor is there any account for Interest Expense. It is true that the Italian merchant-bankers often paid interest on time deposits, but it was called deposit, *discrezione*, *dono* (gift), *guadagno* (gain), or *provedigione* (commission). The use of the word 'interest' itself was avoided like the plague.

Interest was concealed in the exchange rates while the presence of the interest factor was boldly denied. The merchants argued -- and the canonists agreed -- that exchange transactions

did not involve a *mutuum* or a loan of money for *certain* gain. It is quite true that the profit on individual exchange transactions was somewhat uncertain. But it was uncertain *within bounds*, as de Roover explained:

> …it did happen that occasionally the lender lost. Nevertheless, the reasoning of the canonists was fallacious: they overlooked an essential point, namely, that the presence of the time factor tipped the scales in favor of the banker. While he suffered a few losses, the banker was bound to gain on most transactions, if he was a clever and cautious manager. Losses occurred only when the exchange rates were not in a position of equilibrium. Such a condition could not persist over a long period of time, for the economic forces of the money market automatically tended toward the restoration of equilibrium.

It was thus the *usual* tendency toward equilibrium in the foreign exchange market that favored the banker "if he was a clever and cautious manager."

"The position of equilibrium," Terrence Hutchison has argued, "has always been the very central concept of economic analysis." Frank Knight, John R. Hicks and A. C. Pigou argued that the postulate of perfect expectation is necessary for equilibrium theory. Conversely, Oscar Morgenstern maintained that the postulate of perfect expectations "may give a nonsensical indeterminate situation the very reverse of equilibrium." Meanwhile, actual historical equilibrium in the foreign exchange market was the result of mint operations that were fairly well understood by a key contingent of market participants.

At the end of an appendix to *Significance and Basic Postulates of Economic Theory,* Hutchison remarked, "It must always be remembered that *laissez faire* and equilibrium doctrines had their origin in *rationalistic Utopia-building*," citing the 1931 article by S. Bauer, "*Origine utopique et métaphorique de la théorie du "laissez faire" et de l'équilibre naturel*." Bauer's article credited a book of aphorism by the Spanish Jesuit Balthasar Gracian with popularizing the Utopian concept, which, translated into French and applied to economic theory, became known as *laissez faire*. In the 19th century, Bauer traced Gracian's source for the concept to Michel

Montaigne's "Of Experience": "Let us give nature a chance, she knows her business better than we do." In another essay, Montaigne affirmed the view that "one man's profit is another's loss."

Watchwords

In 1910 James Bonar delivered a series of lectures addressing the "subtle fallacies which are apt to invade the reasoning of trained economists in spite of learning and discipline." One source of error that Bonar discussed in his first lecture was the proliferation of "watchwords" or "maxims" that keep alive biases inconsistent with the economist's reasoning. A watchword is "a detached phrase that has taken the place of an argument" and may even become "a substitute for an argument."

In his fifth lecture, Bonar specifically addressed one of those tricky watchwords, "in the long run." Economists resorted to this gesture of deferred gratification particularly because it was "not easy to show that the invention of new machines will tend to increase wages." When experience and evidence seemed to refute predictions based on the working out of so-called economic laws, that evidence could be disregarded as inconclusive. "It was to be a sufficient vindication of an economic principle," Bonar explained, "that, if it did not fit the facts now, it would fit them at some time in the future." Bonar objected to this formulation on the grounds that the matter involved something besides the principle of increased production at lower cost:

> It was a different proposition that the increased product tends to be equally shared. The economist has no warrant for saying that any economic tendency exists which by itself brings about good distribution. The sharing of property was matter of law and political institutions, in some countries religious prejudices; and the conditions so established might prevent any such consummation. It does not seem true that economic tendencies are all made beneficial by length of time any more than a man is necessarily made better by growing old. There is no saving virtue in the ''long run."

John Maynard Keynes also took issue with the policy relevance of the exalted long run. In *A Tract on Monetary Reform* (1923) reform, after criticizing the proverbial long run as "a misleading guide to current affairs" Keynes wrote, "Economists set themselves too easy, too useless a task if in tempestuous seasons they can only tell us that when the storm is long past the ocean is flat again." It is conceivable that Keynes knew of the Gracian maxim about "the art

of leaving things alone" because Gracian had used the same image of a storm at sea to illustrate his homily about the virtue of "letting nature take its course": "There are whirlwinds in the affairs of men, tempests of the will, and it makes good sense to retire and wait things out in a safe harbour."

Nevertheless, faith in the virtue of waiting for the restoration of equilibrium has had many adherents:

> Trade will find its own level. – Dorning Rasbotham
>
> The price of corn, like water, will find its own level. -- Benjamin Franklin
>
> Remedies often make troubles worse. Let nature or morality take its course. -- Baltasar Gracian
>
> Let us give nature a chance, she knows her business better than we do. – Michel de Montaigne
>
> Patience is a remedy for every sorrow. -- Publilius Syrus

Publilius Syrus was the Roman mime who also coined the phrase, *Lucrum sine damno alterius fieri non potest* -- "Profit cannot be made without another's loss," which Montaigne

Equilibrium is a zero-sum game.

Nine Spades Are a Lump of Leets

> At the center of almost all economic theory is the concept of equilibrium. For economic theory, equilibrium is synonymous with order. – Charles M. A. Clark

It is not my intention here to debunk economic theories of equilibrium. That has been done elsewhere eloquently and, apparently, to no avail. "It was precisely from the concept of equilibrium that Keynes was struggling to escape," wrote Joan Robinson in 1979. "It must always be remembered that laissez-faire and equilibrium doctrines had their origin in rationalistic Utopia-building," wrote T. W. Hutchison in 1938, "It is high time to put these theories firmly back in their place as Utopian constructions." Alas, equilibrium is a zombie economic idea that will not die.

Instead I am confining myself to highlighting characteristics of the equilibrium argument that implicate it in the lump-of-labor fallacy syndrome. In *More Heat than Light*, Philip Mirowski emphasized the dependence of modern neoclassical theory on analogies to energy physics and has noted the evasion by the former of a principle of conservation that is fundamental to the latter. Joan Robinson made a more direct linkage between equilibrium analysis and the lump of labor fallacy in her satirical exposition of the "neo-neoclassical concept of capital" as "leets":

Robinson first introduced the concept of leets in a 1961 review of James Meade's *Neo-Classical Theory of Economic Growth.* She reversed the spelling of steel "so as to be continuously reminded that we do not know what it means." Her review concluded with a searing indictment of "the nature of the assumption of equilibrium and the manner in which it insulates the analysis from contact with reality."

In her 1970 review of Charles Ferguson's *The Neoclassical Theory of Production and Distribution,* Robinson employed the "lump of leets" motif, cited in the passage below, to highlight a key issue in the Cambridge critique of neoclassical capital theory:

> In the neo-neoclassical concept of capital all the man-made factors are boiled into one, which we may call leets in honour of Professor Meade's steel.* But leets, though all made

> of one physical substance, is endowed with the capacity to embody various techniques of production - different ratios of leets to labour - and a change of technique can be made simply by squeezing up or spreading out leets, instantaneously and without cost.
>
> When equipment is made of leets, there is no distinction between long and short-period problems. The answer to Dennis Robertson's question is simply fudged. Nine spades are a lump of leets; when the tenth man turns up it is squeezed out to provide him with a share of equipment nine-tenths of what each man had before.

In responding to Robinson's leets critique, Robert Solow began by acknowledging "much truth" to the objection that "the usual production functions, allowing for more or less substitutability between capital and labor, attribute to 'capital' a degree of malleability which contradicts common observation." He then distinguished between the "econometrically-minded person" who would view the overly malleable capital as a "specification error" and others -- presumably including Robinson -- who judge it to be "a doctrinal error; and its consequence is a kind of Fall from Grace." Seven years later, Robinson had this to say about such so-called "doctrinal disputes":

> Many economists, nowadays, who are interested in practical questions are impatient of doctrinal disputes. What does it matter, they are inclined to say, let him have his leets, what harm does it do? But the harm that the neo-neoclassicals have done is, precisely, to block off economic theory from any discussion of practical questions.

A trick... of the clumsiest description

The May 1900 issue of *The Engineering Magazine* featured an article by Charles Buxton Going, "Labour Questions in England and America," that crystallized, from the employers' perspective, what was at stake in the controversy over the eight-hour day. The key to understanding the matter lies in Going's distinction between the "seeming" and the "real" issues. According to Going – and to J. Stephen Jeans whom Going quoted extensively in his article – the conspicuous demand that unions put forward for a reduction in the hours of labor was *not the real issue*. Going even conceded that, "there is little question that the hours of working might be materially reduced without loss of wage earnings to the workman nor increase of cost of product to the employer." "In fact," he argued, "the theorem that a man's labour-production is directly proportional to his hours of working, is almost as fallacious as the trade-union proposition, that the amount of wage-winning work in the world is a definite quantity, and will be exhausted sooner by more diligent working."

"If the reduction of the hours of labour had indeed been the sole question," Going insisted, "it is doubtful if the employers would have made any very uncompromising stand, or would have received any very strong support from public opinion had they done so." The *real issue*, though, according to both Going and Jeans, was the determination of the unions to tyrannize over employers and impose regulations on them regarding the hiring of apprentices, the number of machines that could be operated by one employee, minimum rates of wages and the introduction of piece-work.

In an earlier article also cited by Going, H.M. Norris had written about the troubles he ran into in trying to implement a premium pay system in a factory of the Bickford Drill & Tool Company of Cincinnati, Ohio. Going concluded from Norris's account that:

> There is no phase of the tyranny, of the stolid opposition to progress, of the blind adherence to false socialistic philosophy, of the cherishing of the "lump of labour" and other economic fallacies, of the determination to rule or ruin characterizing British trade

> unionism, which does not appear in full vigour in the efforts and aims of the present labour unions of the United States.

The quotation above contains the first known published American reference to the "lump of labour." It is clear from the context of Going's pronouncement that the fallacy claim did not pertain to the putative issue of the reduction of working time but to the alleged union regulations aimed, supposedly, at restricting output. Specifically, the employers' complaint was directed at obstruction by the unionized employees to the introduction of piece-work, or to some sort of premium plan in place of hourly wages. The strongest objection to shorter hours to be found in Going's article is a quote from Jeans that labelled "strangely inconsistent" the workers' claims, on the one hand, that reducing the hours would provide more employment but, on the other, that workers would perform as much work in eight hours as they previously had in nine. Superficially, those two claims may indeed seem paradoxical but only because of the habit of thinking in terms of a static relationship between productivity and employment. In a dynamic economy, the two are consistent. In fact, the two claims taken together are best viewed as an instance of the economists' faith that "technology creates more jobs than it destroys."

From the 1920s to the 1970s, economics textbooks routinely recited the tale of a unionist or working class fallacy underlying the agitation for shorter hours. At first, the lump-of-labor notion was only vaguely associated with the issue of shorter working time. Eventually, the allegation came to define, in the view of textbook authors, workers' motives for demanding shorter hours. Economist Frank Fetter appears to have been the first textbook author to explicitly allege the connection between the lump of labor and shorter working time – in a section of his *Economics*, published in 1916, Fetter wrote:

> The shorter working day is advocated by most workers in the belief that it will result not in less pay per day, but in even greater pay than the longer day, even if the output should be decreased. This view is connected with the lump-of-labor notion. It assumes that men will work no faster in a shorter day, and that there is so much work to be done regardless

> of the rate of wages; and concludes that the shorter day will reduce the amount of labor for sale and cause wages to rise.

In an earlier textbook, *Principles of Economics,* Fetter had discussed the lump of labor in connection with the introduction of machinery and with foreign trade but not shorter working time,

> The 'lump of labor' idea, as it is called, is widely held, especially among workingmen. The notion is that there is exactly so much labor predetermined to be done; therefore, if machines are introduced, there is that much less for men to do.

Following Fetter's lead, Raymond Bye's widely used textbook, first published in 1924, introduced first-year economics students to the supposed fallacy, as did dozens of other textbooks. In the late 1930s, Harry Millis and Royal Montgomery co-authored a labor economics textbook that summed up an otherwise quite credible discussion of the health, productivity and social benefits of reduced work time by dismissing the unions' *real* motive for wanting a shorter workweek as being based on the infamous fallacy. The first edition of Paul Samuelson's *Economics*, published by McGraw-Hill in 1948, warned against the lump-of-labor fallacy, as did each subsequent edition of the textbook. "Viewed from their personal standpoint," one edition of the Samuelson fallacy claim conceded, "the lump-of-labor notion may not be so fallacious… But the lump-of-labor argument implies that there is only so much useful remunerative work to be done in any economic system, *and that is indeed a fallacy.*"

It is indeed a fallacy that the amount of work to be done is fixed. But it is a fallacy that neither Samuelson nor anyone else has ever pinned convincingly on the argument for shorter hours. When asked to verify instances of the supposed belief, Samuelson could be no more specific than to reckon that, "the 'lump of labor' fallacy that my textbook wrote about was widespread during the Great Depression 1929-1935 and is still encountered in today's France."

Origins of the Fallacy Taunt

The prototype for what eventually emerged as the lump-of-labor fallacy claim was the polemic that coercion and restriction were fundamental to the aims and methods of trade unions. In her 1859 article, "The Secret Organization of Trades," Harriet Martineau claimed that the aim and object of trade unions was "to stint the action of superior physical strength, moral industry, or intelligent skill in order to protect the inferior workman from competition… in short, to apply all the fallacies of the Protective system to labour." According to the irrefutable logic of conspiracy theories, evidence was scarce for documenting the aims and objectives of trade unions precisely because they were so secretive.

One of Martineau's sources was an 1838 article from *The Edinburgh Review*, "Trades Unions and Strikes," which she presented as authoritative regarding the true motives and practice of trade unionism. The 1838 article commented on the conspiracy trial of five leaders of the Glasgow Cotton Spinners Association, which took place in the wake of a strike and the murder of John Smith, a strike-breaker. In his capacity as Sheriff of Lanarkshire, Archibald Alison, the article's author, had conducted the raid on the union meeting and arrested the accused. In "Trade Unions and Strikes," Alison discussed the "leading particulars and principles on which all Trades' Unions are founded" in detail. Among the myriad restrictions imposed by "this despotic body" "upon the freedom both of capital and labour" were regulations regarding wages and hours of work:

> The ruling Committees also take upon themselves to fix the number of hours which the men are to labour, and the wages they are to receive. It would be incredible, *a priori*, to what a length in some trades their laws carry this restriction; and how effectually, by a compact, well organized combination, they can succeed in raising, for a long period, the price even of the most necessary articles of life.

Just a month or so before publication of Alison's article, the Irish nationalist and Member of Parliament, Daniel O'Connell, had issued a similar denunciation in the House of Commons of the purposes and practices of trade unions. Hansard reported on O'Connell's remarks:

> The combination had for its object to close the market of labour; it sought to keep persons from entering into a competition in the market of labour, and to raise the wages by diminishing the supply. The monopoly was almost complete in Dublin. There was nothing to equal the regulations and the arrangements for keeping up that monopoly. The right hon. Gentleman had well said, that there was no tyranny equal to that which was exercised by such persons over their fellow-labourers who endeavoured to carry their own labour into the market.

It is possible that the sensation of the Glasgow murder and trial conferred the status of conventional wisdom upon the rhetoric about the tyranny of unions. The clearest and most comprehensive exposition of the thesis, however, had appeared four years earlier in a pamphlet written by an Assistant Poor Law Commissioner, Edward Carleton Tufnell, "Character, Object and Effects of Trades' Unions." Tufnell's unabashed hostility toward trade unions may be well summed up in the pamphlet's concluding sentence:

> Were we asked to give a definition of a Trades Union we should say that it was a Society whose constitution is the worst of democracies whose power is based on outrage whose practice is tyranny and whose end is self destruction *(p. 125).*

As for the lump-of-labor fallacy *per se*, Tufnell's analysis of the cotton spinners' support for the Ten-hour Bill could serve as a template for all subsequent denunciations of the "ulterior designs" underlying the demand for shorter hours:

> The Union calculated, that had the Ten-hour Bill passed, and all the present factories worked one-sixth less time, one-sixth more mills would have been built to supply the deficient production. The effect of this, as they fancied, would have been to cause a fresh demand for workmen*;* and hence, those out of employ would have been prevented from draining the pockets of those now in work, which would render their wages really as well as nominally high. Here we have the secret source of nine-tenths of the clamour for the Ten-hour Factory Bill, and we assert, with the most unlimited confidence in the accuracy of our statement, that the advocacy of that Bill amongst the workmen, was neither more

> nor less than a trick to raise wages—a trick, too, of the clumsiest description; since it is quite plain, that no legislative enactment, whether of ten or any other number of hours could possibly save it from signal failure *(p. 29).*

Tufnell's indictment of the union "trick" was a paraphrase of the testimony of Peter Ewart, a cotton manufacturer, to the Royal Commission on the Employment of Children in Factories in answer to Tufnell's question about what he supposed was the chief motive for the workers' advocacy of the Ten-Hour Bill. In his retelling of the alleged union calculation, Carleton failed to mention that it was an employer's account of what he supposed was the union's intention.

The decade of the 1860s proved to be a watershed for fallacy claim boilerplate, capped at either end by strikes for a nine-hour day that evoked condemnation from the press. The *Daily News* claimed that the London builders' strike of 1859 was based on "a string of bad reasons… that shows the true character of the movement":

> They assume that there is a certain quantity of work to be done, which will take so much time to do. They propose to spread the work compulsorily among a larger number of men, not dividing the wages as well as the work, but paying according to number, and not to time or work.

Twelve years later, the October 6, 1871 in the *New York Times* report on the strike of engineers in Newcastle employed eerily similar wording, "Their theory is that the amount of work to be done is a fixed quantity, and that in the interest of the operatives, it is necessary to spread it thin in order to make it go far." Again the distinction was made between the avowed aims of the strikers and the "real," motive, which, according to the *Times* correspondent, was "to surround production with all manner of restraints and restrictions, so that it shall not be accomplished too fast or by a small number of workmen."

A letter in the Glasgow *Herald* from August 1867 complained that the idea of the unions was that "the less they work now there will be the more left them to do in the future. … An opinion more the opposite of truth cannot well be imagined. There might be some truth in it if there was a fixed amount of work to be done." An article in the *London Morning Post* in October of

that year echoed the conviction that trades unionists "have always proceeded upon the fallacy that there is a fixed amount of work to be done and a fixed number of men to do it…" An unsigned article in the *Quarterly Review* from 1867 explains that the unionist regards the fund from which wages are paid "as mathematicians say, as a given quantity, and concerns himself solely with its division between him and his master."

Large chunks from the *Quarterly Review* article were copied verbatim by James Ward the following year in *Workmen and Wages at Home and Abroad*, which claimed to have identified "the real cause of the objection to piecework and overtime…" which constituted "the fallacy which lies at the bottom of this whole system [of trade unions]." That fallacy, Ward insisted, was:

> …the view that wages being determined in their amount by importunity and combination, they form a fund for the general benefit of all, and that the fund gained by the contributions and exertions of all ought not to be encroached upon by the superior strength and dexterity of a few.

In the tradition of classical political economy, Ward accepted the doctrine of a "wage-fund," the magnitude of which was given at any particular time. The unionists' mistake, according to him, was that "his aim was to get as much out of the wage-fund as possible," without consideration for the fund's source or continuation.

Three years later, John Wilson's "Economic Fallacies and Labour Utopias" in the *Quarterly Review* added a distinctive twist to the wage-fund angle by attributing "the enforcement of all sorts of arbitrary restrictions on the combined workmen" to a "Unionist reading of the Wage-fund theory." An odd metamorphosis occurred when economists repudiated the wages-fund doctrine. Up to that point, unionists were accused of not understanding and abiding by the irrefutable principles of the wages-fund. But after the doctrine's demise, critics accused the unionist of clinging to the archaic and discredited doctrine, which previously they had been accused of not understanding.

The formulaic phrasing was repeated by the *Saturday Review of Politics, Literature, Science, and Art* in 1873 and again in 1876. In September 1873, the magazine informed its readers that "The whole system of Trade Unions is founded on the supposition that the amount of work to be done is a fixed quantity…" The journal doubled down on the claim in an article published April 1, 1876:

> The root of the mania which has had such a disastrous effect on the material prosperity of the country, and, above all, of the working classes, is the idea that the amount of work to be done is a fixed quantity, quite independent of any efforts which may be made to encourage and stimulate demand, and that, therefore, the best course is to spread it thin in order to make it go as far as possible.

Over the years, labor leaders and their sympathizers repeatedly disavowed the intention to restrict output and the fallacious assumptions that go along with it. It would be hard to find a more comprehensive and authoritative reply to the restriction of output complaint than the Eleventh Special Report of the U.S. Commissioner of Labor on *Regulation and Restriction of Output* prepared and edited chiefly by John R. Commons and issued in 1904. A paragraph in the conclusion to that report neatly summed up why "the question of restriction of output… is not as simple as it has been supposed to be." Investigators concluded that workers were increasingly insisting that changes in work organization, methods or materials be made by mutual consent and this only resulted in "restrictions of output" when compared to some hypothetical level that might presumably be attained if employers could impose their efficiency plans at will – assuming the employers' schemes were well-founded (which often they weren't). The Commission report offered a simple, clear and reasonable explanation that didn't require any elaborate speculation about fallacious theories or nefarious motives. As for the question of reducing the hours of work, the Commissioner's report was even more disdainful of the claims about restriction of output:

> Considered solely with reference to speed or intensity of exertion, a moderate reduction in the number of hours of labor each day usually tends to increase the speed rather than to restrict it. From the standpoint of exertion, *a reduction of hours is exactly the opposite from a restriction of output* [emphasis added].

The Manufactured Crisis in British Industry

The background to the Commission inquiry included a wave of strikes and counter-attack of propaganda and employer agitation in the U.K and the U.S. in the late 1890s and early 1900s. In 1901, a series of reports appeared in the *The Times of London* under the running title of "The Crisis in British Industry." The dispatches from an unnamed correspondent claimed to document abuses by unions that were undermining British competitiveness. The lead article in the series revealed the sinister motive underlying this presumed union scheme for "spreading the same amount of work among more people":

> It was hoped to "absorb" all the unemployed in course of time, not by the laudable and much-to-be-desired means of increasing the volume of trade, and hence, also, the amount of work to be done, but simply by obtaining employment for a larger number of persons on such work as there was already. The motive of this aspiration, however, was not one of philanthropy pure and simple. When all the unemployed had been absorbed the workers would have the employers entirely at their mercy, and would be able to command such wages and such terms as they might think fit. The general adoption of the eight hours system was to bring in a certain proportion of the unemployed; if there were still too many left the eight hours system was to be followed by a six hours system; while if, within the six, or eight, or any other term of hours, every one took things easy and did as little work as he conveniently could, still more openings would be found for the remaining unemployed, and still better would be the chances for the Socialist propaganda.

Samuel Gompers, president of the American Federation of Labor, termed such claims about the motives and policies of labor "a libel and malicious invention of irresponsible and plutocratic foes of organized labor." The issue was never about whether there was restriction of output. Few authorities, including union leaders, would deny that such restrictions occurred. The malicious and unsubstantiated parts of the accusation were that such restrictions were pervasive; that they were always inherently irrational or illegitimate and that they arose solely from thuggish or devious motives.

The *Times* articles were written by Edwin A. Pratt but William Collison, the publicist for the strikebreaking National Free Labour Association, claimed to have "provided the information for them." In 1906, James Emery, the chief counsel of the National Association of Manufacturers (NAM), sponsored Collison in a lecture tour of the United States.

The announced goal of the NAM propaganda campaign for the open shop, launched by Parry at the Association's 1903 convention, had been no less than "pulling up, root and branch, the un-American institution of trades unionism." Parry was only slightly more circumspect when he described the role he envisioned for the free press in his avowed enterprise of crushing the unions, "The newspapers finding that they have the moral support of a strong employers' association, can, I think, be depended upon to take a more positive stand against the outrageous practices of unionism than it is wise for them to do without such support." What that "moral support" meant in practice, according to a contemporary account, was that local affiliates of the NAM's civic-action front group -- the Citizens Industrial Association of America -- were expected to see to it that "pressure is brought to bear upon the local newspapers through its advertising members." Parry's successor as president of the NAM, cereal tycoon Charles W. Post, was a key strategist for the organization's publicity campaigns. At the NAM's 1906 convention, Post boasted about the results achieved:

> …two years ago the press and pulpit were delivering platitudes about the oppression of the workingman. Now this has all changed since it has been discovered that the enormous Labor Trust is the heaviest oppressor of the independent workman as well as the common American Citizen. The people have been aroused and are now acting. It has been the duty of this Association to place the facts before the people by various forms of publicity in the work of moulding public opinion to a point of active self-defense.

Post had made his fortune by adapting the techniques of the 19th century patent medicine show to the promotion of packaged foods. He advertised 'Grape-Nuts' and 'Postum' as cure-alls for everything from consumption, appendicitis and malaria to 'Loose Teeth Made Sound by Eating Grape Nuts,' as one of his ads proclaimed. Post was also notorious for spending what for

the time were extravagant sums of money on advertising and for using the leverage of that spending to intimidate the press and keep them from criticizing his fraudulent claims.

Given the activities of the open-shop movement, it is somewhat surprising that so little has been reported by secondary sources about the movement's ideological sophistication and propaganda expertise. In a 1903 speech, though, Jack London aptly described the organizations as "leagues of class-conscious capitalists . . . formed for the purpose of carrying on their side of the struggle. Like the socialists, they do not mince matters, but state boldly and plainly that they are fighting to subjugate the opposing class." Such description is confirmed by the proceedings of the 1903 convention of the National Association of Manufacturers, particularly the presidential address presented by Parry and an address by John Kirby Jr. on "What Should Be the Attitude of Employers toward Labor."

In a master stroke of understatement, American labor historian, Selig Perlman, described Parry's speech as giving "emotional utterance to the feelings of many of the medium-sized and smaller manufacturers" and as "bitterly assail[ing] the tyranny of organized labor and urg[ing] the employers to make sacrifices . . ." The transcript of Parry's speech reveals instead a sustained "denunciation of organized labor" (Parry's own words), a diatribe that exceeds 50 pages in the proceedings, expounding upon the following theme:

> Organized labor knows but one law, and that is the law of physical force – the law of the Huns and Vandals, the law of the savage. All its purposes are accomplished either by actual force or by the threat of force. It does not place its reliance in reason and justice, but in strikes, boycotts and coercion. It is, in all essential features, a mob-power, knowing no master except its own will, and is continually condemning or defying the constituted authorities. The stronger it grows the greater a menace it becomes to the continuance of free government, in which all the people have a voice. It is, in fact, a despotism springing into being in the midst of a liberty-loving people.

That call to arms, it should be noted, was issued at a time when around six percent of the American workforce was unionized. If anyone still doubted whether Parry's demonizing of

organized labor was explicit enough, he cleared the matter up near the conclusion of his speech with the following apocalyptic image:

> When one observes the thousands of toilers of that city [Chicago] with the badge of trades unionism upon their coats, or, after the manner of the Teamsters' Union, on the front of their hats or caps, one is reminded of the words of St. John, in Revelations. In the thirteenth chapter of the prophecy he refers to a beast which arose from the sea and caused no end of torment to mankind. Speaking of the work of this beast, St. John says, in the sixteenth and seventeenth verses:
>
> 'And he causeth all, both small and great, rich and poor, free and bond, to receive a mark in their right hand or in their foreheads. And that no man might buy or sell save he that hath the mark, or the name of the beast, or the number of his name.'

Not quite as colorful, but still extreme, was Parry's assertion that the "vicious" bill then before the U.S. Senate to extend an eight-hour day to government contractors would more appropriately be entitled "An Act to Repeal the Bill of Rights Guaranteeing the Freedom of the Individual." Contemporary observers of industrial relations, Hollander and Barnett summed up the policy toward labor of the hostile anti-union employers' groups:

> Nothing less than the entire destruction of the power of the unions, whether the exercise of that power be legitimate or not, can fulfill the purpose of these militant associations. They refuse to recognize the generally conceded right of unions to exist in the present industrial regime, and deny that unions have a legitimate function.

That conclusion is confirmed in Parry's address to the 1903 convention:

> The most obvious way in which employers' associations can accomplish good is to conduct a propaganda along the lines of truth and justice and thus administer an antidote of common sense for the sophistry of the agitator which is now poisoning the minds of so large a mass of the people. . . The newspapers finding that they have the moral support of a strong employers' association, can, I think, be depended upon to take a more positive

> stand against the outrageous practices of unionism than it is wise for them to do without such support. The employers association can stand for the right of its members to employ whom they please, for the right to hire as many apprentices as they deem necessary, and for the right to conduct their business untrammeled by the many petty exactions of unionism. They can also perform a great service by making it possible for thousands of men to shake off the shackles of unionism, which they now unwillingly bear, and they can furnish protection to the independent workman who holds dear the right to dispose of his labor as he sees fit. THUS IN MANY WAYS CAN EMPLOYERS' ASSOCIATIONS SET ABOUT THE TASK OF PULLING UP, ROOT AND BRANCH, THE UN-AMERICAN INSTITUTION OF TRADES UNIONISM, AS AT PRESENT CONDUCTED [emphasis in original].

The NAM became extraordinarily influential in the years before World War I, even to the extent that it was referred to in newspaper reports as the "invisible government" after a scandal came to light in 1913 about their lobbying methods and the extent of their political influence. Their propaganda campaigns were comprehensive. They included comic strips, movies, lectures, magazines, newspaper editorials, pamphlets, orchestrated letter and telegram campaigns. The association had to tone down its stridency after the 1913 congressional investigation into its corrupt activities. Meanwhile, the lump-of-labor charge against unions drifted into the pages of introductory economics textbooks.

The NAM openly published material clearly aimed at the college market, such as the *Open Shop Encyclopedia*. It maintained an Open Shop Publicity Bureau, subsequently renamed Industrial Relations Department, headed by a former University of Minnesota economics professor, Noel Sargent, the express purpose of which was "educating the public". To what extent the NAM and its allies influenced or censured economics textbooks must remain largely conjectural and circumstantial, since much of the activity would have been undocumented. There is, though, one celebrated case of a NAM campaign in the 1940s against a junior high school social studies textbook series developed by educator Harold Rugg. A related glimpse of the sort of thing that may have been going on behind the scenes can be had from the parallel case of the utilities companies' "information committees" in the 1920s, which conducted sweeping textbook

reviews and exerted pressure on educational authorities, publishers and authors. Those activities were investigated by the Federal Trade Commission in 1928 and reported in *The Propaganda Menace* by Frederick Lumley.

In 1922, the NAM claimed that its Open Shop Publicity Bureau "supplied 1,500 colleges and university teachers of economics and sociology with material.... Practically all of the college and university teachers of sociology, government, and economics receive our publications." At the NAM's 1923 convention, president John Edgerton credited Sargent with attracting "a great deal of favorable attention from our seats of learning in this country. He is teaching the teachers. He is teaching the professors and college presidents." Among the contributors to NAM "educational literature" were Harvard University President Charles W. Eliot and University of Chicago economics professor and founder of the Journal of Political Economy, J. Laurence Laughlin. Other conspicuous allies of the NAM open shop policy included Chancellor James Roscoe Day of Syracuse University, President George B. Cutten of Colgate University and Dean Robertson of New York University.

In its relations with the press, the Association sent out materials to newspapers, monitored the take-up of these stories by the papers, rewarded (with advertising revenue) those newspapers who towed the line and punished those who didn't through blacklists and boycotts. It made no secret of those activities; rather it extolled them as the organization's sacred and patriotic duty to uphold the US Constitution and the Ten Commandments of the Old Testament, as President Edgerton boasted in a 1920 address to the Tennessee Manufacturers Association. "When the people of this enlightened country surrender to the absurdity of the argument for the so-called closed shop and accept it as an established institution, they will owe it to the devil to repudiate the Decalogue and repeal the Constitution of the United States." Later, as president of the Southern States Industrial Council, Edgerton justified a wage differential for the South on the grounds that lower wages would "preserve labor's racial purity, that is foreign labor will not be attracted to the Southland."

It is not as if such efforts would have encountered a hostile or even indifferent reception from the ivory tower. American universities in the early decades of the 20th century were

notoriously conservative and elitist institutions. Thorsten Veblen's *The Higher Learning in America* and Upton Sinclair's *The Goose Step* give a sense of the general climate. The great majority of university trustees were businessmen or allied professionals. Students generally came from the upper middle classes and went on to become businessmen or professionals. College men were routinely recruited to work as strike-breakers and did so enthusiastically. Strikebreaking was not something the collegians did out of desperation for the money – it was a cause they believed in. And let's not forget textbook companies themselves – some of which were active members of anti-union employers' organization. The textbook publisher, McGraw-Hill was a leading member of the NAM's public relations committee during its anti-New Deal "American Way" campaign and published NAM propaganda in trade edition books.

Among the leading academic apologists for the militant employers' organization was J. Laurence Laughlin, founding chairman of the economics department at the University of Chicago. On November 15, 1905, Laughlin delivered an address titled "The Unions Versus Higher Wages" to a banquet of the Citizens' Industrial Association, a NAM front group, in St. Louis, Missouri. Laughlin subsequently published his banquet speech in the March 1906 issue of the journal he edited, *The Journal of Political Economy*.

Laughlin's speech was largely devoted to defamatory statements against workers as, at best, narrow, uneducated, unable to reason correctly and ignorant of the "trials and difficulties of running a great business" or at worst "shiftless, drunken, incompetent, or trouble-making." Meanwhile Laughlin denounced union leaders as "dishonourable, unscrupulous, lecherous and pig-headed men, who would be a disgrace to any penal colony." Aside from the copious verbal abuse, Laughlin's argument boiled down to the following propositions:

- The trade unionists' own statements about their motives and objectives were disingenuous and therefore could be dismissed without consideration.
- The trade unionists' *real* motives and objectives (as divined by Laughlin) were the fomenting of class hatred, the dissemination of socialistic and Un-American literature, the systematic restriction of output and the enforcement of a vast monopoly on the supply of labor.

- Because the theories and policies of the trade unions (that is to say, the theories and policies attributed to them by Laughlin) were indefensible, they had given rise to "a series of acts of violence which have shocked the civilized world" and cultivated an endless parade of "unwise and brutal" leaders. "The ignorance, lack of business habits, and helplessness of the laboring classes has been seized upon by clever and designing men as a means of fattening their own purses, and getting the resources for the indulgence of their lowest vices."
- The true path to higher wages lay with increase of productivity, which, after all, was the sole motive and objective of the employer. If workers would only do what their employers tell them to do with all their energy and enthusiasm, it would be impossible for them to escape being rewarded for their increased efficiency.

In the course of his address, Laughlin made passing mention of the names of "some of the brightest minds in the economic world": Ricardo, John Stuart Mill, F.A.Walker and J.B. Clark. What was the sum total of the "thinking of the best economists", who "devoted their lives to the study of the causes of wages"? Why, it was the "general truth" ("the answer is as plain as day") that "increase productivity and wages rise" which is "only another way of saying that a skilled man gets more than an unskilled man."

NAM propagandists seldom missed an opportunity to repeat the claim that the eight-hour day movement was based on a venerable economic fallacy – "It is the statement as an economic fact of the old, old fallacy that men can restrict their output and thus make work for more men…" (Walter Drew, "The Real Problem of the Eight-Hour Day), "And we have the old fallacy that eight hours a day will mean more men to be employed." ("The Proposed Federal Eight Hour Law and What it Means, reprinted in C.W. Post's *The Square Deal*). David M. Parry, the militantly anti-union president of the NAM also wrote a dystopian novel – published in 1906 – which borrowed liberally from the Pratt/Collison restriction-of-output theme. In one scene in the novel, a dissident doctor from the lost civilization of Atlantis explains to the sojourning hero, John Walker, how the Federation of Labor had sown the seeds of the place's degradation:

> The leaders of the Federation said that there was a certain amount of work to be done in Atlantis, and that the competition among the workers for the chance to do this work

made it possible for the employers to reduce wages. "Now," said they, "all that needs to be done is to get rid of this competition. Let us shorten the hours and let no man perform any greater share of this labor than he can possibly avoid, and then we shall have a condition in which the competition will be transferred to the employers – a condition in which the employers will bid against each other to secure men to perform the necessary work of the nation."

An Academic Consensus – in Theory and Practice

If organized labor had become ambivalent toward shorter hours, even in the course of a supposedly intensified campaign, economists in the late 1950s and early 60s were almost unanimously hostile and dismissive. Canadian-born Dartmouth labor economist Clyde Dankert exemplified this antagonistic consensus. He commented frequently on the issue of the shorter workweek, his paper on automation was included in a collection of background readings for the 1959 hearings of Senator Eugene McCarthy's Senate Special Committee on Unemployment and he edited a 1965 Industrial Relations Research Association volume on the hours of work. Dankert doesn't appear to have published any original empirical studies or theoretical work on the issue.

Judging from his 1962 article in the *Industrial and Labor Relations Review*, "Shorter Hours – in Theory and Practice," he did have a wide -- if somewhat muddled – familiarity with the literature on the hours of labor, including the contributions of Jevons, Chapman, Pigou, Robbins and Hicks. Contrary to that literature, though, he mistakenly claimed that "there is a strong presumptive evidence the output optimum standard is the longest… the employer optimum is ordinarily the next longest and the worker optimum is generally the shortest." On the contrary, Chapman's theory had demonstrated why the employers' choice of hours in a competitive market would most likely be for hours of work longer than would be optimal from the standpoint of total output. Although Dankert acknowledged that shorter hours could lead to higher productivity and improved worker welfare, he concluded that in the context of the Cold War, the priority should be on maximizing total output.

Dankert frequently wrote as a fierce opponent of the idea that work time reduction could offer anything positive for employment policy. He adamantly and repeatedly invoked the lump-of-labor fallacy to discredit the notion that shorter hours could relieve unemployment. "Those persons who think that shorter hours will largely do away with technological unemployment, " Dankert scoffed in a 1959 review article in the *Labor Law Journal*, "are guilty of endorsing, whether they realize it or not, the discredited 'lump of labor' idea." Paradoxically, Dankert didn't discount entirely the possibility that work sharing could relieve unemployment in the short term,

especially in a depressed economy. In fact, he stated, "the unemployment argument… is valid if used in connection with temporary reductions in hours…" "But," he insisted, "in the 'long run', the amount of work is not fixed, and a share the work policy as such is undesirable." At the same time Dankert was confident that "as time goes on hours of work will continue to be reduced… on the grounds of general welfare this is desirable." But there was always the danger of reducing hours too soon and too fast, "giving up too much in the way of real income for the extra leisure we achieve." "In time," Dankert prognosticated, "we should reach the 30-hour week and even the 25-hour week, but… that time is not now…" Of course, it would have been easy, given Dankert's views, to argue for flexible short-term reductions in the hours of work that progressively led to a gradual long-term decline. But Dankert failed to make that connection. Instead his rhetorical sallies about the "guilt" of shorter working time advocates recklessly distorted the case actually being made by advocates.

Dankert's 1948 version of the lump-of-labor fallacy is perhaps the oddest manifestation of a characteristically odd species of claims. In his textbook, *Contemporary Unionism in the United States*, Dankert acknowledged the truth of the proposition "that a permanent and a more or less general reduction in hours will cut down the amount of technological unemployment." Furthermore, distinguishing between the transition to a new standard of hours and a plateau at that new level, "The transition will without any doubt lessen the amount of unemployment for the time being." One might think that Dankert has just made the case for shorter hours, rather than refuting it, but there's more: "If, as the productivity of industry increases, the length of the working-week is gradually reduced, the amount of technological unemployment can to some extent be kept down." So wherein, then, lies the "fallacy"? According to Dankert, those who believe that a given reduction in hours will *permanently* eradicate unemployment subscribe to the lump-of-labor fallacy.

Dankert's confusion might be explained as some sort of personal intellectual quirk were it not for the fact that his "widely respected" views were shared as a consensus of his contemporary economists. There were hints of dissent, but they were few and far between. Dankert was lead editor of an anthology, *Hours of Work,* published in 1965. A review of the book in the October 1965 *Labor Law Journal* summed up the essays in the book as seeming to conclude that the shorter-hour policy was limited in its usefulness at combating unemployment but potentially dangerous, if hours were reduced sharply. Another review found the core argument of the book,

"quite convincing", but dryly confided, "it would be more so if an example were given of this actually happening [shorter hours reducing the demand for labor] in one of the many industries or countries in which standard hours have been reduced." A review in the Bureau of Labor Statistic's *Monthly Labor Review* described the analysis in the book as "hasty or pedestrian."

Writing in the April 1966 *Labor Law Journal,* Howard G. Foster, at the time a teaching assistant at the New York State School of Industrial and Labor Relations at Cornell, pointed out the inconsistencies and unsupported assertions in the standard economists' pessimistic assessment of the shorter working time issue, citing Marcia Greenbaum's observation that the gloomy view reflected a "nearly unanimous opinion of economists outside of the labor movement." Foster presented a very simple but effective demonstration of the dubiousness of claims by Dankert and his colleagues that work time reduction would inevitably increase labor costs. Using a simple hypothetical case of a company employing 100 men, Foster analyzed the employment outcomes of different responses to a 5 percent increase in productivity, first assuming that demand was constant and then that it increased. In the case of constant demand, a reduction of hours by 5 percent per worker could prevent layoffs but not create new jobs. In the case of growing demand, a reduction of hours by 5 percent would create jobs. In each instance, no loss in pay would be required because the change would have been triggered by a productivity increase. Of course real world labor-force adjustments are immensely more complicated than Foster's simplified model. Nevertheless his example involved no assumption that there is a fixed amount of work and made no extravagant claims about the "permanent eradication" of unemployment.

If There Is Any Such Thing

Unionists are not theorists; unionism is an eminently practical thing. -- Robert F. Hoxie

Theory and trade unionism are almost contradictory terms. -- Edward M. Arnos

There are reputable theoretical arguments, backed by evidence, for the benefits of shorter working time. Within the neoclassical tradition, Sydney J. Chapman's 1909 article "Hours of Labour" was acknowledged explicitly by Pigou, Robbins and Hicks as canonical. Critics who invoke the lump-of-labor fallacy ignore those arguments. One is tempted to say "suppress" except that term implies knowledge and intent. How could today's economists be expected to know about economic theory that wasn't in their introductory textbooks?

There are also several arguments for shorter working time that have been advanced by advocates or otherwise reported that could plausibly be misinterpreted or misrepresented as a belief in a fixed amount of work. These views are not incompatible with each other but they do express different perspectives, objectives and strategies. The three most compelling are Robert Hoxie's analysis of what he called the "fixed group demand theory," Maurice Dobb's argument that what workers were seeking to achieve was not simply to maximize income but to obtain the best bargain of income in proportion to their sacrifice of time, effort and wear and tear and in Ira Steward's eight-hour theory, which saw leisure time as the key for raising workers' expectations for a better standard of living.

There also have been arguments presented by formidable economists, notably Cecil Pigou and Sidney J. Chapman, that there are perfectly good reasons for reducing the hours of work, even if the views of some workers may be fallacious. Pigou wrote in 1912, that it would be "unwarrantable to conclude that because the reasons which popular thought offers in defence of any thesis are invalid, therefore, that thesis is untrue." But *were* those reasons invalid?

Fixed Group Demand Theory

Aside from his own use in *Trade Unionism in the United States*, Hoxie's term, "fixed group demand theory," appears in only a few sources: a dictionary entry on the lump-of-labor theory in *What's What in the Labor Movement: A Dictionary of Labor Affairs and Labor Terminology* (1921) by Waldo Ralph Browne, in *The Settlement of Wage Disputes* (1921) by Herbert Feis, whose discussion mainly centered on Hoxie's analysis, Warren Gartman made a brief, parenthetical reference to the theory in a 1950 report on *Longshore Labor Relations on the Pacific Coast, 1934-50*. By far the most extensive treatment of fixed group demand theory was in Edward M. Arnos's 1915 article, "An Interpretation of the Working Rules of the Carpenters' Unions of Chicago." Arnos was a doctoral student at the University of Chicago when Hoxie was conducting his research on organized labor's views on the Taylor method of "scientific management". Presumably Arnos's study of the carpenters union was part of that project.

Hoxie's novel method was to ask people why they did something rather than simply attribute motives to them. Appendix II of his *Trade Unionism in the United States* contains an 18 page outline and summary of a "students' report on trade union program." Appendix VIII of Hoxie's *Scientific Management and Labor* presents over 100 pages of questions used in that study. In the latter study, Hoxie prepared preliminary statements based on extensive reviews of the literature, summarizing the labor claims made by scientific management and the objections to scientific management by unions. He then circulated the summaries to proponents of scientific management and labor leaders, respectively, for their revision and approval.[1] By his own account, Arnos's investigation followed similarly thorough methods.

The point of such rigorous investigation was not to vindicate or invalidate the theories in question but to examine their claims in the light of experience. The outcome was not a triumph for one theory and a defeat for another -- a sorting into economic laws and economic fallacies --

[1] Chris Nyland's account suggests that Hoxie's actual performance in the study of Scientific Management may not have lived up to his own standards of investigative rigor and objectivity.

but an assessment of the extent to which each of the competing theories had merit and their respective limitations.

There are two aspects of Hoxie's discussion of fixed group demand theory worth emphasizing. The first is his explanation of unions' restrictive rules as pragmatic, opportunistic measures adopted locally and retained through trial and error rather than in accordance with some overarching "theory" of how the economy works.

The second is a subtle but devastating critique of the presumption of an economic theory that supposedly applies simultaneously to both the universal long run and to local immediacy. In *Trade Unionism in the United States*, Hoxie sardonically conceded the logic of the classical economic analysis "when applied to society as a whole, if there is any such thing, and in the long run" while objecting that for workers, "there is no society as a whole, and no long run, but immediate need and rival social groups." Hoxie's point anticipated the famous remark made several decades later by John Maynard Keynes that "this long run is a misleading guide to current affairs." Hoxie gave the following definition of fixed group demand theory:

> The demand for the labor of the group is determined by the demand for the commodity output of the group. The community—wealth and distribution remaining the same—has a fairly fixed money demand for the commodities of a group. It will devote about a given proportion of its purchasing power to these commodities, that is, if the prices of the group commodity are higher, it will buy less units and vice versa, but expend about the same purchasing power.

"In practice," Hoxie concluded, "the group demand theory is simply the application by the unions of the principle of monopoly, admittedly valid." A further implication of Hoxie's analysis is that even if the prices for a particular commodity entice the public to buy more of it, they are not likely to buy so much more that they spend a larger *proportion* of their income on that particular commodity than they did at a higher price. It may facilitate and encourage increased spending elsewhere but then members of the group would need to leave the group to benefit from the new employment.

In a brief essay on "The Theory of Unionism: Principles of Uniformity," Hoxie dampened an acerbic critique of economic orthodoxy by presenting it as "the employer's" naïve conclusion:

> Apparently it rarely occurs to the employer that this analysis is not complete. Having assumed that definite laws determine the manner in which income is shared among the productive factors, he apparently concludes, somewhat naively, that just as the laborers in society will in the aggregate profit by increase in the social income, so also will the laborers in any individual establishment profit by increase in its income.

For Arnos, those who held such views were "[t]he business man, the entrepreneur, and the classical economist" who "would usually undertake to solve the problem of unemployment by reducing wages." One final point that Arnos emphasized was that both the economists' perspective and the unionists' were valid within limits, although neither had universal application.

The perspective criticized by Hoxie and Arnos recapitulates the old "Say's Law" truism that, as Alfred Marshall put it, "the demand for work comes from the National Dividend; that is, it comes from work: the less work there is of one kind, the less demand there is for work of other kinds; and if labour were scarce, fewer enterprises would be undertaken." Hoxie referred to this as "the classical supply and demand theory and its variants. Supply is demand."

Marshall's "national dividend" was an updated and sanitized label for what a decade earlier in *The Economics of Industry*, he still referred to as the "wages-and-profits fund," which was too close to the discredited wages-fund to escape scrutiny. The bottom line, though, remained that "there is no such thing as general overproduction." There is only ever "commercial disorganization; and that the remedy for it is a revival of confidence":

> The chief cause of the evil is a want of confidence. The greater part of it could be removed almost in an instant if confidence could return, touch all industries with her magic wand, and make them continue their production and their demand for the wares of others. If all trades which make goods for direct consumption agreed to work on and to

> buy each other's goods as in ordinary times, they would supply one another with the means of earning a moderate rate of profits and of wages.

Although Marshall didn't put it this way, it follows from his analysis of the impossibility of overproduction that in a crisis, entrepreneurs commit the lump-of-confidence fallacy (or the fallacy of the fixed Confidence-fund). Marshall literally invoked the confidence fairy in defense of this view: "if confidence could return, touch all industries with her magic wand…" Incongruously, Marshall failed to notice that the employers' stock remedies for hard times of cutting wages and/or laying off workers reflected their obliviousness to the proposition that "there is no such thing as general overproduction." Employers, acting *as if* there was a fixed amount of demand for their output would thus, by their layoffs and wage cuts, make the proverbial fixed amount of work to be done a practical reality.

Why worry about what Alfred Marshall wrote or didn't write 136 years ago? Because it is the dogma echoed down through the ages, such as in this 1986 specimen by Richard Layard, *How to Beat Unemployment*:

> The one fatal heresy in economic analysis is to take output as given. That is the 'lump of output' fallacy. You must always have a theory of how output is determined and you must never say, 'Higher output per worker reduces employment, because it reduces the employment needed to produce a given output'. Likewise you must never say 'More people cause unemployment', unless you can explain why output will not grow.

Along with Richard Jackman, Richard Layard recycled the archaic and bogus analysis the next year in a pamphlet, "Innovative Supply-Side Policies to Reduce Unemployment" and yet again in 1991, adding Stephen Nickell to the team in *Unemployment: Macroeconomic Performance and the Labour Market*. This "analysis" became the basis of Tony Blair's and Gerhard Schroeder's miserable "New Supply-Side Agenda for the Left."

The Fixed Work-fund

Alfred Marshall's term for the lump of labor was the "fixed Work-fund" fallacy. Both Pigou and Maurice Dobb challenged the claim that the fixed Work-fund view was necessarily a fallacy. In common with Edward Arnos, Dobb conceded that the arguments of economists and trade unionists were each partially valid. Economists were correct that aggregate earnings could be increased by removing restrictions on efficiency and on the supply of labor. "But," Dobb objected, "the argument as it stands is incorrect. It is not aggregate earnings which are the measure of the benefit obtained by the worker, but his earnings in relation to the work he does — to his output of physical energy or his bodily wear and tear."

Although restrictions *may* indeed reduce aggregate earnings, they may also enlarge "wages *as a proportion* of the total social income." In accounting terms, this argument is equivalent to saying that the objective of the firm is not to maximize gross revenues but to maximize revenues relative to expenditures with the crucial distinction that for the workers expenditures are not solely measured in money. Dobb pointed out the paradoxical implication of the economists' fixation on aggregate earnings:

> What was implied in the economists' retort to the advocates of the so-called Work-Fund leads to the apparent paradox that the more the workers allow themselves to be exploited, the more their aggregate earnings will increase (at least in the long run), even if the result is for the earnings of the propertied class to increase still faster. And on this base is erected a doctrine of social harmony between the classes! But it does not follow that the workers will prefer to be exploited to a maximum degree, or that attempts to limit this exploitation are based on fallacious reasoning.

Although Dobb did not mention it, it is not certain that restrictions on production -- in particular the reduction of working time -- will reduce aggregate earnings. Pigou raised this latter point in his discussion of the fixed Work-fund. In *Unemployment* (1913), Pigou reviewed at length "certain popular explanations" of unemployment that start from the theory that "there is not enough work to go round." Pigou accepted the premise that the doctrine of a fixed Work-fund

had a "wide currency" and acknowledged "an element of undoubted truth" with regard to "each industry separately." He argued, however, that it was a fallacy of composition to extend the doctrine to industry as a whole.

Pigou's discussion went beyond glibly identifying a fallacy of composition, though, when he disclaimed as equally fallacious "the reasoning process, which seeks to rebut a conclusion merely by disproving the cogency of a particular argument used in its support…" "If it were a good ground for rejecting an opinion that many persons entertain it for bad reasons," he exclaimed, "there would, alas, be few current beliefs left standing!"

Pigou followed that remark with a recital of the standard Say's Law platitudes: workers are unemployed because "at the wage they ask, there is no demand for their services" and where else might demand come from but "from the general income of the country, that is to say, from the product of the labour and capital of the rest of the community"? But in conclusion Pigou introduced a novel suggestion: "The reduction of the normal hours of work will do it or will fail to do it [i.e., create more demand for labor], according as the extra leisure increases the workers' efficiency more or less than in proportion to the reduction of hours." This point directly refuted Rae's earlier contention that work-time reduction could not be a tool against unemployment because the productivity gains would cancel out the need for hiring additional workers.

To sum up the counter-arguments to the fallacy claim:

- The fixed group demand policy is derived from experience and trial error, not abstract theory
- The fixed group demand/fixed work-fund perspective can be valid in a local, short-term context.
- The "whole of society" and the "long run" are not pertinent to the immediate needs of workers

- Even in a broader context, it is not just maximizing aggregate earnings that workers are concerned with but maximizing earnings in proportion to effort and wear and tear

- Reducing the hours of work may increase even aggregate earning if the additional leisure increases workers' efficiency, e.g., through the diminution of fatigue

And that is just the supply side. Eight-hour day advocate Ira Steward advanced a rationale for shorter hours of work that, in the view of economist Dorothy W. Douglas anticipated Keynesian consumption-oriented demand stimulus. Steward's argument featured two key innovations: first, that added leisure would stimulate consumption and aspirations for a higher standard of living and second that high wages would compel the introduction of more labor-saving machinery thus boosting the productivity of labor.

Decreasing the Hours Increases the Pay

> Many have been the cases in which men have been forced to admit that the truth was exactly the reverse of all their past opinions or experiences.—Ira Steward, 1865

From his vantage point in the mid-1920s, Henry Mussey admired the political pragmatism of Samuel Gompers's use of eight-hour philosophy to nurture the fledgling American Federation of Labor. "No student of American labor history," Mussey wrote, "can fail to be struck with the extraordinary importance of the eight-hour issue in union thinking during the formative years of the American Federation of Labor."

In his 1927 article, "Eight-Hour Theory in the American Federation of Labor," Mussey devoted special attention to the early history of the labor federation up to 1892. He argued that the reason the leaders of the labor movement took up the question of the eight-hour day and made it their central demand was that it served the practical needs of organizing.

Mussey was less convinced of the theoretical soundness of the federation's eight-hour philosophy, pioneered by Ira Steward in the 1860s. His apparent skepticism was in keeping with the customary disdain of academic economists toward populist panaceas for unemployment. Economic textbooks of the 1920s and 1930s often proclaimed the shorter-hours theory not only false but also pernicious – most of them without having first bothered to familiarize themselves with its tenets. It just didn't sound like something that would conform to their preconceptions so it must be wrong and not worth examining.

"Any cub productivity theorist," Mussey quipped, "can upset the idea by a mere reference to long-time effects on wages…" The unionists, in Mussey's view "were blissfully ignorant of such theories" and untroubled by the "theoretical fallacy" of their own views. But does a "mere reference to long-time effects on wages" decisively refute of the eight-hour theory or is it an unintended exposé of the superficiality of the *pro forma* academic dismissal of the theory?

Were the proponents of the eight hour theory "blissfully ignorant" of productivity theories, as Mussey claimed? George Gunton – who formalized the American Federation of Labor's eight-

hour philosophy in a 1889 pamphlet, "The Economic and Social Importance of the Eight-Hour Movement" – most certainly was not ignorant of productivity theory. On the contrary, Gunton was familiar enough with John Bates Clark's theory to have penned critiques of it that rattled Clark. In March 1889, Clark wrote to his friend and mentor, Franklin H. Giddings, explaining the reason for a delay in publication of his productivity theory of wages. Gunton had written to the *Political Science Quarterly* with a proposal to write a critique of Clark's theory and pointing out "He [Clark] seems to have been much impressed by Stuart Wood's article in the *Quarterly Journal of Economics.*"

Clark had indeed been much impressed by Wood's article and, after hearing of Gunton's remark, delayed publication of his own theory to reconsider to what extent it was indebted to Wood's. Clark, of course, was no "cub productivity theorist." He was the papa bear of marginal productivity theory in whose honor was published the volume that included Mussey's essay. At any rate Clark stated explicitly that his model held only under the assumption of full employment.[2] Clark's productivity theory could "upset" Steward's only if one accepts that abstract assumptions trump concrete reality.

Sidney Webb, the founder of the London School of Economics, described Gunton's book, *Wealth and Progress,* as admirable and credited his 1886 article in *The Forum* magazine with having "brought the subject [of the eight-hour day movement] to the notice of economists." Webb understood Gunton's argument to be that the eight-hour day would benefit workers "not so much by effecting a redistribution of the wealth already existing, as by creating more wealth." Alfred Marshall made it a practice to collect essays and pamphlets of interest and have them bound in volumes. Among the items in Marshall's library are bound volumes of three works by Gunton, including his 1889 pamphlet.

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[2] "Clark's static model (1899, 56) explicitly holds constant population, capital, technology, firm organization, and consumer demand. It also requires competition on the supply and demand sides of goods and factor markets, perfect labor and capital mobility, and full employment of factors. Clark's marginal productivity theory is primarily a theory of labor (factor) demand rather than of wage (factor price) determination. Wages are determinate only with a theory of labor supply, which is mostly implicit in Clark (although see 1899, 90–94) and assumed to be infinitely elastic, so that the wage represents the marginal cost of labor to the firm." Leonard, Thomas C., 1944-*"A Certain Rude Honesty": John Bates Clark as a Pioneering Neoclassical Economist* History of Political Economy - Volume 35, Number 3, Fall 2003, pp. 521-558

Gunton's pamphlet was a systemization and, in Dorothy W. Douglas's later assessment, a "considerably modified version" of Ira Steward's eight-hour theory. Although chronologically Steward's theory preceded Gunton's modification, it is convenient to start with the latter because it is easier to trace the connections between Gunton's analysis and more conventional economic analysis.

Gunton discounted any novelty or radicalism to the proposition for a general reduction of the hours of labor. He argued that opposition from employers should be attributed to a deeply entrenched misconception about the relationship between profits and wages – namely, that profits fell when wages rose – rather than to any aversion on their part to improving the workers' condition. The existence of labor unions was a natural outgrowth of industrial progress and thus was inherently neither an alien intrusion nor a hindrance to further progress. If accepted as such, unions would act as a constructive force for promoting social improvement. If suppressed, though, they could turn to revolt.

Gunton declared consumption to be the end and object of production. This was hardly a novel position as it simply reiterates Adam Smith's dictum that "Consumption is the sole end and purpose of all production; and the interest of the producer ought to be attended to, only insofar as it may be necessary for promoting that of the consumer." Within the production process, labor is prior to capital. Capital is only practical to the extent that it can obtain a better or cheaper result than would be possible without the use of capital, which typically only occurs when production can occur on an expanded scale. For that reason, the workers themselves constitute a vital market for the products of modern industry that relies on machine production. But they can only perform the role of consumer to the extent that their social aspirations and wages permit. Thus industrial progress depends upon improvement in the workers' living standards, their real wages and level of consumption. At the same time such an advance of wages is only prudent to the extent that it doesn't *permanently* increase prices or reduce the absolute quantity of profit.

Having established the utility of unions, their demands for higher wages and shorter hours and the contribution their achievement makes to general social progress, Gunton proceeded to outline the mechanism through which such a non-inflationary, profit-conserving general increase in wages could take place. His first assumption was that the price of labor, subject to the laws of competition, tends toward its marginal cost of production. The general rate of wages, Gunton argued, was determined by the cost of living of the most expensive families furnishing a necessary part of the labor supply in a given region and industry. Dorothy Douglas made a similar point – the standard of living "might be regarded as the cost of producing labor" – in *The Worker in Modern Economic Society* (1923, p. 272) although Douglas focused on the "normal family" rather than the most expensive ones.

It is on this last point that Gunton's analysis becomes most innovative. The standard of living argument could be understood almost as a 'mirror image' of J.B. Clark's marginal productivity theory of wages. Where the marginal productivity theory ignores labor supply (that is, assumes it to be "infinitely elastic") so that it can focus exclusively on labor demand, Gunton's standard-of-living wage theory specifically addresses the question of the labor supply and effective demand for goods.

Gunton attributed differences between communities in their standards of living to the 'habits and customs' prevailing in any particular society. "Habit not only governs our social wants, but it exercises an important influence over our physical wants also." These habits change over time as a result of frequent contact with "enjoyable conditions", repeated satisfaction of the desire for those conditions and, finally, the solidification of such tastes into absolute wants. Leisure, Gunton argued, provides the opportunity to come into contact with those enjoyable conditions or social influences.

According to Gunton, adoption of an eight-hour day would reduce unemployment (presumably by sharing the current demand for labor) and, as a result of leisure's increased social influence, create new demand for commodities. Both of those trends would, in turn, tend to increase wages and employment. That is to say, there would be two rounds of employment increase: at

first from a transitional redistribution and spreading of purchasing power but ultimately from the resulting expansion of economic activity. That is to say that the short term benefits of work time reduction generate longer term gains. Moreover, because the wage increases would result from an increased aggregate consumption of wealth, they would tend to lower prices rather than raise them. The outcome would thus be a win-win-win of higher wages for workers, lower prices for consumers and an increasing total *amount* of profit, albeit at a reduced *rate* of profit. Or maybe that should be a win-win-tie? Capitalists, whose concern is for the rate of return on investment, may not share Gunton's enthusiasm for the increased aggregate profit at a reduced rate. Nevertheless, published objections to Gunton's argument disputed the rationale behind his claims about eliminating unemployment but not his views on profit rates.

Dorothy W. Douglas on Ira Steward's Theory

In 1932, five years after publication of Mussey's article, Dorothy W. Douglas vindicated Ira Steward's eight-hour theory in an article in the *Journal of Political Economy*, describing it as a "philosophy of American wages and unemployment that sounds strangely apposite today." What had intervened decisively between Mussey's 1927 ambivalence about the economics of shorter hours and Douglas's 1932 enthusiasm was a financial collapse and the start of the Great Depression.

Douglas was a pioneering feminist and radical economist. In the 1920s, she wrote economic studies of wages and living standards – sometimes in collaboration with her husband, Paul H. Douglas, the co-author of the Cobb-Douglas production function. In the 1940s, Dorothy Douglas's radical teaching at Smith College had a profound influence on the intellectual and political awakening of Betty Friedan .[3]

Douglas identified the two main aspects of Steward's theory and their interconnection. First was the stimulating effect of leisure and leisure-time consumption upon the standard of living and hence on the wage demands of the lowest classes of labor; second, the stimulating effect of this more expensive labor upon the technique of production itself – the effect of "driving" labor saving machinery; and finally, uniting the two, was the notion that mass demand alone makes mass production possible.

What impressed Douglas most about Steward's theory was his argument that unemployment and low wages lay at the root of economic depressions. According to Steward (in Douglas's words), capitalists "assume that just a little surplus labor is good for business." Too much unemployment would be an inconvenience and even a scandal. But employers welcome just enough unemployment to discourage demands for higher wages. The problem with this "Goldilocks" (not too high, but not too low) theory of unemployment, as Steward pointed out, is that there is, in effect, a multiplier effect of fear. "An unemployed man is the most deadly fact that exists outside of a graveyard... Without raising a hand he takes more bread from

[3] then Bettye Goldstein, see Daniel Horowitz Betty Friedan and the Making of the Feminine Mystique

others than he himself can eat.. more clothes than he can ever wear..." This specter of unemployment makes those who are still employed willing to work for longer hours and lower wages in "the deadly competition between those who have nothing to do and those who do too much for fear of doing nothing." Furthermore, the still employed workers become reluctant to spend what income they have for fear of future unemployment. "The most cautious and calculating laborers, who are not themselves discharged, are sufficiently alarmed by the first few discharges that occur about them to wait before buying." Meanwhile, employers find themselves with no choice but to lay off workers in response to the contraction of business.

Ironically, though, and again in contrast to Mussey, Douglas judged the practical impact of Steward's proposals to be negligible. Mussey had hailed the practical success of a labor strategy founded on Steward's theory but doubted the economic soundness of that theory. Douglas admired the theoretical side, while discounting the likelihood of its practical political implementation. This was published one year before the Black-Connery Thirty-hour bill nearly became law. As things have turned out, economists and unionists have abandoned both the theoretical and practical dimensions. Meanwhile, unbeknownst (apparently) to either Mussey or Douglas, Steward's theory had been given powerful, independent support in the neoclassical theory of the hours of labor expounded by Sydney Chapman. John Maynard Keynes articulated a policy prescription quite similar to Steward's in 1943. There is no evidence, however, that either Chapman or Keynes was familiar with Steward's theory or its endorsement by the A.F. of L.

Steward viewed machinery as a blessing, "provided the wealth more rapidly produced is consumed as fast as days' works are destroyed." But for this blessing to continue it was necessary that wages rise continuously, in concert with growing productivity. Otherwise "production gains upon consumption," which is to say a glut on the market begins a cycle of unemployment, recession and misery. In Steward's analysis unemployment is the cause of financial crises and not the other way around. Steward could be downright quixotic about the blessings shorter hours would bring, including an end to prostitution, drunkenness, political corruption and war, not to mention better health and more beautiful women!

> A reduction of Hours means more than an Increase of Wages. It means a more equal and just Distribution of Wealth. For, to increase Wages, without increasing the cost of Production, is a more equal Distribution of Wealth.
>
> A better Distribution of Wealth, means, at the same time, the gradual eradication of. Speculation, Idleness, Public Debts, Interest, Fashionable extravagance, Woman's endless Drudgery and Low wages, Prostitution, Intemperance, Corrupt Legislation, Land Monopoly, Polygamy and War.
>
> Human life will be lengthened, less time will be lost in attending the sick, woman will become far more healthy, as well as beautiful, and men, as well as women, will be placed more upon their good behavior…
>
> Wealth will increase, while Capitalists as we now understand them will be known no more forever; for the Laborer and the Capitalist will be One! Beyond the power or the necessity, at present, of the imagination to conceive, are the blessings, without number, which will grow up among us, when we turn our footsteps in this direction....

Although not in such extravagant terms, the advantages of a shorter working day were nevertheless acknowledged in the final report of the U.S. Industrial Commission, published in 1902 and authored by John R. Commons, one of the founders of labor economics. Commons was familiar with and sympathetic to Ira Steward's theory. In his introduction to Steward's pamphlet, "A Reduction of Hours is an Increase of Wages," Commons credited Steward with, "placing the argument upon a more enduring basis, the standard of living." Steward's challenge was to convince workers that they could earn as much or more in the shorter hours and show employers that the better-paid workers would raise demand for their products and thus benefit business. In his Industrial Commission report, Common's confirmed Steward's standard of living argument almost without reservation:

> On the side of the working population there can be no question respecting the desirability of fewer hours, from every standpoint. They gain not only in health, but also in

> intelligence, morality, temperance, and preparation for citizenship. Even in those cases where machinery has not increased the intensity of exertion, a long workday with the machine, especially where work is greatly specialized, in many cases reduces the grade of intelligence.
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> ***
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> A reduction of hours is the most substantial and permanent gain which labor can secure. In times of depression employers are often forced to reduce wages, but very seldom do they, under such circumstances, increase the hours of labor. The temptation to increase hours comes in times of prosperity and business activity, when the employer sees opportunity for increasing his output and profits by means of overtime. This distinction is of great importance. The demand for increased hours comes at a time when labor is strongest to resist, and the demand for lower wages comes at a time when labor is weakest. A gain in wages can readily be offset by secret agreements and evasions, where individual workmen agree to work below the scale; but a reduction of hours is an open and visible gain, and there can be no secret evasion. Having once secured the shorter working day, the question of wages can be adjusted from time to time according to the stress of the market.

Henry Ford echoed much of Ira Steward's argument when he adopted a five-day, 40-hour week at his automobile factories in 1926. He explained his rationale for doing so in an interview with the journalist, Samuel Crowther. Ford reasoned that the production achieved in five days would be at least as much, if not more than that achieved in six. The pay for the shorter week would be the same as previously for the six-day week. Without a general adoption of the shorter week, Ford argued, the US would not be able to absorb all of the material wealth it could produce. In reasoning reminiscent of Marx's, Ford explained that the shorter week would also put pressure on business to perform more efficiently, "The harder we crowd business for time, the more efficient it becomes."

As did Steward, Ford saw leisure as a source of consumer demand, "The more well-paid leisure workmen get, the greater become their wants." Thus a virtuous cycle would be established. Efficient business paying high wages and selling at low prices would give workers sufficient income to buy the goods that the businesses sell and time to enjoy life and consume the goods produced. People's greater free-time and mobility "gives them a chance to find out what is going on in the world," leading to a "larger" life – "more food, more and better goods, more books, more music – more of everything." "The people who consume the bulk of goods," Ford insisted, "are the people who make them. That is a fact we must never forget – that is the secret of our prosperity."

Ford cautioned that the 40-hour standard was not the final resolution of the issue, valid for all times. If introduced twenty years earlier, under more primitive manufacturing and organizational methods, general introduction of the eight-hour day would have led to poverty rather than wealth. In the future, the hours of work would again need to be reduced. Ford thought the next step would be further reduction in the length of the working day.

Reacting to Ford's five-day week, though, the National Association of Manufacturers surveyed the views of presidents of large business that belonged to the association, asking, "Will Henry Ford's five-day week, just put into operation in his plants, and now urged as ideal by labor leaders, be adopted generally by the industries of the country?"

The response: "It will not!" they replied in unison. And they enumerated the reasons:

1. It would greatly increase the cost of living.

2. It would increase wages generally by more than 15 per cent and decrease production.

3. It would be impracticable for all industries.

4. It would create a craving for additional luxuries to occupy the additional time.

5. It would mean a trend toward the Arena, Rome did that and Rome died.

> 6. It would be against the best interests of the men who want to work and advance.
>
> 7. It would be all right to meet a sales emergency but would not work out as a permanent thing.
>
> 8. It would make us more vulnerable to the economic onslaughts of Europe, now working as hard as she can to overcome our lead.
>
> Mankind does not thrive on holidays. Idle hours breed mischief. The days are too short for the worthwhile men of the world to accomplish the tasks which they set themselves. No man has ever attained success in industry, in science, or in any other worthwhile activity of life by limiting his hours of labor.

Notwithstanding the hostility of the National Association of Manufacturers and its members, Ford was not alone among business leaders who recognized the benefits of shorter working time. The roll call of entrepreneurs who enthusiastically endorsed shorter hours of work goes back to Robert Owen's 10-hour day at in the early 19th century and features prominently William Mather who introduced a 48-hour week at the Salford Iron Works at Manchester England in 1893; Ernst Abbe, who conducted rigorous experiments with reduction of the working day at the Carl Zeiss Optical Works in 1900: Lord Leverhulme, who established a six-hour day at his soap factory in Port Sunlight and wrote a book advocating its general adoption; Lewis Brown and W.K. Kellogg at Kellogg's, who, inspired by Leverhulme, implemented a six-hour day at Battle Creek.

The core of Steward's theory was the role of habit and emulation in establishing the workers' standard of living. As Gunton wrote, "habit not only governs our social wants, but it exercises an important influence over our physical wants also." The point of the shorter working day was to create an opportunity for workers to learn new and better habits. With regard to social emulation, Steward could arguably be credited with coining the phrase "keeping up with the Joneses." "The Smiths and Jones 'and everybody'," he wrote, "are going [to attend an evening concert], 'and who wants to be so different from everybody else?'... The great majority of men

and women must 'act like other folks.' 'What will people think?' or 'What will people say?' is the most terrible question which they can be asked." Unlike some 18th century thinkers, such as Benjamin Franklin and William Godwin, Steward, Gunton and Ford viewed the artificial expansion of needs in a more positive light, possibly because they saw the broader consumption as a result of more leisure rather than as a diversion or barrier to achieving that leisure.

Zero-Sum Gamesmanship

In his preface to *Strategy and Conscience*, Anatol Rapoport recounted an exchange he had with a strategist who had come to his university to talk about "Defense and Strategy in the Nuclear Age." Overcome with revulsion at the speaker's clinical detachment in addressing mass extermination, Rapoport asked the speaker, "how would he defend himself if at some future time he were a co-defendant in a genocide trial."

The speaker respectfully replied that "he would plead 'partially guilty.'" But it was the response of many of his colleagues to his question that rattled Rapoport. They thought the very question was inappropriate and violated the standards of academic discourse. Somehow, even when discussing "the unthinkable," some thoughts still must remain taboo.

A central issue Rapoport raised in *Strategy and Conscience* was the pressure on strategic thinkers to reduce non-zero-sum game situations to the zero-sum dimension. He stressed the point again at a conference in Berkeley in 1964, discussing Thomas Schelling's investigation of the role of communication in non-zero-sum games:

> In this situation, the center of interest has switched to persuasive skills. If the interplay of persuasive attempts can also be cast in the form of a game of strategy, the resulting game will be viewed as a zero-sum game, since persuading the other is conceptualized in strategic thinking as a "win," while having been persuaded is interpreted as a "loss." Therefore, introducing communication in this manner reduces the non-zero-sum game to a zero-sum game on another level.
>
> There is thus a relentless pressure inherent in strategic thinking to cast conflict situations in the framework of zero-sum games, i.e., to view them as conflicts of irreconcilable interests. Schelling has said that thinking derived from game theory is trapped by the conceptualization of the zero-sum game. I heartily agree with this verdict and would amplify it by pointing out that even when situations are cast in non-zero-sum game

> models (of which Chicken is an example), strategic analysis, as it is usually practiced, leads toward a formulation which reintroduces the zero-sum game on another level.

The value of game theory, Rapoport was later to insist, lay precisely in its demonstration of the limits of supposedly rational choice. This is an insight that the strategists have either never grasped or have refused to acknowledge. Philip Mirowski has been scathing in his criticism of "the strategic community" – including Schelling – for their misrepresentations of "what game theory could ever hope to do." The strategists' "image of game theory was one of the purest instrumentality, of the lab-coated expert 'thinking about the unthinkable.'"

Not all "unthinkable" things were eligible to be thought about, though. Some thoughts -- such as Rapoport's eloquent critique of strategic thinking – were scorned and scoffed at as "defeatist," "moralistic." As Rapoport observed in his reply to Albert Wohlstetter's bitterly dismissive commentary on *Strategy and Conscience*:

> ...the cognitive assumptions of the strategists are neither revealed truths nor self-evident facts. They are rather derivatives of a power-oriented value system, which sharply delimits the cognitive horizon of its adherents. It is high time we stopped identifying narrowness of vision with 'realism.' It is high time to stop calculating long enough to think awhile, perhaps even to listen to the voice of our conscience.

Rapoport's reply compared the strategists' assumptions to the way that 19th century political economy "conceptualized man's economic activity in a way which made it appear inevitable that the poor must forever remain poor." Central to that 19th century view were reverence for what eventually became known as Say's Law and the wages-fund doctrine, which conceived the wages-fund as a zero-sum game in which trade union action to secure higher wages for one group of workers could only result in lower wages for others.

Unlike that nuclear strategist Rapoport confronted in the early 1960s, the economists and editorial writers who recite the lump-of-labor fallacy taunt are unlikely to acknowledge even partial responsibility for promoting economic instability and inequality. Their understanding of

what a "non-zero-sum game" is would be radically different from the kind of non-zero sum games examined by Rapoport and his associates.

As far as I can determine, Paul Samuelson was the first to use this analogy in a 1978 *Newsweek* column:

> Upon thoughtful analysis of the nature of the economic system, economists find that it is essentially not a zero-sum game. Economists call it "the lump-of-labor fallacy" to believe that in any period – 1933 or 1978 – there are only so many jobs: it is false philosophy of despair, economists point out, to insist on cutting down on each worker's weekly hours in order to spread out an allegedly limited total of work and of income among as many people as possible.

Subsequently "zero-sum game" has become a synonym for the lump-of-labor fallacy:

> The main reason the lump of labor theory is wrong is that it is based on the assumption that everything that is going to be invented has been invented, and that therefore economic competition is a zero-sum game, a fight over a fixed lump. – Thomas Friedman, *The World is Flat*.

> This fear of displacement is grounded in the assumption of a zero-sum labor market in which every job occupied by an older worker is one less potential job for a younger person. – World Bank, *Live Long and Prosper: Aging in East Asia and Pacific* (with credit to Munnell and Wu, and Zhang and Zhao).

> The argument that jobs taken by low-skilled immigrants are jobs forgone to native-born Americans rests on the erroneous assumptions that immigrant labor can easily substitute for native labor and that employment is a zero-sum game. – Susan K. Brown and Frank D. Bean, "Population Growth" in *Debates on U. S. Immigration*, edited by Judith Gans et al.

> This zero-sum thinking is simply wrong. Economists treat labor as one of the primary inputs into economic output, and the more input, the more output. – George P. Shultz

> and John B. Shoven, *Putting Our House in Order: A Guide to Social Security and Health Care Reform*.

These writers appear to presume that a non-zero sum game refers to what is otherwise known as a Pareto improvement, which is to say a change that makes at least one person better off without making anyone else worse off. It is commonly argued in economics that a free exchange of goods benefits both parties because they each exchange what they have for something that they value more, or else they wouldn't have made the exchange. Joseph Stiglitz made this opposition between zero-sum games and Pareto improvements explicit in a 1998 lecture on economics in government:

> Furthermore, if you define your gains in relative terms -- how much I won compared to how much another group won -- then any game turns into a zero-sum game: my relative gains are your relative losses. The fact that the political game -- with a winner and a loser -- is zero-sum leads many politicians to see all of the world in a similar vein. The fact that information is imperfect and the games we play are often not transparent means that there is always uncertainty. Your gain may indeed be at my expense.
>
> But policy, as opposed to politics, is not zero sum. Some policies are Pareto improvements. One of the hardest tasks of economists is to explain this-a task made all the more difficult by much of the political rhetoric.

The example Stiglitz gave for mutual gains was international trade, which, however, although not a zero-sum game is also not, strictly speaking, a Pareto improvement. Even in a positive sum game there can be losers and winners. Sometimes this is described as a "potential" Pareto improvement or, as Stiglitz called it a near-Pareto improvement, where the aggregate gains would be large enough to compensate the losers, regardless of whether such compensation is

actually made. This so-called compensation principle has been shown to be "unacceptable nonsense."[4]

But Pareto improvements, even allegedly potential ones, are not the only kind of non-zero sum games. The non-zero games that have received the most attention from researchers are the prisoner's dilemma type games, in which outcomes may vary from bad to worse. A prisoner's dilemma involves a situation where the individual payoff to each player for defection is better, regardless of whether the other player defects or co-operates but the collective payoff is maximized when both players co-operate.

Despite all the talk about zero-sum fallacies committed by advocates of shorter working time, early retirement, trade protectionism or limiting immigration, there doesn't appear to have

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[4] There is a long and exasperating history of pointing out flaws in the compensation principle articulated in the 1930s by Nicolaus Kaldor and John Hicks. In their 1978 review, Chipman and Moore declared it a failure, "...judged in relation to its basic objective of enabling economists to make welfare prescriptions without having to make value judgments and, in particular, interpersonal comparisons of utility." They concluded their review with the following assessment:

> After 35 years of technical discussions, we are forced to come back to Robbins' 1932 position. We cannot make policy recommendations except on the basis of value judgments, and these value judgments should be made explicit... When all is said and done, the New Welfare Economics has succeeded in replacing the utilitarian smoke-screen [of technical jargon] by a still thicker and more terrifying smoke-screen of its own.

Despite reams of devastating critique, economists deploy the unacceptable nonsense of potential Pareto as if it was a self-evident and uncontested "truth." "It turns out then that Mr. Kaldor's criterion in its most general sense has not eliminated the problem of interpersonal comparison of utility. It has only subjected utility to the measuring rod of money, a measuring rod which bends, stretches, and ultimately falls to pieces in our hands."

> "In 1952 the Bureau of the Budget, in a Budget Circular [A-47] that neither required nor invited formal review and approval by the Congress, nailed this emphasis [on "aggregate benefit"] into national policy, adopting it as the standard by which the Bureau would review agency projects to determine their standing in the President's program. And soon thereafter agency planning manuals were revised, where necessary, to reflect this Budget Circular. In this way benefits to all became virtually restricted to benefits that increase national product. The federal bureaucrats, it should be noted, were not acting in a vacuum; they were reflecting the doctrines of the new welfare economics which has focused entirely on economic efficiency."
> – Arthur Maass, 1966

been any research to substantiate those claims empirically. There has, however, been empirical research on prisoner's dilemmas or "social traps" such as the tragedy of the commons. In large multiplayer games, defection by a few players may have no effect on the other players' outcomes, which appears initially to be a Pareto improvement. But when the number of defectors passes a certain threshold they can mutate into a prisoner's dilemma or tragedy of the commons with catastrophic effects.

In *Fights, Games and Debates*, Rapoport presented a production and exchange model that puts the conventional interpretation of exchange as Pareto improvement in a radically different light. It is a very elementary model and thus, as Rapoport warns repeatedly, the results should not be taken as a faithful depiction of what is likely to happen in reality. However, it offers critical insights into "common sense" assumptions and specifically into the idea of Pareto improvement, which also is based on extreme simplification.

In Rapoport's hypothetical production and exchange model two people each produce goods and exchange with each other a uniform, fixed ratio of their products. The individuals derive utility from the goods they produce and, presumably, can increase their utility by exchanging some of the goods they produce for the different goods their counterpart produces. Effort to produce those goods, however, is a disutility. The utility from goods increases logarithmically -- that is at a progressively decelerating rate -- as the quantity of goods increases but the disutility of effort increases in proportion to the amount of effort expended.

Agents in this model can only change their utility by increasing or decreasing their own effort and output. Thus, plotted on a graph, agent X can only move along the x-axis and agent Y can only move along the y-axis. Under the stipulated conditions, a stable equilibrium can only be achieved when the utility of the proportion retained by each producer is larger than the disutility of effort. That is to say, the proportion retained cannot be too small and the disutility of effort cannot be too large.

In the absence of a stable balance, relaxation of effort by one of the agents will lead to parasitism by that agent as the other will immediately compensate by increasing effort, the first agent will slack off more to compensate for the increased effort of the other -- and so on.

Even in the presence of a stable equilibrium, the total utility of the two agents, at the balance point, will be less than the total would be without exchange, as long as their production/effort decisions are guided solely by their own utility rather than by some agreement about how to link their production effort to achieve a "social optimum." This outcome is contrary to the "common sense" interpretations of Pareto improvement and Pareto optimality. As Rapoport cites his mentor, Nicolas Rashevsky, it turns out that:

> The only 'ethics' which leads to the attainment of maximum joint utility in the model of society we have considered is the 'egalitarian ethic,' in which the concern for self and for other are of equal weight.

It would be easy to dismiss Rapoport's conclusion as pertaining only to very restrictive premises. This is a point that Rapoport reiterates throughout his exposition. But the objection applies equally to Pareto's model.

Vilfredo Pareto is not readily perceived as a proponent of the egalitarian ethic. Rapoport's model, however, reveals a tacit premise of Pareto that rational agents would act "as if" guided by some unacknowledged intuition of linkage. That is to say the advantages gained in exchange transactions depend upon the prior commitment of all parties during the production process, to social cooperation.

Furthermore, Rapoport's assumptions need not be as unrealistically restrictive as they are initially presented. Fixed ratios of exchange can be relaxed to merely widespread similarities in the ratios of exchange. The specification for a stable equilibrium that the proportion of an individual's product exchanged does not exceed the proportion retained can be vindicated by the existence of a roughly equal number of hours of unpaid household work performed in the world as there are waged hours of labor. All this is before we move on from two-player games

to the issue of "multiplayer games" -- of a society in which individual actions that do no noticeable harm in isolation may nevertheless accumulate into "social traps."

In "The Use and Misuse of Game Theory," (*Scientific American,* 1962) Rapoport assessed the value of game theory as revealing "the different kinds of reasoning that apply in different kinds of conflict" and not "the specific solutions it offers in highly simplified and idealized situations." In his view, revealing its own limitations was the greatest achievement of the theory. Perception, communication, trust, persuasion and deep listening were the ultimately the key to analyzing and resolving conflicts, not the highly-stylized formulation of the various types of games. By contrast, the economists' stock retort that the economy is "not a zero-sum game" is an exercise in insistently *not* listening.

Image of Limited good: "how not to go about understanding peasant societies"

In the 1960s, George Foster, an anthropologist studying the peasants of Tzintzuntzan, Mexico, hypothesized that those peasants had the foolish notion that there was only a limited amount of good in the world. If one person got more land or water or crop yield or conjugal bliss then the rest then somebody else would have to do with less. A zero-sum game! Foster thought this was an impediment that had to be dispelled so people could enjoy the boundless booty of modern technology. Here is how Foster explained his model:

> By "Image of Limited Good" I mean that broad areas of peasant behavior are patterned in such fashion as to suggest that peasants view their social, economic, and natural universes -- their total environment -- as one in which all of the desired things in life such as land, wealth, health, friendship and love, manliness and honor, respect and status, power and influence, security and safety, exist in finite quantity and are always in short supply, as far as the peasant is concerned. Not only do these and all other "good things" exist in finite and limited quantities, but in addition there is no way directly within peasant power to increase the available quantities. It is as if the obvious fact of land shortage in a densely populated area applied to all other desired things: not enough to go around. "Good," like land, is seen as inherent in nature, there to be divided and redivided, if necessary, but not to be augmented.

In other words, Foster's paper adopted the lump-of-labor fallacy claim by another name and extended it to non-economic spheres of life. Foster's explanation of his image of limited good, however, was more scholarly than the typical explanation of the lump-of-labor fallacy. It is more conscientiously qualified and observational data are presented as supporting evidence. Nevertheless, the model has been controversial within the field of anthropology.

A 1984 review of citations in anthropology journals ranked Foster's "Peasant Society and the Image of Limited Good" as the second most cited article between 1966 and 1982, with 207 citations. The period from 1966 to 1982 was no doubt the paper's heyday but the latest Social Sciences Citation Index count for it is 370 citations, albeit presumably not all in anthropology

core journals. In one of several commentaries following that review, it was pointed out that the citation data,

> …leaves open -- as it must -- the question of the meaning of citation patterns and sounds a timely warning that frequent citation does not necessarily indicate 'dominance' or influence. Foster's paper, one of the most cited pieces in Garfield's analysis, is a case in point. It is ironic that this paper, in which Foster develops the idea of 'limited good' to account for alleged peasant reluctance to accept new ideas, is frequently cited as an example of how not to go about understanding peasant societies."

One of the early critical reviews was by Kaplan and Saler. They questioned Foster's logical procedures, pointing out that he didn't specify what he meant by his claim that he derived his model from observed behavior.

> A large portion of Foster's paper is devoted to offering what he regards as evidence that conforms to his model. At the same time the model in some sense is claimed to "explain" the evidence. But the evidence, in fact, largely consists of rather broad generalizations about the nature of "classical" peasant societies supported by carefully culled illustrations.

The implication of Foster's model was that the image of limited good was characteristic especially of peasant society, yet Kaplan and Saler found it "difficult to conceive of a society in which such human qualities or attributes as the aforementioned are viewed as unlimited and indefinitely expandable. Are there such societies?" Foster himself acknowledged greater universality of the world view, "I do not believe the Image of Limited Good is characteristic only of peasant societies. Quite the contrary, it is found, in one degree or another, in most or all socioeconomic levels in newly developing countries, and it is, of course, equally characteristic of traditional socialist doctrine."

Kaplan and Saler offered an alternative interpretation of Foster's image: that "peasants view their access to wealth and land as limited vis a vis other groups without conceiving of wealth

and land as being limited in some metaphysical sense" and questioned the extension of the concept to such attributes as health, "What would unlimited quantities of honor, manliness, love, health, etc., mean anyway?," they asked.

As James Gregory suggested in a 1975 review of the reception of "Peasant Society and the Image of Limited Good," Foster's hypothesis had wide currency for a while but also was controversial. Eventually its prestige faded. Recently, however, Paul Trawick and Alf Hornborg revisited Foster's image of limited good in an article that took a distinctly different attitudes toward the concept. Instead of disputing Foster's interpretation of the peasants' world view like previous critics, Trawick and Hornborg argued that the peasants were right.

In their essay, Trawick and Hornborg contrasted Foster's image of limited good with an image of *un*limited good that currently prevails in economics. They argued that the latter view suffered from an illusion of wealth creation by confusing the creation of real wealth with the creation of virtual wealth in the monetary economy. Virtual wealth consists of claims against real wealth that arise from credit transactions. Such claims increase exponentially as a result of the compounding of interest. By contrast, "real wealth," as Trawick and Hornborg define it, cannot be created, it can only be transformed by human labor from a state with less subjective utility but also more potential energy to one with greater utility and thus exchange value but also greater entropy.

In a footnote, Trawick and Hornborg qualify their notion of real wealth by cautioning that it is "potentially misleading, and thus inadvisable, to apply anthropocentric concepts such as 'wealth' or 'use value' to physical quantities such as energy." An increase in exchange value thus always entails an increase in entropy -- that is, a decrease in available energy. Technological efficiency can modify the intensity of this increase in entropy but it cannot alter its direction. "Real wealth, unlike its virtual counterpart, is something that human beings do not and cannot create in godlike fashion the way they create ideas and symbolic phenomena such as value."

There is another possible misunderstanding that can arise from their usage of real wealth to refer to physical quantities. Materials that have been transformed into waste, such as carbon

dioxide emissions, are hard to reconcile with any usual connotation of wealth. Perhaps a more neutral term, such as "providence" could be substituted for real wealth.

This analysis strikes at the heart of what seems to be an article of faith among economists: the economy can grow indefinitely because value doesn't have to consist of "stuff." This is true for virtual wealth, which is to say for *claims* on wealth. In theory, such claims could be exchanged *for other claims* ad infinitum. But what would be the point of possessing a coupon that could only ever be exchanged for other coupons? The illusion that a service economy could dematerialize economic growth ignores the fact that service employees will spend their wages on food, shelter, transportation and other industrial products that rely on the throughput of material resources.

In spite of the image of limited good being the spitting image of the lump of labor, as indicated by their common "zero-sum" explanations, there are no crossover references between the two disciplines. As of July 15, 2018, there were 141 Google Scholar results for a search of "zero-sum game" and "image of limited good." There were 71 results for a search of "zero-sum game" and "lump of labor" or "lump of labour." But there are 0 results in which both "image of limited good" and lump of labor/labour appear. What does this absence of cross reference say about the compartmentalization of thought in academia? Compare the lively controversy and critique in anthropology about the image of limited good to the almost unanimous acquiescence in economics to the authority of the lump of labor fallacy claim.

Machinery hurtful to commonalty

> "…will automation displace all the employment? …what I was taught as an undergraduate was that basically the people who thought it would were a bunch of idiot Luddites and that obviously there would eventually be enough demand and it would all sort of work itself out…" – Lawrence Summers

The claim of a widespread, crude economic fallacy goes back more than a century before David Frederick Schloss coined "the theory of the lump of labour" in 1891. The claim originated nearly two centuries earlier, if one includes near misses. In his 1690 preface to *A Discourse about Trade*, Sir Josiah Child enumerated twelve "common proverbial errors," the sixth of which was "We have people enough, and more than we can employ." In 1751, Josiah Tucker cited Child's view that it was a "Vulgar Error to say, We have more Hands than we can employ" and asked "Whether it is not an infallible Maxim, That one Man's Labour creates Employment for another?"

In his 1952 article, "The Law of Markets Prior to J.-B. Say and the Say-Malthus Debate," Paul Lambert cited Tucker's brief remarks and concluded that they "enunciate the concept which in a more fully developed form was to become known as 'the Law of Markets'." This so-called law, which came to be known as Say's Law, is the inverted mirror image of the fallacy claim.

Such first sightings need to be treated with caution, however, to the extent that they are not integrated into a system of economic thought or at least not into one consistent with a modern industrial society. Another archaic specimen is encountered in a 1702 sermon preached in Worcester by Thomas Cooke in which he disputed John Graunt's contention that there was "a certain proportion of work to be done." But, again, Cooke's objection was primarily religious, having to do with his abhorrence toward the "depravity of sloth."

It is only with the anti-factory riots of the late 18th and early 19th century that the proverbial fallacy claim came into its own. The riots of 1811 conferred the label of Luddites on the rioters but these were not the first such outbursts. One series of incidents near Bolton, England in

1789 inspired a local magistrate, Dorning Rasbotham -- who styled himself "a friend to the poor" -- to write a pamphlet to instruct his poor improvident friends about the virtues of machinery. The pamphlet, entitled "Thoughts on the use of machines in the cotton manufacture," contained what is unquestionably the *locus classicus* of the modern fallacy claim:

> There is, say they, ***a certain quantity*** **of labour to be performed**. This used to be performed by *hands*, without machines, or with very little help from them. But if now machines perform a *larger share* than before, suppose one *fourth part, so many hands* as are necessary to work that fourth part, will be *thrown out of work*, or suffer in their wages. **The principle itself is *false*. There is not a precise limited *quantity* of labour, *beyond* which there is no demand.** Trade is not hemmed in by *great walls*, beyond which it cannot go. By bringing our goods *cheaper* and *better* to market, we open *new markets*, we get *new customers*, we encrease the quantity of labour necessary to supply these, and thus we are encouraged to push on, in hope of *still new* advantages. *A cheap market will always be full of customers*. Men will cross land and sea to go thither." [emphasis in original]

The soundness of Rasbotham's view was lauded some 47 years later by John Ramsey McCulloch, one of the more prominent political economists of the second-rank in the early 19th century. McCulloch was effusive in his praise for Rasbotham's argument, emphasizing the observation that there is "no idea so groundless and absurd, as that which supposes that an increased facility of production can under any circumstances be injurious to the labourers."

Sentiments similar to Rasbotham's were also expressed in response to the Luddite rioting in the second decade of the 19th century. At the trial of George Mellor, William Thorpe and Thomas Smith in January 1813 for the murder of William Horsfall, the prosecutor, Mr. Richardson, offered as "general observations" pertinent to the motive for the crime, the fact that "Mr. Horsfall was a man… of warm feelings, of great and good understanding who saw the fallacy of these arguments…" namely,

> …the delusion which has prevailed upon that subject, amongst the lower orders. It has been supposed that the increase of the machinery by which manufactures are rendered more easy, abridges the quantity of labour wanted in the country. It is a fallacious argument: it is an argument, that no man, who understands the subject at all, will seriously maintain.

Mr. Richardson 's opening address to the jury suggested that it was Horsfall's "great and good understanding" of the issues that provoked the accused's hostility toward him. A later account, published in Charles Dickens's weekly journal *All The Year Round* suggested a more visceral and less ideological source of antagonism. Horsfall was said to have been an "excitable impetuous man, violent in manner" with an implacable enmity toward the rioters, bragging at one point "his wish to ride up to the saddle-girths in Luddite blood."

What is relevant to the discussion here, though, is not Horsfall's temperament but the fact that the Crown counsel, Richardson presented no further evidence at trial to support his contention that Horsfall's views about the supposed fallacy had anything to do with his murder. Nor did he elaborate on the alleged "delusion which has prevailed… amongst the lower orders."

The Luddites themselves were a exceptionally literary rabble so it is rather peculiar that one cannot find any direct statement in their prodigious manifestos and communiques of the alleged belief in a fixed amount of work. What they objected to, in a petition to Parliament, was "Machinery hurtful to commonalty." That is to say they were not hostile to machinery *per se* but to the employment of machinery as a way of undermining and disrupting communal traditions of cooperation and solidarity. It wasn't the amount of work that troubled them so much as the nature of the relationships in which that work was conducted.

In addition to Rasbotham's broadside and Richardson's indictment, a third source invoking the elusive Luddite fallacy was William Cobbett. In his 1816 "Letter to the Luddites, Cobbett discussed at some length "the interesting question before stated: that is to say, whether machinery, as it at present exists, does, or does not, 'operate to the disadvantage of journeymen and labourers.'" He attributed to agricultural laborers the notion "that thrashing

machines, for instance, injure them, because, say they, if it were not for those machines, we should have *more work* to do. This is a great error."

Cobbett then went on to explain that this example merely illustrated "a great *principle*… which is applicable to all *manufactories*, as well as to farming…" As did Rasbotham and Richardson, Cobbett also offered no evidence for his assertion that agricultural workers were opposed to machinery *per se*. In fact, after presenting a rather naïve and mechanical "economic" analysis of why machines were beneficial, he addressed what he identified as the *real* reasons for the laborers' distress, which arose from "want of employment with wages sufficient for your support." He attributed that situation ultimately to an "enormous burden of taxes and the bubble of paper money," maladies that, in Cobbett's opinion, could be cured by annual popular election of members of Parliament. In effect, then, Cobbett's objection to the "great error" of aversion to machines was essentially a stage prop to make his own reform proposal look more prudent by contrast.

In short, the only contemporary evidence that Luddites had the fallacious beliefs attributed to them comes from unsubstantiated assertions made by critics of those beliefs. It is true that Luddites smashed machines as a protest against unemployment and wage reductions. It is also true they were harried by actual unemployment and wage reductions and not by hypothetical beliefs – fallacious or otherwise – about what would be the ultimate effect on the economy as a whole of labor-saving technology.

Nevertheless, accusing frame breakers of irrational techno-phobia became a commonplace in 19th century Britain. That way you don't have to deal with or even acknowledge their grievances. The Luddite fable serves the same purpose today. More than two centuries after the Luddites went on their rampages against stocking frames, economist Dietrich Vollrath repeated yet again the conventional myth, "Luddites weren't wrong about losing their jobs, they were just wrong about the economy losing jobs in aggregate." But Luddites could not have been "wrong about the economy losing jobs in aggregate" because they expressed no opinions on the matter at all.

Not only did the Luddites have absolutely nothing to say about such statistical aggregates and macroeconomic concepts, they were equally reticent on the laws of thermodynamics, Freudian psychoanalysis and the theory of anthropogenic climate change. Nevertheless, opponents of austerity, pension cutbacks, neo-liberal trade policies and labor-market deregulation, along with proponents of work-time reduction can be glibly dismissed as economic illiterates without having to address their arguments. Those "lower orders" are always "deluded." They assume that there is only a fixed amount of work to be done. There's no point listening to their silly ideas or reasoning with them.

Karl Marx masterfully diagnosed and satirized this ideological deflection in a section in *Capital* captioned, "The theory of compensation as regards the workpeople displaced by machinery." Apologist for capital relied on the fact that after the introduction of new machinery, "society possesses as much, if not more, of the necessities of life than before, for the labourers thrown out of work." The implication is that since the "contradictions and antagonisms" do not stem from the use of machinery, they don't exist:

> Since therefore machinery, considered alone, shortens the hours of labour, but, when in the service of capital, lengthens them; since in itself it lightens labour, but when employed by capital, heightens the intensity of labour; since in itself it is a victory of man over the forces of Nature, but in the hands of capital, makes man the slave of those forces; since in itself it increases the wealth of the producers, but in the hands of capital, makes them paupers -- for all these reasons and others besides, says the bourgeois economist without more ado, it is clear as noon-day that all these contradictions are a mere semblance of the reality, and that, as a matter of fact, they have neither an actual nor a theoretical existence.

In this way, the economist "implicitly declares his opponent to be stupid enough to contend against, not the capitalistic employment of machinery, but machinery itself." Marx concluded his analysis with a satire comparing the economists' insinuation to a disingenuous plea to the jury by the Dickens villain, Bill Sykes, that the knife, and not he, is guilty of cutting

the victim's throat but it would be folly to condemn that indispensable implement because of "such a temporary inconvenience."

If labor is not a commodity, what is it?

> "The commodity description of labor, land, and money is entirely fictitious. Nevertheless, it is with the help of this fiction that the actual markets for labor, land, and money are organized..." – Karl Polanyi

The orthodox "supply and demand" story about labor is erected upon the foundational fiction that labor is a commodity. Consequently, so are all of that narrative's doctrinaire refinements -- the wages-fund, the impossibility of a general glut, crowding out, supply creating its own demand, etc. Edmund Burke stated the proposition bluntly: "Labour is a commodity like every other, and rises or falls according to the demand."

Workers and their representatives have rejected this fiction. In his evidence to the House of Commons Select Committee on Hand-Loom Weavers in 1834, silk weaver William Longson stated:

> My opinion is, that labour is not a commodity; that if a commodity, instead of being like every other commodity, it is like no other commodity; every other commodity when brought to market, if you cannot get the price intended, it may be taken out of the market, and taken home, and brought and sold another day; but if a day's labour is offered on any day, and is not sold on that day, that day's labour is lost to the labourer and to the whole community; and therefore labour,, instead of being like every other commodity, is like no other commodity in that respect, and in some other respects; and I beg leave, therefore, to decline drawing any of the usual inferences that are drawn from that supposed maxim, or whatever it has been called.

From those observations of labor's peculiarities, Longson concluded that, "I can only say I should be as ready to call a verb a substantive as any longer to call labour a commodity."

Another formidable challenge to the notion of labour as a commodity is the fact that the work of preparing young people to be workers goes unpaid. In his *Labour Defended Against the*

Claims of Capital, Thomas Hodgskin pointed out that the most important operation for the production of wealth, "the rearing of youth and teaching them skilled labour, or some wealth-creating art," is conducted without remuneration, "under the strong influence of natural affection and parental love… through all the long period of the infancy and childhood of their offspring."

In both Longson's and Hodgskin's arguments, the distinction between labour and labour *power* is crucial. What the worker offers on the market on any particular day is only the capacity to work. If the worker is unable to make a sale on any day, as in Longson's example, no actual labor is performed, aside from the unpaid work of searching. Similarly, what parents give to their children by bringing them up and teaching them skills is a capacity, provided the opportunity arises to exercise that capacity. Labor power or the capacity to work is a necessary but not a sufficient condition of labor. It is only realized as labor if it is engaged by an employer.

In 1880, Irish political economist John Kells Ingram repudiated the view that labor is a commodity in an address to the British Trades Union Congress:

> Labour is spoken of as if it were an independent entity, separable from the personality of a workman. It is treated as a commodity, like corn or cotton—the human agent, his human needs, human nature, and human feelings, being kept almost completely out of view. Now there are, no doubt, if we carry our abstractions far enough certain resemblances between the contract of employer and employed and the sale of a commodity. But by fixing exclusive, or even predominant, attention on these, we miss the deepest and truly characteristic features of the relation of master and workman —a relation with which moral conditions are inseparably associated. As in science it is the method we pursue on which the value of our investigations will in the long run depend, so in matters of conduct the point of view at which we place ourselves tends to determine the character of our whole procedure. By viewing labour as a commodity, we at once get rid of the moral basis on which the relation of employer and employed should stand, and make the so-called law of the market the sole regulator of that relation.

By the early 20th century the non-commodity status of labor had become a keynote of trade union philosophy in the United States. American Federation of Labor president Samuel Gompers lobbied on these grounds for exclusion of trade union activity from the Clayton Antitrust Act of 1914. When the legislation was passed and signed into law, he hailed its labor provisions in Section 6 as "the most comprehensive and most fundamental legislation in behalf of human liberty that has been enacted anywhere in the world." Gompers enthused that the words of Section 6, "'the labor of a human being is not a commodity or article of commerce,' are sledge-hammer blows to the wrongs and injustices so long inflicted on the workers… the Industrial Magna Carta upon which the working people will rear their structure of industrial freedom." Nearly identical wording to Section 6 was incorporated into the Treaty of Versailles in 1919 as a guiding principle for the establishment of the International Labour Organization and reaffirmed as a first principle in 1944.

The millennium Gompers anticipated was short lived, however. Within a little more than six years, courts softened those sledge-hammer blows against injustice into gentle taps. On January 3, 1921, in the case of Duplex Printing Press Co. v. Deering, the U.S. Supreme Court ruled that "there is nothing in the section to exempt such an organization [i.e., union] or its members from accountability where it or they depart from its normal and legitimate objects and engage in an actual combination or conspiracy in restraint of trade," thereby confirming an opinion long held by neutral observers that the labor provisions of the Clayton Act didn't actually exempt unions from court injunctions.

Thus the Clayton Antitrust Act did little to advance the rights of unionized workers. Even if it had, such a "Charter of Industrial Freedom" would have been far too narrow in its coverage. It would have excluded much more of the public than it protected – including unorganized workers, the unemployed and unpaid household work. To paraphrase Joan Robinson, not having one's labor considered to a commodity is little consolation for those whose labor is hardly considered at all. Despite the rhetorical flourishes, the everyday experience of working people, economic policies of governments, bargaining priorities of trade unions and theoretical models of economists would seem to conform more to the the conventional fiction that labor is

a commodity than to idealistic proclamations that it is not. It would be helpful, therefore to give some substance to the negative case and even sketch out an alternative.

The ideology of labour as an extension of the self is pervasive, persuasive and pernicious. From that perspective, solidarity is a voluntary act of magnanimity that can be withdrawn on a whim in the same way that a redundant employee can be terminated at will. As individuals, the relationship between workers is incidental; their relationships with the employer and with the state are what matters. The perception of work as individualized and the result of work as private property was most authoritatively articulated by John Locke's vindication of private property as resulting from the "mixing" of labor with the land to remove it "out of the state that nature hath provided, and left it in." Thus, since "every man has a property in his own person" and "the labour of his body, and the work of his hands, we may say, are properly his..." that which he mixes his labor with is also rightfully his.

There are several rather important unstated assumptions in Locke's justification of property, as well as stated assumptions that are routinely overlooked by private property zealots. The big one is that labor is inherently individual. Locke's lone mixer of his labor with the land contrasts sharply with what we know about the collective, co-operative nature of labor, even as late as 16th and 17th century England. By then the existence of coveted land remaining in the state of nature was also dubious. In short, Locke's labor theory of property – and, incidentally, its corollary property theory of labor – relied on assumptions that were contrary to the actual conditions of both labor and land at the time when land was being enclosed and privatized.

Private appropriation "by toil upon the land" would appear to have been an unlikely event in the early modern era compared to acquisition through purchase or through encroachment. But private property is not the only rabbit that gets pulled out of this hat; individualized labor is the other. The fiction of *labor as a commodity* has been conjured up out of the myth of its having justified private property.

It would be unfair to overstate Locke's culpability in this fiction. He acknowledged the "very great difficulty" of private ownership in light of the fact that God "hath given the world to men

in common." And he confined right of private ownership to the extent that its fruits could be consumed without waste, "He was only to look, that he used them before they spoiled, else he took more than his share, and robbed others. And indeed it was a foolish thing, as well as dishonest, to hoard up more than he could make use of."

Also the identification of Locke's philosophy with rugged individualism and untrammeled self-interest is exaggerated, to say the least. "It is impossible," Locke wrote in his *Essays on the Law of Nature*, "that the primary law of nature is such that its violation is unavoidable. Yet, if the private interest of each person is the basis of that law, the law will inevitably be broken..."

From a quite different angle, institutionalist economist John R. Commons came to a parallel conclusion in 1932 about the paradox of wealth:

> Going back over the economists from John Locke to the orthodox school of the present day, I found they always had a conflicting meaning of wealth, namely a material thing and the ownership of that thing. But ownership, at least in its modern meaning of intangible property, means power to restrict production on account of abundance while the material things arise from power to increase the abundance of things by production, even overproduction.

Ownership of one's own labor thus also necessarily implies the power to restrict production, to withhold one's capacity to labor. Otherwise, "the labour of his body, and the work of his hands," are not properly his own.

From co-existing labor to labor power as a common pool resource

The paradox of labor and of wealth arises from the same trick as Zeno's paradox of Achilles and the tortoise – the difference between the way we analyze the world and the way it is. We can think of labor and the materials of labor as two distinct things. We can also think of the labor of an isolated individual. But in fact, the worker cannot perform labor if there are no materials – whether tangible or intangible -- to perform it on. These materials, in turn are themselves the products of other labor processes, therefore, the labor of an individual is only possible when it is connected through co-operation or exchange with the co-existing labor of other individuals.

Thomas Hodgskin wrote *Labour Defended Against the Claims of Capital* to refute the arguments of John Ramsay McCulloch and James Mill and to show that: "the effects attributed to a stock of commodities, under the name of circulating capital [the wages-fund], are caused by co-existing labour." In a preface to that work, Hodgskin wrote:

> In all the debates on the law passed during the late session of Parliament, on account of the combinations of workmen, much stress is laid on the necessity of protecting capital. What capital performs is therefore a question of considerable importance, which the author was, on this account, induced to examine. As a result of this examination, it is his opinion that all the benefits attributed to capital arise from co-existing and skilled labour. He feels himself, on this account, called on to deny that capital has any just claim to the large share of the national produce now bestowed on it. This large share he has endeavoured to show is the cause of the poverty of the labourer; and he ventures to assert that the condition of the labourer can never be permanently improved till he can refute the theory, and is determined to oppose the practice of giving nearly everything to capital.

Human mental and physical capacities to work have elastic but definite natural limits. Those capacities must be continuously restored and enhanced through nourishment, rest and social interaction. Over the longer term that capacity for labor also has to be replenished by a new generation of youth, reared by the previous generation.

It is this combination of definite limits and of the need for continuous recuperation and replacement that gives labor power the characteristics of a common-pool resource, not a simple commodity. As Paul Burkett explained, Marx also regarded labour power not merely as a marketable asset of private individuals but as a "reserve fund for the regeneration of the vital force of nations." "From the standpoint of the reproduction and development of society," Burkett elaborated, "labor power is a common-pool resource – one with definite (albeit elastic) natural limits."

"Common-pool resource" was not terminology Marx used; Burkett adopted it from Elinor Ostrom's research on governing the commons. For Ostrom, common-pool resources are goods that don't fit tidily into the categories of either private or public goods. The distinctions between the different kinds of goods depend on how difficult it is to exclude people from access to them and the extent to which they are *consumed* by people using them. Private goods are typically easy to restrict access to and their use subtracts from total available supply. Public goods are more difficult to restrict access to and their use doesn't subtract from what is available for others. Common-pool resources are like private goods in that their use by one consumer subtracts from how much is available for others. But they are like public goods in that it is difficult to exclude people from access to them. Some obvious examples of common-pool resources are forests, fisheries, aquifers and the atmosphere.

These distinctions are more relative than absolute. At some point, even a highway that can accommodate thousands of vehicles becomes congested. But there are also network effects in which wider use of a good actually enhances its value to each individual consumer.

On first thought, it might seem that the individual worker can deny access to an employer offering unsuitable terms. But it is here we need to factor in that peculiarity of labour-power noted by the silk weaver, William Longson that a day's labour not sold on the day it is offered is "lost to the labourer and to the whole community." "If his capacity for labour remains unsold," Marx concurred, "the labourer derives no benefit from it, but rather he will feel it to be a cruel nature-imposed necessity that this capacity has cost for its production a definite amount of the

means of subsistence and that it will continue to do so for its reproduction." Also, to comprehend the difficulty of excluding access, it is essential to understand that labor-power is produced socially and not by the individuals who exercise it, which is to say no more than that there are no "self-made men" (or women) -- people do not give birth to themselves and bring themselves up.

This contingency and urgency of employment effectively undermines the worker's option of refusing work. The option of refusing work at unsuitable wages or conditions is further undermined by competition from incrementally more desperate job seekers – a population Marx famously referred to as "an industrial reserve army."

The pervasiveness of unemployment from the paid labour force also stigmatizes and marginalizes unpaid work. For example, "welfare to work" schemes require single parents of young children to take low-paid work that often forces them to depend on unsuitable child care arrangements. Such rules discount the social value of parenting work but are enforced on the grounds that public assistance recipients are employable.

There are no barriers to entry to unpaid work and relatively few credentials awarded for doing it. Work done outside the paid labour force rarely counts as work experience. Instead, the time away from paid labour depreciates accumulated skills and experience. Thus mobility from unpaid care work to paid employment is impeded.

Regarding labour power as a common-pool resource does not automatically result in governing work as a commons. It is instead an important preliminary step that offers a rich conceptual framework for guiding the development of concrete policy proposals, research agendas, strategies and experiments. Such strategies and proposals can borrow from and combine experience in the governance of resources such as fisheries, forests and watersheds alongside lessons from trade union movements of the past and present and from feminist struggles for recognition and valuing of caregiving work. Innovations that result from synthesizing these diverse experiences may seem disturbingly unfamiliar from the traditional perspective of viewing labour as a commodity. That is why it is important to not only foster an understanding

of labour as a common-pool resource but in the process to not lose sight of what the traditional perspective entails and what is the tension between the two views.

The notion of labor power as a common-pool resource is implicit in Peter Linebaugh's explanation in *The Magna Carta Manifest* that "commoning is embedded in a labor process; it inheres in a particular praxis of field, upland, forest, marsh, coast. Common rights are entered into by labor." This suggests that access to the commons is not a birthright but a type of gift with reciprocal obligations to the collective. "A commons," explains Gustavo Esteva, "is not a relationship to the land, but a relationship with each other." Examined in the same light, work is also a relationship with one another rather than between the worker, tools and materials and product. Labor co-exists. Working together is the warrant for holding property in common.

In searching for an alternative to the commodity fiction, we may turn to an unexpected source: William Forster Lloyd. In "The Tragedy of the Commons," Garrett Hardin borrowed his core image of the over-grazing of common pastures from Lloyd, a 19th century Oxford don. Lloyd, too, had used the image metaphorically but his point was not about the tragic inevitability of the over-use of common pastures. Instead, Lloyd was talking about employment as a commons. "Now, the field for the employment of labour is in fact a common," Lloyd wrote in his first lecture on population, "the pasture of which is free to all, to the born and to the unborn, to the present tenants of the earth and to all who are waiting for admission…"

Viewing the field for the employment of labor as a common fundamentally challenges the commodity view of labor. The decisive argument for upholding land as "the common inheritance of all the inhabitants of the earth" appears in Lloyd's 1836 lectures on the Poor Laws, where he invoked the prior common property right upheld by "all the writers on the theory of property":

> Is the land to be considered as intended solely and absolutely for the use and benefit of a few appropriators, or are we to look upon it as the common inheritance of all the inhabitants of the earth? … all the writers on the theory of property, so far as I have seen, virtually maintain the latter position…

Undoubtedly, Lloyd's reference to "all the writers on the theory of property," must include John Locke, the most illustrious one. Lloyd shared with Thomas Hodgskin a radical interpretation of Locke that was not uncommon among early 19th century authors.

In Lloyd's interpretation of the transition from commons to private property, the sole justification for the private appropriation of property arises not from the exercise of "toil upon the land" but from the presumed enhanced utility of such labor when property is privatized. Lloyd support for enclosure was qualified, "solely on the grounds of its utility" to the community as a whole, not to the individual possessors of property. This premise underlies Lloyd's critique of the alleged equivalency between work performed and wages paid:

> He [the labourer] receives a full equivalent, so far as an exchange of equal values in the market is an exchange of equivalents. ...it is not, therefore, true, that he receives in exchange for his labour, either a reasonable share of the produce of his own labour, or an amount of the produce of the labour of other persons proportional to the quantity of his labour which he gives in exchange for it.

Lloyd's critique of the work/wage equivalence bears some resemblance to the "whole product of labour" arguments of the so-called Ricardian Socialists, including Hodgskin, and to part of Marx's analysis of surplus value.

In William Longson's testimony to the House Committee on the Hand-loom Weavers, he referred to the loss of an unemployed worker's labor "to the whole community," as well as to the individual worker. Longson's testimony resonates with Lloyd's description of the field of employment as a common and his utilitarian justification for private property. If private property is justified *solely on the grounds of its utility to the community* then unemployment of any members of the community invalidates that justification.

Regardless of whether work is paid or unpaid, the capacity to perform it is the outcome of an intrinsically social, co-operative activity. As such, this capacity can best be understood as a "common-pool resource" in that it may most effectively be engaged, valued, enjoyed and

protected as a collectively-shared asset rather than as a fragmented assortment of individualized units competing against each other and over grazing the employment commons, which is the current model of labor-as-a-commodity. Relating the concept of a common-pool good to labor is especially apt in that it illuminates, as Burkett points out, "the parallel between capital's extension of work time beyond the limits of human recuperative abilities [including social vitality], and capital's overstretching of the regenerative powers of the land."

Concern for the environment has been a prime motivation for the commons revival and the literature inspired by it. Historically, commons of fields, pastures and forests have supplied both the vocabulary and the stories of struggles to defend those commons of land. It is therefore not surprising that writing about the commons should turn initially to the territorial reference. But the commons has a temporal dimension as well as a spatial one. "We need to protect our time," Jonathan Rowe reminds us, "as well as our waters and wilderness." The urgency is amplified by Peter Linebaugh's observation about commoning being embedded in a labor process. The converse is also true, every labor process is embedded in a commoning that reproduces labor power.

The idea that natural resources are susceptible to overuse is not a late 20th century invention. In the second edition of his *Principles of Political Economy,* Henry Sidgwick observed that "private enterprise may sometimes be socially uneconomical because the undertaker is able to appropriate not less but more than the whole net gain of his enterprise to the community." From the perspective of the profit-seeking firm, there is no difference between introducing a new, more efficient production process and simply shifting a portion of the costs or risks onto someone else, society or the environment. In fact, the opportunities for the latter may be more readily available.

The example Sidgwick used to illustrate socially uneconomical exploitation of nature was "the case of certain fisheries, where it is clearly for the general interest that the fish should not be caught at certain times, or in certain places, or with certain instruments; because the increase of actual supply obtained by such captures is much overbalanced by the detriment it causes to

prospective supply." Sidgwick admitted that many fishermen may voluntarily agree to limit their catch but even in this circumstance, "the larger the number that thus voluntarily abstain, the stronger inducement is offered to the remaining few to pursue their fishing in the objectionable times, places, and ways, so long as they are under no legal coercion to abstain."

The Hours of Labor and the Problem of Social Cost

Chartist leader Feargus O'Connor's 1844 rebuttal to the wages-fund doctrine from 1844 contains a cogent analysis of why workers were -- and should still be -- wary of the exploitative use of technology by capitalist firms. O'Connor's critique took the form of a dialogue, which parodied and refuted an earlier dialogue, "The Employer and Employed," that had been published in *Chambers's Miscellany of Useful and Entertaining Tracts*.

In the Chambers dialogue, the mill owner, Mr. Smith explains to a worker, Mr. Jackson, how the immutable laws of economics harmonize their interests. Smith's elaboration of the doctrine of wages was described elsewhere as "right orthodox, and admirably clear too." The repeal of the Combination Acts in 1824 technically legalized trade unions in Great Britain but hostility remained rife toward unions from factory owners, political economists and government officials.

The context for the Chambers's "The Employer and Employed" thus combined a new-found enthusiasm for popular expositions of the professed laws of political economy with middle-class suspicion of the aims and methods of trade unions. "The Employer and Employed" struck a somewhat conciliatory pose, advocating tolerance of the workers' right to associate along with patronizing instruction about the futility of trying to tamper with the supposedly immutable laws of supply and demand that determined wages. The decisive passage in the dialogue presents the mill owner Smith's answer to Jackson's question about what regulates wages:

> The thing which governs them is the general supply of hands—the supply according to the demand. There is a certain quantity of work to be done here and elsewhere, and a certain quantity of hands to do it. If there be much work, and comparatively few hands, wages will rise; if little work, and an excess of hands, wages will fall. Without any mutual arrangement, the manufacturers come to a uniformity of wages. Indeed, it is not the masters, but the labourers, who settle the rate of wages. They settle it by competing against each other.

This passage, which appeared on page eight of the 32-page dialogue, was cited in full in O'Connor's rebuttal. What followed, in the original dialogue, was an extended discourse disputing Jackson's objection that Smith was "forgetting the power of combination among workmen to keep up or to raise wages."

"The history of every trades' union." Smith replies, "is a history of folly, ending in repentance or misery." What followed could well have been a paraphrase of Edward Tufnell's definition of a trade union. "Got up, for the most part, by a few designing individuals, they are a vain effort to browbeat employers into the terms which they dictate, and, in doing so, tyrannise over the multitudes who would willingly take the current rate of wages." The final 24 pages of the Chambers dialogue was devoted to documenting the folly of strikes.

It wasn't any of those assertions of certainty that Feargus O'Connor refuted in his rejoinder to "The Employer and Employed." Instead, O'Connor had his Jackson character concede Smith's premise with the caveat that what Smith had characterized as the causes of injustice -- "'improvidence,' 'dissipation' and 'viciousness' of the working classes themselves" -- Jackson condemned as the effects of the unscrupulous use of machinery by employers. In his elaboration, O'Connor presented what might now be recognized as a rudimentary analysis of cost-shifting, anticipating the much latter analysis of social costs by A. C. Pigou, J. M. Clark and K. W. Kapp:

> Jackson.—Very well, sir, I understand you perfectly. Your proposition involves three distinct considerations; namely, the governing power that you ascribe to machinery; the means of correcting the evil effects that you admit; and the result which must naturally flow from that correction. You must admit, sir, that when the population of a whole country becomes deficient in those moral excellencies which all nations, under good laws and fostering government, are capable of attaining, and when immorality becomes the rule, instead of the exception, of the national character (for you have been unreserved and sweeping in your strictures upon the working classes), I say in such case you must

> admit that there is a deep-seated evil resting somewhere; an evil which has originated with machinery, grown with its growth, and strengthened with its strength.
>
> Smith.—Well but, Jackson, this is all assertion.
>
> Jackson.—It may be so, sir, but it is assertion founded upon your own admissions, and, as I shall prove, upon an incontrovertible basis. When you admit that masters' profits, and their protection against fluctuations in trade, are made up by reductions in wages, and when machinery alone enables them to take this undue advantage of their hands, what other conclusion can be come to, than that the working classes should consider this governing power as their greatest enemy? And what more legitimate than that they should seek, by combination or otherwise, to destroy its effects; and what more natural than to seek another channel for their industry, over which the same anomalous power can have no control?

Jackson's reply to Smith is "all assertion" but it is assertion founded upon Smith's own premises. It is no more and no less than a challenge to Smith to play by his own discursive rules. It is not "self-evident" that combinations and strikes cannot alter that law whose proclamation can now be seen as nothing but a self-serving pretext for its spurious invincibility. The significance of the law was always more the claim that "nothing can be done" than an objective analysis that supply and demand govern the price of labor.

Although they are indeed *unintended* outcomes, fluctuation in trade -- booms and slumps -- are the consequences of investment decisions. During slumps, employers are able to avoid bearing the full cost of those consequences by shifting a considerable portion to workers through layoffs and wage reductions. During booms, employers can "make up" for their previous losses by holding out against wage increases for as long as possible.

O'Connor's economic analysis was more advanced than the Chambers's "right orthodox and admirably clear" recital of conventional doctrine. A coherent framework needs to explicitly account for social and environmental overhead costs rather than tacking them on as a

presumably incidental afterthought. These uncompensated overhead costs are not external to the profit-pursuing decision processes of firms, as Robert Prasch has pointed out:

> For a profit-maximizing firm pursuing a reduction in its costs, it is equally “efficient” to (1) develop a process that will economize on the quality or quantity of inputs necessary to produce a given level of output; (2) purchase the same quality and quantity of inputs at a reduced price; or (3) adopt a new process that shifts a portion of the firm’s production costs to some other person or entity or the environment.
>
> When economists speak of “technical change,” the first of these approaches is almost always implied. The second is, to a degree, covered when the analysis of “factor markets” is covered. The third option, cost shifting, is almost always downplayed or neglected. Despite its neglect by professional economists, cost-conscious firms have been most attentive to the possibilities of cost shifting. It follows that economists’ tendency to neglect this variety of cost savings is unwarranted.

Ignoring or neglecting the profitable aspect of cost-shifting invites policy responses that perversely subsidize and thus promote environmental and social harm -- a moral hazard. Under such a policy regime, predatory and parasitical cost-shifting advances by crowding out investment in socially beneficial and environmentally sustainable innovation.

In "The Problem of Social Cost," Ronald Coase examined one variety of presumed market failures – outcomes that Cecil Pigou had described as “incidental uncharged disservices” (or uncompensated services) but are now commonly referred to as "externalities" because of their presumably incidental quality. The economic analysis Coase challenged and the standard examples he re-examined were taken from Pigou's discussion in part II of *The Economics of Welfare*.

Coase argued that the suggested courses of action in the Pigovian tradition – liability, taxation or regulation – were inappropriate and often undesirable. He claimed that the traditional approach to the problem of social cost "tended to obscure the nature of the choice that has to

be made" and characterized the question posed by the approach as "one in which A inflicts harm on B and what has to be decided is: how should we restrain A?" He objected that the problem was really a reciprocal one and the real question should be "should A be allowed to harm B or should B be allowed to harm A? The problem is to avoid the more serious harm."

However, Coase didn't consider the full range of Pigou's examples and analysis. Coase’s restatement of the problem addressed only the specific externality problems discussed by Pigou in part II, it entirely overlooked the radically different labour-market problem encountered in part III, in which competitive pressure compels an employing firm to inflict harm on *both* itself and its employees and thus regulatory restraint of the firm (and competing employers) may benefit both and thus benefit society as a whole.

As is all too common in the discussion of externalities, Coase evaded the thorny questions of working conditions and unemployment. Whatever gains in tractability may be accomplished by such a maneuver are more than offset by a forfeit of realism and of insight into the complex interdependency of economic factors in the long period. The determination of the hours of work provides a particularly compelling example of a circumstance in which mutual benefit could result from an imposed non-market restraint.

In part III of *Economics of Welfare*, Pigou argued that "after a point, an addition to the hours of labour normally worked in any industry would, by wearing out the work people, ultimately lessen rather than increase the national dividend" (1952, 462). That observation was derived from the theoretical contribution of another of Alfred Marshall's star pupils, Sydney J. Chapman. As Chapman demonstrated, under competitive conditions, employers would tend to prefer hours of work that exceed the length that would be optimal for output. If an individual employer and workers were able to negotiate more optimal hours of work, it would involve a present investment by the employer in the workers' future productivity. Well-defined property rights to that future capacity could not be transferred to the employer and thus the arrangement could be upset by a future offer of higher wages from a competing employer.

In accord with Chapman, Pigou viewed market failure with respect to the hours of work as commonplace, observing that, "the evidence is fairly conclusive that hours of labour in excess of what the best interests of the national dividend require have often in fact been worked." For Pigou, this standard of "the best interest of the national dividend" demarcated a situation where there is "a *prima facie* case for public intervention." Recall also that Alfred Marshall had argued that "the demand for work comes from the National Dividend," thus according to Marshall's own strictures, overly long hours would result in decreased employment.

Pigou's "Hours of Labour" and Chapman's

Pigou's analysis of the hours of labour in *The Economics of Welfare* closely followed five main points of the theory Chapman had presented in 1909 in his presidential address to the Economics and Statistics section of the British Association for the Advancement of Science, subsequently published in the *Economic Journal* as "Hours of Labour." In his analysis, Chapman had referred to a mass of evidence from the 19th century indicating that reductions in the hours of work had not led to proportionate declines in output and, instead, had often led to increases. The reduction of hours allowed better rested workers to produce as much or more in shorter hours. Pigou inferred from the same evidence "that hours of labour in excess of what the best interests of the national dividend require have often in fact been worked" (465) In part, this is because, "after a point, an addition to the hours of labour normally worked in any industry would, by wearing out the workpeople, ultimately lessen, rather than increase, the national dividend" (462), but also because competition (along with their own "short-sightedness") would tend to compel employers to exceed that point at which additional work diminishes output over the long run.

Both economists referred to the several complicating factors but arrived at the same conclusion regarding a hypothetical optimal length of working day. For Pigou, the "essential point" was that "in each several industry, for each class of workers there is *some* length of working day the overstepping of which will be disadvantageous to the national dividend" (464). Similarly, Chapman had concluded that beyond a certain point, each additional hour of work would contribute to the current day's total output but at the expense of the following (and subsequent) day's capacity for effort. The intensity of the work involved, along with the average characteristics of the individual workers, would dictate the point at which cumulative output would begin to decline and thus the length of the optimal working day.

The historical evidence also contradicts a standard assumption that self-interest will lead employers and employees to pursue an optimal working day, from each of their perspectives and to negotiate a compromise. Chapman's analysis explained why competition would tend to

produce excessively long days. Workers would choose a day longer than was prudent for their welfare because the prospect of unemployment would cause them to give higher consideration to immediate earnings than to their long-term earning capacity. Similarly, because well-rested workers could be lured away by an offer of higher wages from another firm, an employer could never be certain of benefiting from the short-term restraint that maintaining an optimal workweek would require.

Pigou explained the presumed market failure as follows: "workpeople, in considering for what hours per day they will consent to work, often fail to take account of the damage unduly long hours may do to their efficiency" (466). In the case of employers, they "also often fail to realise that shorter hours would promote efficiency among their workpeople, and so would redound to their own interest." Furthermore, "except in firms which possess a practical monopoly in some department of industry, and so expect to retain the same hands permanently, the lack of durable connection between individual employers and their workpeople makes it to the employers' interest to work longer hours than are in the long run to the interest of production as a whole."

The Realism of Chapman's *The Lancashire Cotton Industry*

Chapman's analysis of the hours of work was acknowledged as both novel and canonical (Hicks 1932, Marshall 1920, Robbins 1929). Pigou's presentation can thus best be regarded as an accurate paraphrase of that theory that was lax in fully crediting its source. That characterization is more than a pedantic quibble over originality and citation because of crucial differences in methodology between Chapman and Pigou. Chapman's theory evolved out of what Marshall called his "realistic-impressionist" scholarship on the Lancashire cotton industry – a method of inquiry that Marshall upheld as more suitable to the subject matter than the abstract, "statical" method employed by Pigou.

In the preface to *The Lancashire Cotton Industry*, Chapman explained that the "different guiding notions" of employers and employed were a "striking feature in the history of the Cotton industry […]" (p. ii). Some of the most compelling of those notions had to do with the hours of work and the agitation for shorter hours. Instead of relying on an abstract analysis of the economics, Chapman scrupulously investigated the workers' and employers' own view of the question. Chapman had been exposed to the pamphlet literature of the early English socialist writers, many of whom were involved in labour struggles in Lancashire, through his studies at Cambridge with Herbert Foxwell. An extensive select bibliography in the Lancashire study is reminiscent of Foxwell's (1899) bibliography for *The Right to the Whole Produce of Labour*, including the apologetic tone of the introductory remarks. Chapman's astute observations on the views of the advocates and opponents of the Ten Hours Bill foreshadowed his later theoretical treatment of the hours of labour:

> Sound as were the fundamental ideas for the realization of which the Society for National Regeneration had been instituted, its propaganda were frequently vitiated by appeals drawn from the doctrine of the labour fund, as the "lump of labour" fallacy might be called […]. We must notice, however, that those who advocated shorter hours, both in this period and later, found also many sound reasons for their action in the expected effect on the health and comfort of the operatives. They perceived that

> high wages were of little value to those who had little time to spend them. Moreover, the mistakes made by the operatives lay not so much in their fundamental opinions as in some of the reasons given by them for holding these opinions (98).

Looking back at that assessment from the perspective of his 1911 recap of his 1909 theory of the hours of labour, one might conclude that what Chapman perceived as the "fundamental ideas" of the advocates of shorter hours hearkened to the *long-period results* of the measures rather than the propagandistic appeals to immediate effects. In "Hours of Labour," Chapman presented a similar contrast between the guiding "ideals of life" and possibly fallacious views about "the mechanics of distribution":

> It would seem from the records of labour movements as if the operative's fear – based as much on ignorance as on distrust – lest the longer day should mean no more pay, though the weekly product would be greater, has protected him against the injurious consequences of short-sightedness; but I am inclined to think that the dominant force in these labour movements has consisted in ideals of life, formed half instinctively, which are unconnected with views, fallacious or otherwise, concerning the mechanics of distribution. Bad arguments have been used to justify good ends (365).

There are some huge gaps in the contemporary neoclassical narrative of labor and the problem of social cost. Economic analysis proceeds *as if* the given hours of work were optimal for output and *as if* those hours were chosen by workers with no resistance from employers. Both assumptions run counter to established economic theory but they do so in a particularly egregious manner.

The first assumption was a simplifying assumption introduced to Chapman's theory by J. R. Hicks on the pretext that unions were powerful enough to overcome employer resistance and enforce a reduction of working time, at least to the output optimum. Hicks acknowledged the historical resistance of employers to reductions of working time. The second assumption, that workers choose their own hours, ignores that premise underlying the first assumption that the

given hours are optimal. As a consequence of these contradictory omissions, the social overhead costs of labor are excluded from economic analysis.

John Maurice Clark introduced the analysis of the social overhead cost of labour in 1923 in *The Economics of Overhead Costs*, which explicitly incorporated Pigou's observations derived from Chapman of the effects of unemployment and poor working conditions on productivity. Nearly 40 years later, Walter Oi took up the theme of "the treatment of labor as a quasi-fixed factor," a concept Oi attributed to "J. M. Clark, who dealt primarily with the social cost of unemployment."

Following Oi, the notion of fixed costs underwent a remarkable inversion. Instead of referring to the social cost of sustaining each worker, regardless of whether employed or not, these costs started to be looked upon as an element of the firm's employment cost that doesn't vary with hours worked. The aspects of cost shifting and of social cost were omitted. Instead, the existence of these fixed, per employee costs has become a stock rationale for why reducing the hours of work, by "increasing the overtime premium does not appear to be an effective method of decreasing unemployment" (Ehrenberg 1971, 206).

In each case – social cost, optimal hours of work, worker choice and fixed costs – the contemporary version has left out the core substance of Chapman's original analysis. It is precisely the long-period, cumulative results of external economies that are ignored. These are not theoretical advances but evasions that detoured around established theory, bolstered by vague impressions that predictions based on the truncated models have been "empirically verified." They haven't been because the key variables have been excluded from the analysis. Bad arguments have been used to justify bad ends.

Tragedy and the Commons

The vulnerability of natural resources to over-exploitation is the theme that underlies Garrett Hardin's essay on "The Tragedy of the Commons." As mentioned earlier, Hardin borrowed his core image of the over-grazed pasture from William Lloyd. Elinor Ostrom has criticized Hardin's treatment of the topic, pointing out that it is not "the commons" that confronts such a fate but unregulated, open-access common-pool resources. The sense of tragedy Hardin invoked in his essay, "resides in the solemnity of the remorseless working of things," as the philosopher Alfred North Whitehead defined "the essence of dramatic tragedy." What drives this remorseless process is the discrepancy between the individual incentives for people to put one more head of cattle on the pasture or to take one more catch of fish from the fishery compared to the shared cost of the additional exploitation of the resource. A single encroachment may be inconsequential but it is the cumulative effects of many encroachments that eventually overwhelm the sustainability of the resource.

Hardin's use of the term tragedy is both apt and ironic. In classical Greece, tragedy was an art aimed at managing precisely those kinds of wicked dilemmas that had no easy technical solutions. It sought instead to educate the public's judgment and thereby preserve customs and traditions that sustained civic life. Tragic drama was an extremely important part of public life. Along with other public services, it was one of the duties of wealthy citizens in 5th century B.C.E. Athens to sponsor performances of tragic drama. This public duty was called *leitourgia*, the etymological root of liturgy. In the 12th century C.E., Honorius of Autun described the Catholic Mass as akin to Classical tragic drama in the aspect of its performance. Thus liturgy can be directly related to tragedy in one of two ways – as public duty or by formal analogy. In both of these aspects, liturgy aimed at sustaining cultural survival and the quality of public life through public worship.

There is a fascinating connection between liturgy and commons that adds an unexpected twist to Hardin's fortuitous reference to tragedy. Around 465 A.D., earthquakes and other calamities occurred near Vienne in what was then Roman Gaul. In response to these events, Vienne's

Bishop Mamertus instituted a processional liturgy to ask for God's blessing on the crops and protection from natural calamities and human depredations. The ceremony came to be known in England as Rogationtide taking its name from the Latin verb, rogare: to beseech. Annually, in the three days immediately preceding Ascension, the parish priest would lead parishioners in a perambulation around the boundaries of the parish to instill in the memory of the youth the location of the landmarks defining the extent of the community. Local residents entertained the celebrants with food and as they stopped at various landmarks.

Inevitably, from time to time disputes arose between neighbouring parishes about where their boundaries lay. Landmarks might have been moved or fences or hedges erected that encroached on common fields, pastures or forests. "Beating the bounds" during Rogationtide was thus an occasion to resolve disputes or to unilaterally redress such grievances by restoring landmarks to their customary location or by levelling the encroaching structures. E. P. Thompson summarized the customary aspect of hedge-levelling:

> [C]ommoners claimed (and law cautiously acknowledged) a right to throw down encroachments and this "possessioning" was indeed one of the purposes of parish perambulations. There was a fine-drawn line between the assertion of "right" and "riot", and the balance of evidence and also of power might be such as to settle the issue outside the courts… the right of commoners to take direct action in support of right rested upon ancient law and precedents too strong to over-rule… (Thompson, 1993, 117-118).[5]

During the reigns of Henry VIII and Edward VI, 29 of 75 Star Chamber cases involved hedge-levelling instigated by peers or gentlemen, according to Roger Manning. In three cases, riots resulted from failure to comply with crown orders to remove enclosures and in another four, the removal of hedges had been ordered by manorial court or municipal officials. Only in a minority of cases were riots attributed to commoners. "Apparently," observed Manning, "it did

[5] "So Co. 2 Inst. P. 88 says 'If the lord doth inclose any part, and leave not sufficient common in the residue, the commoners may break down the whole inclosure, because it standeth on the ground which is his common.'"

not occur to the early-Tudor aristocracy that they might be setting a bad example for their social inferiors."

Manning's summary of the tenor of enclosure riots of the first half of the 16th century attributes a measure of official legitimacy to them but by the same token, weakens their romantic aura as symbols of resistance by the poor to oppression:

> The number of instances where crown or manorial officials ordered or condoned the removal of enclosures prior to the riots and rebellions of 1548-9 reveals both official disapproval of enclosures and a tolerance for enclosure riots as a form of popular justice. Moreover, the leaders of the larger-scale enclosure riots frequently exhibit a desire to legitimate their actions by causing church bells to be rung and having the town bailiff or village constable read proclamations in the king's name ordering enclosures to be cast down.

The occasion became too much associated with revelry in the view of some citizens and the Protestant reformation ushered in efforts to suppress the "Popish" pageantry and riotous behaviour. But the practical value of commemorating the parish boundaries remained.

A royal injunction from the reign of Queen Elizabeth stipulated retention of "the useful and innocent part of perambulations" during Rogationtide, at which time also the minister "was required to inculcate these or such like sentences, 'Cursed be he which translateth the bounds and dolles of his neighbour, or such other order of prayers as should be lawfully appointed.'" These "dolles" were strips of land in a common field – or "dole meadow" – that were allocated annually by lottery.

Over time, what had earlier been regarded as a customary defensive reflex of local self-governance came to be viewed by authorities as, at first, vigilantism and ultimately as vandalism, riot and even insurrection. Thompson offers a salutary warning about the use of the term "riot." "This simple four-letter word can conceal what may be described as a spasmodic view of popular history." In opposition to this view, Thompson maintained that:

> It is possible to detect in almost every eighteenth-century crowd action some legitimizing notion. By the notion of legitimation I mean that the men and women in the crowd were informed by the belief that they were defending traditional rights or customs; and, in general, that they were supported by the wider consensus of the community. On occasion this popular consensus was endorsed by some measure of licence afforded by the authorities. (Thompson 1971. 78)

In the pivotal 16th century, the word "riot" more commonly referred to celebratory excess than to a violent protest. The opprobrium directed at the pulling down of hedges may have incorporated some cross-over disdain for the less sedate aspects of the annual perambulation. In other words, events that were initially scorned for their riotousness gradually became criminalized so that what once was considered unruliness took on the connotation of violence.

As the social composition of hedge-levelling descended from gentlemen and peers to "lewd and idle persons," official censure directed against it escalated. A 1601 statute prescribed whipping as the punishment for the misdemeanor of hedge-breaking. Two centuries later, in the wake of anti-machinery riots, frame-breaking was made a capital offense, punishable by hanging.

Anti-factory and frame-breaking riots of the late 18th century and early 19th century were reminiscent of earlier anti-enclosure riots and often took on the processional characteristics of the earlier events. Thus they retain an aura of popular tradition or custom rather than leaping mysteriously out of nowhere. When Eric Hobsbawm labeled the anti-factory riots "collective bargaining by riot," he perhaps placed too much teleological stress on what evolved later. Frame-breaking crowds were not necessarily the prototypes for striking trades unions. Their actions were possibly not intended to extract concessions from mill owners as to express deeply held convictions about traditional rights and customs. As Reddy cautioned:

> Even the useful concept of "collective bargaining by riot" may lead us either to neglect the complexity involved in achieving unity of action in a spontaneous gathering or to underestimate the number of meaningful determinants that lead crowds to a particular target. Those expressive acts which are fundamental to a community, which represent its

> existence or solidarity to the community's several members, are neither instrumental nor irrational, but simply creative. Without expression, community would not exist. (Reddy: 87)

Although the earlier actions should not be regarded as "prototypes" of subsequent ones, it is still revealing to identify in later practices unconscious allusions to their ancestral precedents. The sequence may still be meaningful even if that meaning isn't a purpose that is "revealed" in modern institutions as the supposed culmination of an evolutionary process. There is indeed a sense in which unions, strikes and collective bargaining succeeded frame-breaking riots, just as anti-enclosure riots succeeded liturgical perambulation around the parish. The notion of a "repertoire of collective action," proposed by Charles Tilly seems appropriate:

> The word repertoire identifies a limited set of routines that are learned, shared, and acted out through a relatively deliberate process of choice. Repertoires are learned cultural creations, but they do not descend from abstract philosophy or take shape as a result of political propaganda; they emerge from struggle.… At any particular point in history, however, they learn only a rather small number of alternative ways to act collectively. (Tilly 264)

John Bohstedt employed Tilly's notion of repertoire in reflecting on E.P. Thompson's argument that English food rioters in the 18th century were motivated by beliefs in what Thompson termed a "moral economy." Bohstedt argued that "rioters relied on custom, not for moral legitimacy but for a repertoire of proven tactics, and that repertoire was strikingly adaptable." The concept of repertoire also offers a critical perspective on Hardin's attention to the "remorseless working of things" -- the blind inevitability that leads to an unhappy outcome. A repertoire, too, may seem relentless in its repetition, but that repetition is not oblivious and mechanical. It adapts.

Peter Linebaugh's pamphlet, *Ned Ludd & Queen Mab: Machine-Breaking, Romanticism, and the Several Commons of 1811–12*, brings the question of industrialized labor squarely into the discussion of enclosure of the commons. Rather than viewing technology as an autonomous

"factor of production," Linebaugh illustrates how "expropriation from the commons and the mechanization of labor worked upon each other as in a feedback loop." Thus the division of labor in the factory can be understood as a kind of enclosure, as can the gendered division of labor in the household, the separation of industry from agriculture and the separation of soldiers from the civilian population in barracks.

Accounting for a commons mentality

What might considering labour power as a common-pool resource look like in practice? In a word: "accounting." As unglamorous as that may sound, making a transition to a new set of social values requires the habilitation of an accounting mentality appropriate to those values. Existing accounting conventions that treat labour as a commodity are not adequate to treating labour power as a common-pool resource. In "Time on the Ledger" (2013), I sketched some elements of how a social accounting process might be adapted to deal with the intensive and extensive dimension of working time. Another preliminary piece of the framework comes from Giacomo D'Alesi and Claudio Cattaneo's research analyzing the relative energy consumption of unpaid household work and paid market work in Catalonia. Unlike the pieces of a conventional jigsaw puzzle, these pieces are not preformed to fit together but will interact and be transformed in the process.

Accounting historian Rob Bryer has argued that accounting implements a "'calculative mentality' of capitalism that is both the historical product and the producer of objective social relationships between capital and labour." This capitalist mentality operates "by holding the collective worker accountable for the rate of return on capital." Bryer maintains that "accounting is the premier control system because it provides senior managers with objective measures of the generation and realisation of surplus value that they use to hold workers accountable for the circulation of capital."

In *Confession and Bookkeeping: The Religious, Moral, and Rhetorical Roots of Modern Accounting*, James Aho argued the thesis that doubly-entry bookkeeping was "meaningfully, if not strictly causally, related" to the institution of compulsory confession mandated by the Catholic Church in 1215.

> DEB [double-entry bookkeeping] arose from a sense of indebtedness on the part of late medieval merchants toward creator, church, and commune. Burdened with this debt, they felt compelled to certify in writing that for everything they earned something of

> equal value had been returned, and that for everything meted out something else was deserved.

Aho's historical linkage of bookkeeping and confession suggest another, less objective but more psychologically intense dimension to what Bryer calls the capitalist mentality – that is a dimension dominated by notions of sinfulness, indebtedness, penitence and eternal punishment. On these terms, accumulation of surplus value may even take on something of the character of a sacrificial offering: with capital as god-idol.

Both bookkeeping and liturgical traditions of confession and penitence long predated the Fourth Lateran Council's imposition of compulsory confession, as Gary Urton has pointed out, thus undermining a causal interpretation. But, Urton goes agrees with Aho, "in terms of an intensification of the use of the method [i.e., double-entry bookkeeping] in relation to the signal event of the imposition of auricular confession."

Within this context of *expressing*, *relating* and *performing* that Section 6 of the Clayton Antitrust Act – that "the labor of a human being is not a commodity or article of commerce" – can begin to assume substantive content. A commodity, Marx wrote in *Capital*, "is, in reality, a very queer thing, abounding in metaphysical subtleties and theological niceties." "The whole system of capitalist production," wrote Marx many chapters later, "is based on the fact that the workman sells his labour-power as a commodity." Karl Polanyi addressed the commodity status of labor as follows: "The commodity description of labor, land, and money is entirely fictitious. Nevertheless, it is with the help of this fiction that the actual markets for labor, land, and money are organized…"

These denials and criticisms of the metaphysical, theological fiction don't in themselves establish a rival to conceiving of labor as a commodity. Economically, an alternative concept can be advanced in the argument that labor is a common pool resource. But I would also like to suggest that those "metaphysical subtleties and theological niceties" cannot easily be dispensed with by adopting a "more scientific" concept. Presumably, Marx was being sarcastic

when he referred to those "theological niceties" of the commodity. But on closer inspection, the commodity treatment of labor may indeed have a theological inheritance.

What a weird inversion of the liturgical template this entails, though. In place of the merchants' "sense of indebtedness" to community, church and creator, the business manager operates from an assumption of entitlement, in terms of both control over the labor process and receipt of the generated surplus.

Matters of sin, confession and penitence were also fundamental to the Rogationtide tradition, as is made clear by analysis of the text of the Bickling Rogation homilies from the 10th century:

> The liturgy for the three Rogation Days preceding Ascension emphasizes, almost to the exclusion of anything else, the awareness of man's sinfulness and the need for prayer to, as Guéranger says, "appease the anger of God and avert the chastisements which the sins of the world so justly deserve… to obtain the forgiveness of sin both for ourselves and for others."

Thus elements of the distinctive repertoires and mentalities of workers and employers of labor can be traced to different confessional liturgies – the former public and communal; the latter private and introspective.

Liturgy is a repertoire but not all repertoires are liturgical. For example, Catherine Pickstock decried what she termed an "anti-liturgy liturgy" of secular modernism that "depends upon seamless mechanistic repetitions which no individual can any longer comprehend or even perceive, and yet which are entirely sustainable." While the sustainability of the "perverse *life-world"* created by such a "parody of the liturgical" is questionable – at least ecologically – Pickstock's summary of a "fully-liturgical culture," in which "all activities are to a degree brought within the scope of liturgical enactment" is enticing. She specifies work in stressing the importance in liturgy of "the intensification and renewal of those rhythms upon which social and economic life depend." The interactions with the divine in liturgy stand as a prototype for interactions between people in the community. "Hence in such a society, a performance of

work is a gift offering to someone else or the community leading to some counter-gift, some accrual of benefit also to the worker."

In William Reddy's analysis of the language of crowds in the Rouen textile trade in the 18th and 19th centuries, withholding labor in a strike possessed the "novel ambiguity" of being either emblematic of rejection of the economic order, instrumental within an accepted order or possibly both simultaneously. "What the crowd ends up doing makes manifest the grounds upon which this belief rests. No notion of economic rationality can aid us in interpreting acts in so far as they are enactments of a collective unity."

Employers' actions were similarly embedded in non-economic as well as economic considerations: "The terrible power of the market hovered behind them infusing their dictates with a meaning both moral and practical, giving them a determined, unshakeable authority vis-a-vis their employees. The economic order itself provided them with a collective emblem."

Reaction to the evolution of the bargaining status of workers and employers is anything but proportional. Riots, trade unions and strikes are condemned, disparaged and suppressed. Accounting, management and economic rationality were lauded, lionized and encouraged. Ultimately, certification of collective bargaining units within a labor relations regulatory framework revoked the ambiguity of the strike and thus dissipated the implicit political aspect of its threat. At the same time, the employer's ever-present threat, the "terrible power of the market," remains fully intact and underlines the employers' claims of economic rationality.

Ironically, the "right to strike" that is granted by the state is an objectively more violent action than would be a revolutionary general strike, as Walter Benjamin explains:

> By what function violence can with reason seem so threatening to the law , and be so feared by it, must be especially evident where its application, even in the present legal system, is still permissible.
>
> This is above all the case in the class struggle, in the form of the workers’ guaranteed right to strike. Organized labor is, apart from the state, probably today the only legal

> subject entitled to exercise violence. Against this view there is certainly the objection that an omission of actions, a non-action, which a strike really is, cannot be described as violence. … The moment of violence, however, is necessarily introduced, in the form of extortion, into such an omission, if it takes place in the context of a conscious readiness to resume the suspended action under certain circumstances that either have nothing whatever to do with this action or only superficially modify it. Understood in this way, the right to strike constitutes in the view of labor, which is opposed to that of the state, the right to use force in attaining certain ends. … The antithesis between the two conceptions emerges in all its bitterness in face of a revolutionary general strike. In this, labor will always appeal to its right to strike, and the state will call this appeal an abuse, since the right to strike was not "so intended," and take emergency measures.

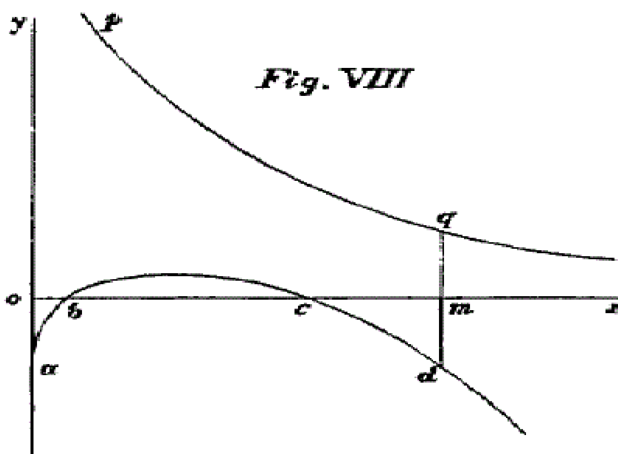
In effect, then, the state cedes to organized labor a franchise from its monopoly on violence to forestall the possibility of an omission of action that would be objectively non-violent but poses a greater challenge to the continuity of legal authority.

Curiously enough

…another one of William Stanley Jevons's innovations -- besides the eponymous paradox -- throws shade on the allegations that demands for shorter working time are motivated by a false belief in a fixed amount of work. In chapter five of his *Theory of Political Economy*, published six years after *The Coal Question*, Jevons presented his theory of work effort that relies on a concept of the disutility of excessive toil.

> "A few hours' work per day may be considered agreeable rather than otherwise; but so soon as the overflowing energy of the body is drained off, it becomes irksome to remain at work. As exhaustion approaches, continued effort becomes more and more intolerable."

Following those remarks, Jevons quoted extensively from Richard Jennings, whose statement of "this law of variation" he praised for its clarity. "There can be no question," concluded Jevons, "of the general truth of the above statement," which he then illustrated with a diagram, labeled Figure VIII. "We may imagine the painfulness of labour in proportion to produce to be represented by some such curve as abcd in Fig. VIII.":

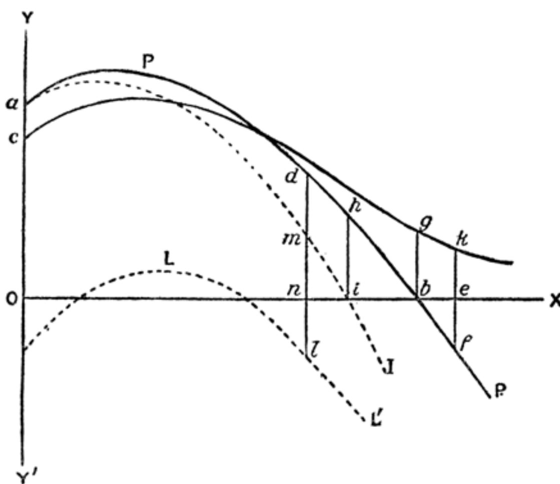


In this diagram the height of points above the line ox denotes pleasure, and depth below it pain. At the moment of commencing labour it is usually more irksome than when the mind and body are well bent to the work. Thus, at first, the pain is measured by oa. At b there is neither

pain nor pleasure. Between b and c an excess of pleasure is represented as due to the exertion itself. But after c the energy begins to be rapidly exhausted, and the resulting pain is shown by the downward tendency of the line cd.

Jevons went on to describe how the curve Pq in his diagram represented the diminishing utility to the worker of the wages earned as the duration of work increased. He concluded that there will be "some point m such that qm = dm, that is to say, such that the pleasure gained [from wages] is exactly equal to the labour endured."

"Despite its strengths," mused Robert Kerton 100 years after its publication, "recent textbooks ignore Jevons' theory while elevating to supremacy indifference curve analysis." In a footnote he added that "A survey of six recent textbooks on labor economics found no mention of Jevons' approach." In the intervening years, though, one of Alfred Marshall's star pupils, Sydney J. Chapman, added a few wrinkles – and several curves and letters, to be exact -- to Jevons's diagram:



Curve L in Chapman's diagram is clearly analogous to Jevons's curve abcd. While the Jevons diagram described the decision faced by an individual worker, Chapman's sought to capture both the immediate and long period effects of changes in working time on both workers and employers in the economy as a whole. He simplified the model by assuming a single industry and workers who had uniform income preferences and endurance.

Chapman's general conclusion from this analysis was "that progress may be expected to be accompanied by a progressive curtailment of the working day." Along the way, though, he observed that in a competitive market, progressive employers who invested in the future well-being of their workers by voluntarily reducing the hours of work would risk having those workers poached by other employers willing to pay higher wages without having invested in their improved well-being.

Chapman's analysis led him to the conclusion that the "fundamental ideas" motivating demands for shorter working time were sound, even though the movement's "propaganda were frequently vitiated by appeals drawn from the doctrine of the labour fund, as the "lump of labour" fallacy might be called." Unlike most critics of the lump of labor fallacy, Chapman actually gave examples of what he judged to be expressions of the belief in a fixed amount of work.

"Never mind your numbers," counselled the Society for National Regeneration, "but reduce your hours of working, and then those of you who have too much work can spare a little to those who have none, and still there will be enough, for you all." "Is there a trade in the country," asked *The Poor Man's Advocate,* "which does not see that the most certain and easy mode of preventing reductions of wages, and even of obtaining advances, is to limit the quantity produced?" All of Chapman's examples, incidentally, *could* be interpreted as assuming a fixed amount of work *if* one inserts the arguments into the framework of an abstract analysis of the whole economy operating in the long run. They are alternatively interpretable, however, as canny assessments of local conditions drawn from experience. The latter interpretation seems more plausible given that the statements come from workers and not political economists.

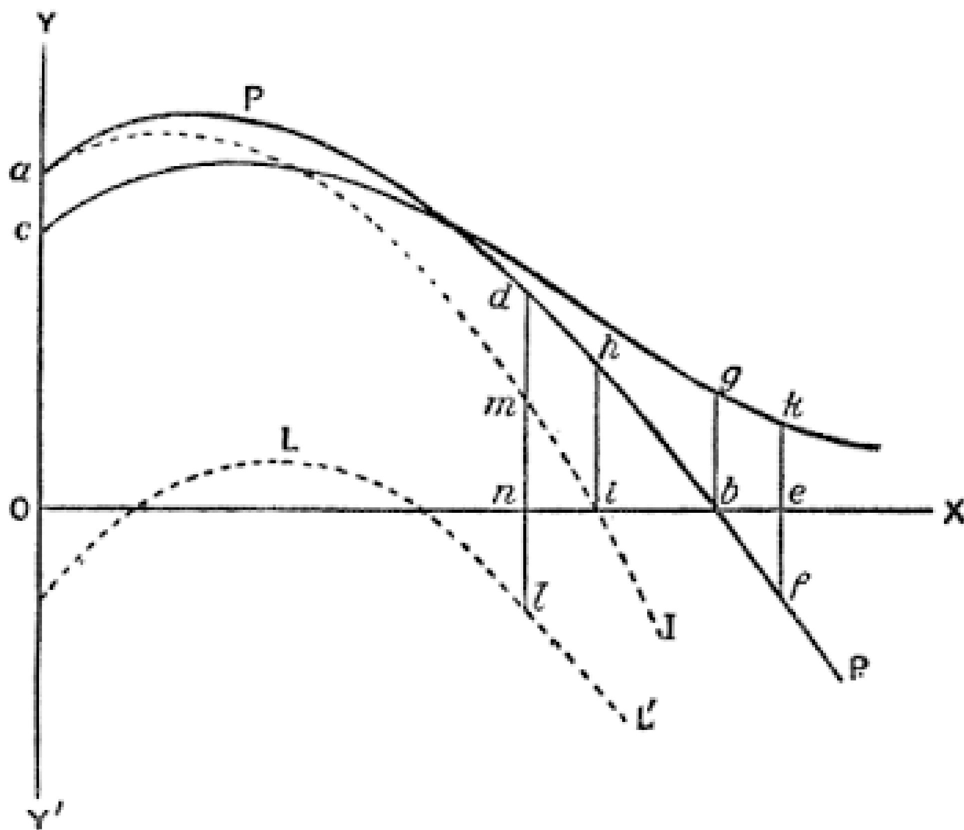
Chapman's analysis of the hours of labour was acknowledged as canonical by such Cambridge and LSE luminaries as Alfred Marshall, E. C. Pigou, J. R. Hicks and Lionel Robbins. Both Pigou and Hicks presented comprehensive summaries of it in *The Economics of Welfare* and *The Theory of Wages*, respectively. In fact, Chapman's theory of hours was one of the conceptual pillars of

Pigou's analysis of externalities in *The Economics of Welfare*. So, it seems somewhat strange that Chapman's analysis is virtually forgotten by modern economists who routinely rely on the assumption that "the given (presumably market-determined) hours of work are optimal" -- usually without even being aware that they making an assumption.

Immiseration Revisited: The four phases of working time

Is there a *neo-classical* theory of immiseration?

Below is the marvelous Chapman hours of labor diagram. It looks complicated but it really only contains four curves representing, roughly, long-term and short-term productivity, income [correction: actually income minus the value of leisure foregone] and fatigue. But there is more to it than Chapman realized or that I have previously noticed.



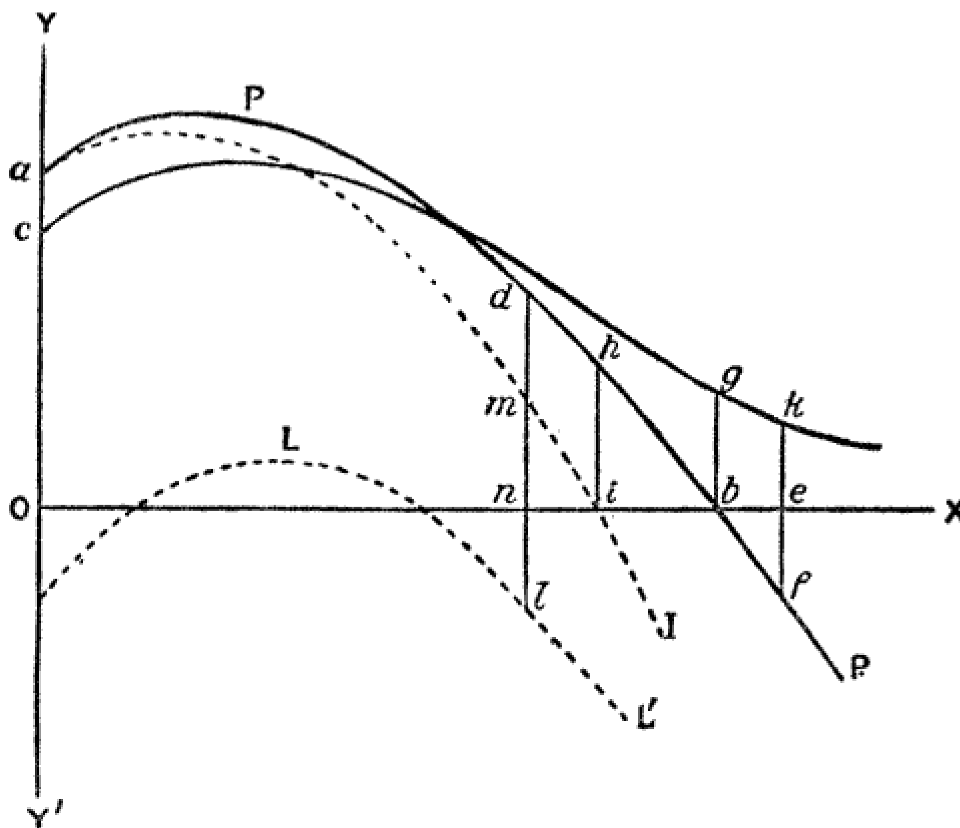
Chapman' diagram obviously owes a great deal to Jevons's. The "**L**" curve in Chapman's diagram echoes the lower curve in Jevons's figure VIII, presented to illustrate the "painfulness of labour in proportion to produce"

Chapman was primarily concerned with the length of the day optimal for output, which would be measured on the X axis of his diagram by the distance ***Ob***. The optimal working day from the

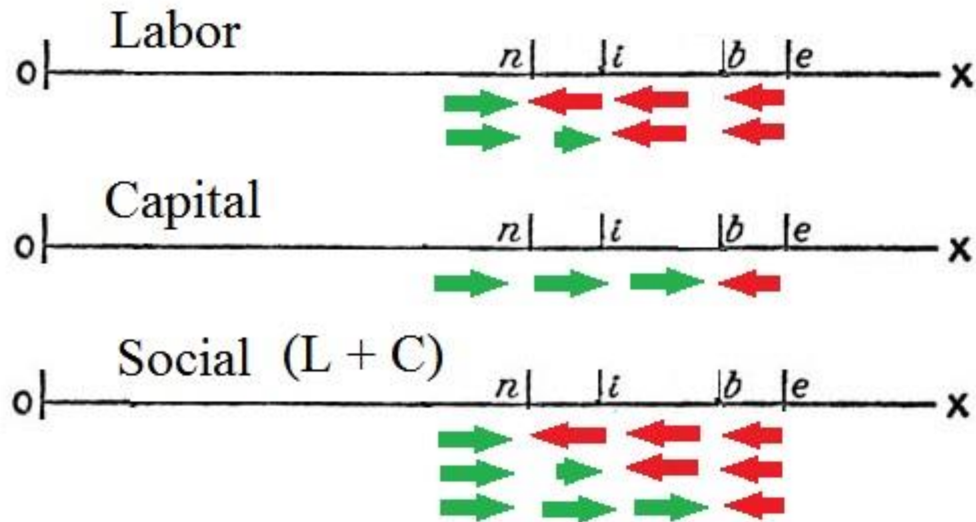
workers' perspective, however, would be ***On*** and would terminate at the point where the marginal income from another time unit of work would just equal the marginal pain of working.

But the intervals from ***n*** to ***i*** and from ***i*** to ***b*** add another dimension to the diagram that has been overlooked. From ***n*** to ***i*** the worker gives up proportionally more in work effort than he or she receives in extra income [minus the value of leisure foregone]. Finally, during the interval from ***i*** to ***b,*** workers endure additional pain in exchange for a *decrease* in total income minus leisure. Beyond ***b***, the incomes of both workers and employers are reduced.

The four phases of working time can be labeled cooperation, exploitation, immiseration and ruin. The incentive for employers is to progress inexorably toward the last phase unless regulated by legislation or collective bargaining. The following animation illustrates the contrast between the workers' gains (green) and losses from lengthening of the working day and the employers' gains (blue) and loses.



The conflict between labor and capital over the length of the working day can also be illustrated less kinetically by the following close-up of the X axis from Chapman's diagram. The green arrows indicate income gains, the red arrows income losses or pain cost:



The bottom line, showing the social aggregate, indicates that the income gain for capital at the optimal point ***b*** for output is essentially a transfer of income from labor, which also has to invest additional work effort to accomplish that transfer. Up to the output optimum point there is a small net surplus of income that is, however, dwarfed by the quantity of work effort pain cost required to generate it. This does not even qualify for the Kaldor-Hicks compensation criteria. From capital's perspective, however, the small net return and larger transfer appears to be all simply gain from expanded output -- growth is good! (Just don't look under the hood).

Chapman gave no indication of being aware of the immiseration implications of his analysis. John Hicks gave even clearer indication that he was *not* aware of the immiseration implications of Chapman's analysis. Hicks observed that "it had never entered the heads of most employers that it was at all conceivable that hours could be shortened and output maintained" but asserted that trade unions "will not usually need to exert any considerable pressure in order to bring about a reduction" in circumstances where the working day exceeded the output

optimum. As if workers should be content to be ground down into wretched poverty provided they didn't drag their employer down with them! The output optimum is *not* a good place on the X axis for workers to be.

Only the Marxist economist, Maurice Dobb, appears to have noticed the importance of the relationship between wages and "the worker's expenditure of energy and his 'wear and tear.'"

What was implied in the economists' retort to the advocates of the so-called Work-Fund leads to the apparent paradox that the more the workers allow themselves to be exploited, the more their aggregate earnings will increase (at least in the long run), even if the result is for the earnings of the propertied class to increase still faster. And on this base is erected a doctrine of social harmony between the classes. But it does not follow that the workers will prefer to be exploited to a maximum degree, or that attempts to limit this exploitation are based on fallacious reasoning.

There is no scale on the Chapman diagram and this turns out to be a useful feature. Different occupations, technologies, individuals and wage levels generate a variety of scales. One could conceive of aggregating these scales either in an overall average or clustered in quintile or decile groups. The latter procedure would be valuable in exploring whether a substantial number of workers were being pushed into conditions of immiseration even though the overall average was still safely in the exploitation range.

It is worth remarking that based on the relative length of the segments in Chapman's diagram, the optimal length of the day for workers would be less that 72 percent of the optimal output day. For example, if the optimal length of the workweek for output was 48 hours, the optimal week for workers would be 34.4 hours. Of course Chapman's diagram is not based on empirical measurement but Chapman had investigated in depth the extensive statistical and experimental data available at the time he was formulating his theory, so, while his proportions cannot be assumed to be precise they probably represent an informed impression -- a ballpark estimate -- of general relationships.

In conclusion, yes, there is a neo-classical immiseration theory. The economists who propounded it apparently were unaware that it was such a theory. By extension, that immiseration theory is a crisis theory. There is no built-in mechanism of negative feedback from prices that militates against the passage from the immiseration phase to the ruin phase. Hicks assumed that a "very moderate degree of rationality on the part of employers will thus lead them to reduce hours to the output optimum as soon as Trade Unionism has to be reckoned with at all seriously [emphasis added]." But by the time exploitation has progressed to the immiseration phase, trade unionism doesn't have to be "reckoned with at all seriously" by employers. The trade unions would already have been defeated somewhere between point n and point b on the Chapman diagram's X axis.

Wage prisoner's dilemma

Consider the "wage prisoner's dilemma": given a choice between working long hours for more money and working short hours for less money, many will chose to work longer hours. But if a preponderance of workers choose or are compelled to work long hours, they will oversupply the labor market, depressing wages. They may end up working longer hours for less money.

Imagine the following scenario:

One hundred workers are fully employed for 40 hours a week. The current wage is $10 an hour. Due to some inscrutable technical feature of the production process, it is determined that optimal scheduling requires workweeks of either 36 hours or 44 hours. However, weekly output per worker is the same for a 36-hour worker and a 44-hour worker. Hourly output is correspondingly higher for the 36-hour worker. Pay is determined by averaging total output and aggregate hours of the workforce as a whole.

After adjustment to the new schedules, the uniform wage rate will be somewhere between $9.09 and $11.11 an hour, depending on the proportion of workers who choose each schedule. Weekly pay will thus range between $328 and $400 for those working a 36-hour week and between $400 and $488 for those working a 44-hour week.

If half the workers choose a 36-hour week and half choose a 44-hour week, hourly wage will remain at $10 and thus the weekly pay will be $360 and $440 respectively.

One payoff matrix – out of 99 – for each worker would look something like the following, with the worker's choice occupying the rows:

	99 choose 36 hours	99 choose 44 hours
36 hours	@ $11.11 per hour = $399.96	@ $9.11 per hour = $327.97
44 hours	@ $11.09 per hour = $487.95	@ $9.09 per hour = $399.96

Assuming an individual was indifferent about the loss of leisure time, that individual would be "better off" choosing a 44-hour workweek whether all the other workers chose 36 hours or 44 hours. Aside from that assumption, the best option would depend on the relative strengths of the worker's preference for leisure, risk aversion and assumptions about other workers' preferences.

This is, of course, an extremely simple-minded example. It is meant only to suggest that "zero-sum thinking" is not the sole possible explanation for people's anxieties about unemployment – it is unlikely to be the most plausible.

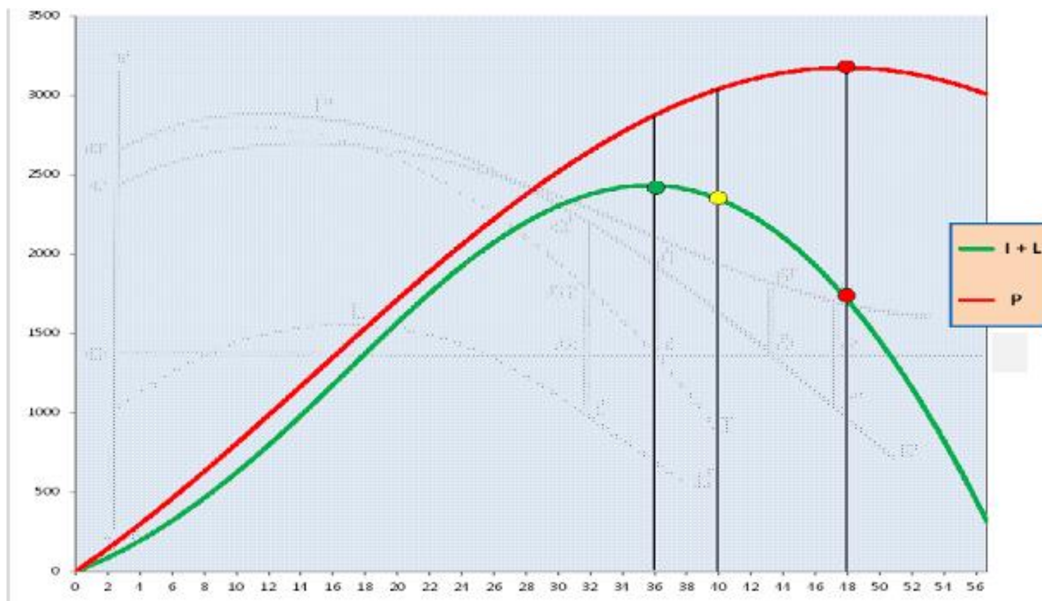
Despite all the rhetoric about zero-sum fallacies committed by advocates of shorter working time, early retirement, trade protectionism or limiting immigration, there doesn't appear to have been any research to substantiate the claims empirically. There has, however, been empirical research on prisoner's dilemmas or social traps, as the tragedy of the commons model is also known. Elinor Ostrom was one of the authors of "Cooperation in PD games: Fear, greed and history of play" that references Rapoport's earlier studies. "Take-Some Games: The Commons Dilemma and a Land of Cockaigne," by Peter Mitter is included in *Paradoxical Effects of Social Behavior: Essays in Honor of Anatol Rapoport.*

Another kind of game has evolved with a primarily didactic rather than investigative purpose. Julian Edney's Nuts Game and Linda Booth Sweeney's Harvest Game exemplify the commons dilemma or social trap learning game. In principle, there is no obstacle (other than time and money) to incorporating a harvest-type game into a research design similar to the prisoner's dilemma research conducted by Rapoport, Ostrom and their respective colleagues.

Output Optimum and the Roller Coaster of Immiseration

To follow up on the immiseration question raised two chapters ago, I built a spreadsheet replica of the marvelous Chapman diagram. In addition to lines on the page, the replica provides me with tables of numbers that I can add, subtract, multiply and divide in accordance with the conceptual logic of the diagram.

The chart below shows the results of some of these calculations. The red curve graphs cumulative gross "output" and green curve subtracts the value of foregone leisure and the pain cost of fatigue and wear and tear from output to calculate net "income" (green). The length of each vertical line measures the values of output and income, respectively for a work week of the length indicated by the scale on the x-axis.



"Big Dipper": the Roller Coaster of Immiseration

I have set the hypothetical "output optimum" work week at 48 hours in deference to the diagram's 1909 vintage. Assuming such an optimum and taking the conceptual diagram's proportions literally, the ideal length of a work week for a laborer would be 36 hours. That is the point at which the value of foregone leisure and the pain cost of additional work begin to

outweigh the additional earnings from the longer week. A workweek of 40 hours marks the threshold beyond which the value of foregone leisure alone exceeds the additional wage earnings.

If the optimal output workweek was 40 hours, the corresponding ideal length of workweek for the worker would be 30 hours, again assuming the reasonableness of the diagram's proportions. There is, of course, only impressionistic evidence for the general shape of the curves and not for the accuracy of the proportions depicted. Nevertheless, the derived calculations indicate a steep acceleration of the discrepancy between output and worker welfare beginning well in advance of the output optimum.

Calculations based on the diagram suggest that by working 34 percent more hours per week, the employee can look forward to "enjoying" 29 percent LESS net benefit. If the actual cost to workers of working longer is even half or a third of those estimates, this still would represent a significant deviation not only from what Lionel Robbins dismissed as "the naïve assumption that the connection between hours and output is one of direct variation" but also from the equally indefensible premise of a consistently proportional relationship between work effort and reward.

The moon belongs to everyone

One of the more auspicious implementations of the Say principle was made by William Stanley Jevons in 1865, addressing the issue of fuel consumption. This is the infamous Jevons Paradox, also known as the rebound effect, which some mainstream economists who tacitly fall back on Say's Law dismiss. "It is wholly a confusion of ideas," wrote Jevons in *The Coal Question*, "to suppose that the economical use of fuel is equivalent to a diminished consumption. The very contrary is the truth." He went on to explain:

> As a rule, new modes of economy will lead to an increase of consumption according to a principle recognised in many parallel instances. The economy of labour effected by the introduction of new machinery throws labourers out of employment for the moment. But such is the increased demand for the cheapened products, that eventually the sphere of employment is greatly widened. Often the very labourers whose labour is saved find their more efficient labour more demanded than before.

This "principle recognized in many parallel instances" was, of course, the principle that production opens up a market for products, that supply creates its own demand, that one man's labor creates employment for another. In short, it was the doctrine of the impossibility of overproduction. But in this case, Jevons applied it not to expanded employment, which was usually considered a good thing, but to the increased consumption of fuel:

> Now the same principles apply, with even greater force and distinctness, to the use of such a general agent as coal. It is the very economy of its use which leads to its extensive consumption....
>
> And if such is not always the result within a single branch, it must be remembered that the progress of any branch of manufacture excites a new activity in most other branches, and leads indirectly, if not directly, to increased inroads upon our seams of coal.

The catch here is that employment and the consumption of fuel are not merely "parallel instances" but are intimately linked in a feedback loop with the expansion of employment

dependent on increased consumption of fuel through the (literal) mechanism of labor-saving machinery.

What this means is that if you accept (reject) a fundamentalist interpretation of Say's Law, you must also accept (reject) a fundamentalist interpretation of the Jevons Paradox. You don't get to pick and choose among them because the Jevons Paradox is simply another application of Say's Law. If you accept a strong (but not absolute) version of Say and a weak version of Jevons, you will need to provide a much better explanation for exactly how that could come about. Glib references to the built-in, self-adjustment mechanism of prices or the magic wand of technology won't do.

There is an upside to this -- if one can call it an "upside." Technology will never eliminate the need for human labor. Robots will eliminate some old jobs but they will create other new jobs. To create enough new jobs to reabsorb the displaced workers, they will need to consume more and more fuel and consequently emit more carbon dioxide. Thus limits to the availability of cheap fuel and limits to the capacity of the atmosphere to absorb carbon dioxide impose limits on both the displacement of workers by machines and on the reabsorption of displaced workers through expanded production and consumption.

But expanding production and consumption is not the only way to create jobs. New jobs can also be created by substituting labor-intensive production for fuel-intensive, mechanized production. At first that may seem to be a backward step. However, it is often only so from the perspective of generating profits for a private employer. When full social and environmental cost accounting is done, many "technological advances" will be shown to be merely efficient devices for shifting costs from an entrepreneur to workers, society and future generations.

Can the vicious cycle of technological change, displacement, consumption, reabsorption, cost shifting and waste be transformed into a virtuous one? There are no guarantees but a thought experiment I call "the moon belongs to everyone" illustrates how such a transformation might be achieved – at least in theory.

Proponents of a technological fix to climate change extol the prospects of decoupling GDP growth from energy consumption and carbon dioxide emissions. What they consistently overlook, though is that GDP growth can be decomposed into the elements of employment/population ratio, productivity improvement and average hours of work per employee. Decomposing GDP reveals a more closely coupled relationship between hours of work and CO_2 emissions than between emissions and GDP.

What this implies is that the superficial relative decoupling of GDP growth relies on a more profound and intractable coupling of one of its key components of GDP, thus ensuring continued absolute increase of CO_2 emissions. Not only is relative decoupling of GDP "unlikely" to turn into absolute decoupling, relative decoupling relies on and is driven by an absolute coupling. This is where the connection between the Jevons Paradox and Say's Law hits the fan.

At a glance, the relative decoupling of GDP growth from CO_2 emissions looks impressive. From 1960 to 2011, the dollar value of output in the U.S. that could be produced for each ton of CO_2 emitted increased by more than two and a half times. The amount of employment created, however, only increased by around one-fifth. In other words, GDP decoupled from job creation almost as much as it decoupled from carbon dioxide. And since 1990, the gap has widened. CO_2 emitted per person employed in the U.S. was about the same in 2011 as it had been in 1990 although the dollar value of economic output had increased by 58 percent. But even that sluggish job performance shines compared to the global figures, where the number of jobs created per million metric tons of CO_2 *declined* by 12.5 percent between 1990 and 2011. That is not the kind of decoupling the technological optimists had in mind.

So, what's the solution? "The moon belongs to everyone" takes its name from a line in the song, "The best things in life are free." More pertinently, the *atmosphere* belongs to everyone, which summarizes the common law theory behind a campaign by the Oregon-based environmental group, Our Children's Trust. The organization has filed lawsuits in over a dozen states seeking to have the atmosphere declared a public trust for the first time, granting it

special protection. The doctrine has been used to clean up rivers and coastlines, but many legal experts have been unsure if it could be used successfully to combat climate change.

Peter Barnes proposed treating the sky as a public trust in his 2001 book, *Who Owns the Sky*. Barnes's idea was the basis for a "cap-and-dividend" bill proposed in the U.S. House of Representatives in 2009. Cap-and-dividend is a variation on the cap-and-trade concept of a market-based emissions regulatory mechanism. Some of the main criticisms of such market-based schemes have to do with enforcement mechanisms, non-compliance, transparency and regulatory capture.

The idea of trading pollution allowances originated in Ronald Coase's "The Problem of Social Cost" and was further developed by J. H. Dales in *Pollution, Property and Prices*. Coase's article centered on a critique of the "Pigouvian tradition" that advocated a prominent role for the state in taxation to offset the effects of environmental externalities.

Let's take this another step further, though. As mentioned earlier, in chapter x, Coase didn't consider that there was both an environmental and a *labour* component to Pigou's analysis. Pigou's analysis of the labor question was not reducible to the environmental one and relied at a key point on Sydney J. Chapman's theory of the hours of labor. The actual hours of work is not just some random, unconnected variable that I've pulled out of a hat. It is fundamental to the analysis of social cost. It stands to reason that it should also be fundamental to the resolution of problems arising from social cost shifting.

The moon belongs to everyone commences from the empirical observation that in the U.S. from 1990 to 2011 there was, literally, "a certain quantity of work to be done" per ton of CO_2 emissions. This establishes a reference point but makes no claim about the inevitability or permanence of that fortuitous equivalence. Nevertheless, using that observation as a benchmark we can estimate and specify a rate at which the average annual hours of work must be reduced to achieve a specified reduction of emissions by a cerain date in the future, assuming technology, population and workforce participation remain constant.

That is not to say that those other components *will* remain constant. In fact, one purpose of a staged, "draconian" reduction of hours is to spur energy conservation, transition away from fossil fuels and culture change that will render more distant and seemingly more disruptive future hours reductions redundant and unnecessary.

Under the proposal, each country would agree to a reduction schedule based on its current CO_2 emissions, current average annual actual hours of work and a projected number of hours at a future date that hypothetically would achieve net zero emissions. For example, the United States would need to reduce the hours of work by around six percent annually to achieve net zero emissions by 2050. In the early years, that rate works out to a worktime reduction of around two hours a week per year.

Germany, whose hours and emissions are already substantially lower than the U.S. would need to reduce hours a further four percent annually to achieve net zero emissions in 2050. That rate translates to an annual reduction of about an hour per week. China, with longer hours but much lower emissions per capita and per employed person would need to reduce its average annual hours of work by around 2.7% a year, a reduction of a bit more than an hour per week each year.

Scheduled hours reductions would be reviewed and revised regularly, perhaps every five years or more frequently if needed. The exact regulatory measures needed to achieve the reductions might best be developed through trial and error and sharing of best practices. These might include such innovations as a progressive carbon tax on hours of work or a "cap and trade" or "cap and dividend" model.

A number of features may tend to alleviate what otherwise might appear to be a rather radical and unprecedented proposal. First, in most countries, including the U.S., the first five to seven years of the program would only reduce average annual hours of work to levels that in the 1950s and 1960s were widely predicted to have been achieved by the end of the 20th century.

Second, again for the first five to seven years of the program, the amount that hours would be reduced would be consistent with an improvement in standards of living as relatively unproductive and vexatious hours of overwork would be converted to leisure. Of course, if all else remained the same, the resulting productivity boost might necessitate even steeper reductions of hours in the future. But we only assume *ceteris paribus* for purposes of estimation. In reality, at some point in the future, shifting to more labor intensive and less fossil fuel reliant technologies might even offset some of the pressure for hours reduction with a need for longer, fossil-free work weeks.

Finally, and most importantly, there is a precedent for legally-enforced restriction of the hours of work spurring energy transition and technological adaptation. As Andres Malm has documented in *Fossil Capital,* the English Factory Acts in the 1830s and after impelled capitalists to abandon the cheaper but more erratic waterpower for the more expensive but more dependably uninterrupted steam engines. Just as the transition to fossil fuel was facilitated by regulation of the hours of work, the moon belongs to everyone proposal envisions a transition away from fossil fuels accelerated by a very different and deliberate regulation of the hours of work.

There is, at long last, a certain quantity of work to be done mitigating and adapting to a changing climate. We can do that work, in part, by limiting the amount of work we do. As Jack Hogg's father exclaimed in the 1843 novel, *The Stage Coach, or the Road of Life*, "and we ought to be well satisfied when we get moderate profits to a lump o' labour or pain."

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