Journal of Economic Literature
Vol. XXXV (December 1997), pp. 1891-1915

Enemies or Allies? Henry George and Francis Amasa Walker One Century Later

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This paper has benefitted from valuable comments by the Journal's *referees.*

THE YEAR 1897 marked the deaths of the two writers who first brought American economic thought to prominence on the world scene.[1] The publication of *The Wages Question* (1876) by Francis Amasa Walker (born 1840) ensured his acceptance as a founding member of the community of academic economists that was to burgeon in English-speaking circles in the 1880s and 1890s. In the United States, his academic doyenship was reflected in service as first president of the American Economic Association, 1886–92. Meanwhile, the publication in 1879 of *Progress and Poverty* by the self-taught Henry George (born 1839) soon ignited in the United States and other countries unprecedented outpourings of both enthusiasm and outrage at its radical claim that natural resources were rightly the property of all, and its radical proposal that a confiscatory "single tax" on pure rent should replace all existing taxes and tariffs.

Walker was to be one of the earliest and bitterest critics of *Progress and Poverty*, yet there were important affinities between that work and *The Wages Question*. Both works offered significant criticisms of the classical theory of distribution, especially the wage-fund doctrine, helping to pave the way for the subsequent marginal productivity theory. Both accepted laisser-faire in a competitive regime as producing a socially desirable outcome once two preconditions were met. The first precondition, on which both authors were broadly agreed, was that the state should limit protectionism and exercise control over monopolies or dominant firms, even placing natural monopolies under public ownership. The goal of the other precondition was also shared. This was to alleviate the chronic poverty and immiseration of a substantial segment of the working classes. It was on the root cause of this problem that the two differed. For George it was the private ownership of natural resources, while for Walker it was the positive dependence of labor efficiency on real wages. This meant that any sustained

[1] Among home-spun Americans the name of Henry Carey (1796–1877) perhaps deserves mention but he was rarely taken seriously abroad. For a general view of pre-1870 American economics see Joseph Dorfman (1946, 1949).

reduction in wages could prove self justifying—an efficiency-wage possibility George acknowledged but deemed of only secondary importance. These diagnostic differences led, of course, to radical differences in prescription and to Walker's vehement denunciation of George's taxation proposals, a vehemence no doubt strengthened by scorn for the effrontery of a rank outsider in addressing basic issues of Walker's own discipline. What especially provoked Walker was George's proposal that owners of natural resources be in effect expropriated without compensation. Walker's harsh reaction to this idea, and to the normative claims underlying it, colored his whole attitude to George. This prevented him from doing justice to George's abilities as an economic reasoner or recognizing similarities in their positive views. However, a meeting of minds was hardly encouraged by the antagonistic attitude toward the academic economists of the day that George entertained from the outset.

Few later economists have led lives as remarkable as those of our two authors, and the remaining discussion begins with brief biographical sketches (Section I). After that the issues raised in the preceding paragraph are addressed in sections which deal with: contributions to distribution theory (Section II), the problem of poverty (Sections III and IV), and the "single tax" (Section V). Further sections deal more briefly with our authors' thoughts on the business cycle (Section VI) and on money and statistics (Section VII, where Walker is the main exponent). The antagonism between George and the academic economists is considered next (Section VIII) and a summation and assessment (Section IX) rounds out the paper. The appendix provides a brief survey of the pertinent literature. The extended range of the discussion precludes detailed treatment of any one topic. No more is intended than a selective and individual perspective on two individuals who deserve to be remembered even a century after their deaths for the significant part they played in the development of economic thought. George, indeed, still has discernable influence in some quarters, but Walker's mark on current economic thought is no longer identifiable.

I. *Contrasting Lives*

Francis Walker's father, Amasa Walker (1799–1875), had risen from lowly beginnings to become a successful businessman, retiring at age 41 to pursue politics and the study and teaching of economics. With his son's assistance he published a successful treatise, *The Science of Wealth* (1866). Francis was educated at Amherst, where his father taught economics, and was already publishing magazine articles on economic issues by age 17. The outbreak of civil war terminated a budding legal career. Francis enlisted in the Union forces, serving with the Army of the Potomac in staff roles, and was wounded, then captured. Returning to civil life with the rank of Brigadier General he thereafter was often referred to as "General Walker" and always retained a strong interest in the commemoration and history of the units in which he served. After first turning to schoolteaching and then journalism, meanwhile assisting his father, he was tapped in 1869 by the then Commissioner of Revenue, economist David Ames Wells (1828–98), to take charge of the Bureau of Statistics in the U.S. Treasury. Walker's success there led to his appointment as superintendent of the U.S. census of 1870. In 1871 he took on the Commissionership for Indian Affairs, meanwhile retaining his census duties, and in 1873 he began to teach political economy and history at Yale's Sheffield Scientific School. He remained there until 1881, when he became president of the Massachusetts Institute of Technology (MIT), a position he retained for the rest of his life.

The years at Yale were his most productive from a scholarly viewpoint, giving rise to his most significant books, *The Wages Question* and *Money in its Relation to Trade and Industry* (Walker 1876, 1879).[2] But he nevertheless maintained strong links to government service, in particular serving as superintendent of the U.S. census of 1880. When Walker took over the presidency of MIT it was a small, struggling institution. It prospered under his leadership, although remaining extremely small by today's standards, and Walker found there the time and energy to teach economics as well as to author a copious flow of publications. These spanned economics, statistics, and an impressive variety of other topics, educational, military, and civic. He died suddenly at age 56 in the full tide of activity and renown.

A man of enormous energy and practical ability, Walker's public distinction rested more on his wide range of achievement than upon outstanding intellectual creativity. His turn of mind was inductive rather than analytic—he confessed to "great weakness in the matter of abstract reasoning" (Dorfman 1949, p. 109). His literary style was breezy and blunt, with a penchant for drollery.

[2] Of Walker's other economic works, *Political Economy* ([1883] 1887) was an influential college text, summarizing many of his writings, while (1889) was a simplified primer. Monetary issues were treated in (1878, 1896) and the general issue of rent, including the attack on George, in (1883b). Davis R. Dewey (Walker 1899) collected many of Walker's occasional writings on economics and statistics.

Unlike Walker, who was comfortably established from the start and ever fortunate in his smoothly unfolding career, George's life was a tale of incessant struggle and false starts. He was born in Philadelphia of lower middle class parents, supportive but unable to provide their first-born son with entrée to a secure occupation. Henry was intelligent but undisciplined. He abandoned school at age 13 and soon heard the call of the sea, sailing at age 15 as foremast boy on a voyage to Australia and India. Apprenticeship as a printer came next and, though immediately unsuccessful, gave him a skill that was to prove critical in his California years. The lure of the West Coast drew him to embark as steward on a voyage around Cape Horn to San Francisco. He arrived in California in 1858 at age 19 with few connections and no settled plans. He was to remain there until 1881, living hand to mouth, frequently in debt, his difficulties increased by an improvident but successful early marriage and by a propensity to make ill-timed investments in mining shares. He turned his hand to many things, from a hapless retailing venture in British Columbia, where gold was rumored, to itinerant agricultural labor, to hawking clothes-wringing machines, but the mainstay was newspaper printing in the everchanging fringe of underfinanced short lived journals and papers marking the California scene. About 1865 he began to turn his hand to occasional freelance writing and editorializing, and also to be involved in politics on the anti-railroad Democratic side. By 1871 he was beginning to be recognized as a significant public figure, and later as a powerful public speaker. But he achieved little economic security, even after becoming managing editor and part-owner of a precarious reformist newspaper in the early 1870s. Appointment in 1875 as State Inspector of Gas Meters by an admiring Democratic governor, while less lucrative than expected, provided the opportunity for the sustained study and writing involved in the preparation of *Progress and Poverty* which had already been foreshadowed in a lengthy pamphlet (George 1871).

Several publishing houses rejected *Progress and Poverty* as unlikely to be a commercial success and George, aided by friends, had to prepare the plates at his own expense, even setting a small amount of the type himself. A private edition in 1879 was followed by a commercial edition published after some reluctance in January 1880 by Appleton and Company. Within a year the book's public success was unmistakable, aided by strong reviews and violent controversy at home and abroad. By late 1881 George believed that the circulation had risen to between 75,000 and 100,000 and by 1885 it had "broken all records as the most widely distributed and read book in economic literature" (Charles A. Barker 1955, p. 417).

Despite the large sales of this and his later books, George's income remained precarious, as wide circulation was more important to him than royalties. The public lecture circuit was to prove lucrative, but he was never to be more than comfortably off. In 1881, his appointment as inspector of gas meters terminated by a new administration, he returned permanently to the east, settling in New York.

An extended trip to Britain and Ireland (1881–82) as correspondent for *Irish World*, a radical American publication for expatriate Irish, took George to the heart of the Irish land controversy at its most acute stage, acquainting him with many of the key figures. Highly successful, if controversial, lecture trips to Britain (1884–85) followed. At Oxford in March 1884 he came face to face with Alfred Marshall in an unruly debate (see Section VIII).

By 1885 George was a world-renowned figure, drawing large and enthusiastic audiences as well as much hostile criticism. He had offered in *Progress and Poverty* both diagnosis of current social ills and prescriptions for their cure. His hopeful vision of a more prosperous, harmonious, and equitable society appealed to those with tender social consciences or radical leanings, while the hard headed and comfortably situated—already alarmed by an ominous upwelling of labor unrest and social agitation—viewed his populist proposals as a distinct threat to social order and stability.

George worked indefatigably to promote the ideas of *Progress and Poverty* and build a following at home and abroad. His abilities and success as a propagandist were remarkable, yet he was by nature more social critic and visionary than political activist. His uncompromising insistence that his specific program offered the only satisfactory solution to social problems limited the scope for alliance with other radical and reformist groups. Nevertheless, he was persuaded in 1886 by a coalition of labor organizations to campaign for the office of mayor of New York, receiving an impressive share of the vote in a three-way contest. But a split soon developed with the socialists, who found unacceptable George's faith in freely competitive private enterprise. He turned from large-scale political ambition to fostering a network of single-tax organizations, focused primarily on issues of local taxation. A loyal and devoted single-tax following soon girdled the English-speaking world. It was to survive well beyond his death and is not yet extinct. But by the 1890s the land issue was being relegated rapidly from the center of reformist political activity and debate.

In the 18 years remaining to him after the initial publication of *Progress and Poverty*, books, pamphlets, and newspaper articles, flowed steadily from George's pen, but none shook the world as *Progress and Poverty* had done. Among these writings two books were primarily devoted to economic discussion: *Protection or Free Trade* (George 1886) amplified the free-trade advocacy of *Progress and Poverty*, while the incomplete and posthumously published *The Science of Political Economy* (George 1897) essayed a wholesale reconstruction of the discipline. Despite a genuine talent for economic analysis George's real bent was ethico-philosophical and his turn of mind more speculative than analytical. His wide experience and extensive reading provided him with a large store of anecdotes, which he used with telling effect, but he used specific facts more illustratively than inductively. His literary style, although perhaps florid and oratorical to modern taste, nevertheless retains a memorable sweep, power, and passion.

Death came in October 1897 while George, at age 58, was in the throes of a quixotic second candidacy for the mayoralty of New York. He received a hero's funeral, his selfless dedication to social improvement and human betterment lauded on all sides.

II. *The Wages Fund and the Theory of Income Distribution*

The wages fund theory had dominated the English language literature during the classical era but had largely lost allegiance by 1875, although a satisfactory alternative had yet to suggest itself. Walker and George were to be instrumental in its final discrediting and in the initiation of the movement toward the successor marginal productivity theory, a movement that was to culminate only in the 1890s. Walker's role in this transition has been widely recognized, but George's has received less credit than it deserves.[3]

The precise character of the often vague wages fund doctrine is open to considerable doubt but there seem to be four essential elements: it is macroeconomic, it is specified in real terms, it presumes significant gestation lags in production, and it takes for granted that workers' consumption must come from a previously produced stock of wage goods, not from the products on which workers are currently engaged. Thus, society must maintain in its capital a stock of *completed* wage goods large enough to support workers' consumption while the fruits of current productive activity are awaited.[4]

Walker (1875; 1876, pp. 128–51) challenged this wages-fund doctrine and was widely regarded as refuting it decisively. Yet his criticisms did not add up to a coherent critique. While recognizing that consumption of seasonally produced goods might need to come from previously accumulated stocks, he argued that such stocks could be maintained by the workers themselves, and that even if maintained and doled out by their employers this might be an ar-

[3] An excellent account of the demise of the wages fund and the slow emergence of marginal productivity theory is Scott Gordon (1973) which, however, pays little attention to George's contribution.

[4] See, for example, Adam Smith ([1776] 1976, pp. 83, 276–83); John Stuart Mill ([1848] 1965, pp. 55, 63–64). Frank W. Taussig (1896) provides a full account of this phase of classical thought. Mill's 1869 "recantation," so called, did little more than make minor concessions as to the rigidity of the wages fund (see Mill 1869). The classical position is most easily justified for a temperate-agriculture case in which all production processes are annual and must start at the same time of year—hardly a realistic aggregative characterization by the 1870s, if ever.

rangement quite distinct from wage determination. Wages, he held, would be based on the value of the product expected to result from the worker's current activity, which value "furnishes the measure of wages" (1876, p. 137). The actual payment of the wages might even be delayed until after the employer had secured the product, thus being paid in arrears rather than being "advanced" as the classical theory envisaged.

Such arguments might be defensible for money wages, but for real wages (equal to real consumption on the then common implication of no saving by workers) they evade the question of the source of the bulk of the goods workers are consuming at any time. If not from pre-existing stocks of consumer goods then from where? Walker evidently believed that the source could be current production, the acid test for him being the effect of an overnight increase in labor productivity. Increase in real wages would, he maintained, not have to await the accumulation of extra capital induced by higher profits as the classical argument held but would be obtained immediately from the enlarged output (1876, pp. 144–47, 411). But the fact that some workers produce intermediate or investment goods, not consumption goods, left unresolved the problem of balancing demand and supply.

It remained for George to clarify how macroeconomic balance might be preserved if real wages and workers' consumption are both derived from current output rather than prior stocks. In equilibrium, if a worker is paid the equivalent of his immediate value added as it is created the employer will not lose, obtaining objects of equivalently increased value which he can retain or sell at his discretion. Employers cede to labor claims to value but obtain from labor equivalent added value. Macroeconomic equilibrium requires that "there should be, somewhere within the circle of exchange, a contemporaneous production of sufficient subsistence for the laborers, and a willingness to exchange this subsistence for the thing on which the labor is being bestowed" (George 1929, p. 74). In stationary general equilibrium goods having a gestation lag before reaching usable form must be started at a uniform rate in time, thus becoming available for use at a uniform rate of flow, and the allocation of resources between activities must be such that the output flows of finished goods, both producer and consumer goods, just satisfy the demands for them. The result is that "the subsistence of the laborers engaged in production which does not directly yield subsistence comes from the production of subsistence in which others are simultaneously engaged" (p. 76). Some activities produce more than enough to maintain their own workforce, while others produce less. This decisively clarifies equilibrium possibilities but there remain intricate disequilibrium issues into which George hardly enters. The case of seasonally produced goods is also ignored. As Walker had recognized, between harvests consumption of these must come from stocks. It is interesting to note that George's argument is very similar to that subsequently advanced by Marshall (1888) when he completed his own struggle to free himself from all wages fund preconceptions, failing, however, to acknowledge George's efforts.[5] In retrospect the prolonged hold of the classical

[5] A. Marshall and Mary P. Marshall (1879), although contributing to the emerging marginal-productivity theory, still retained traces of wages-fund preconceptions: see John K. Whitaker (1974); Mark Donoghue (1995). The inventories envisaged in Marshall (1888) were only to meet unexpected demand changes, not to cover the whole of demand over a production gestation period.

stock oriented perspective seems incomprehensible. Yet the difficulty of escaping it helps explain why development of the marginal productivity theory lagged the onset of marginalism by some 20 years.

Walker and George had each adopted the view that real wages come from output, not capital, and so were in a position to make early faltering steps toward the marginal productivity theory that was to emerge in the late 1880s and early 1890s. Walker's early effort at a revised theory of distribution was offered in his 1883 textbook and, perhaps because of its flaws, helped spur controversy and new thinking.[6] George's efforts were largely ignored, perhaps justly given his confusing treatment of capital.[7]

Both authors accepted fully the Ricardian theory of competitive rent, focusing primarily upon the extensive margin—perhaps a reflection of their common failure to conceptualize a production function and the associated idea of factor substitution.

For George, the fundamental distinction is between the physical environment and human effort, the rent concept being generalized to include returns to all scarce aspects of the former and purified to exclude any portion due to the latter. Human effort is applied either directly, thus yielding wages, or in stored-up form, thus yielding interest. George's theory of interest is suggestive but frustratingly sketchy and elusive. The "vital forces of nature which give an advantage to the element of time" (1929, p. 196) help determine the interest rate and there is also a hint of substitution between direct labor and capital-embodied labor: "if wages fall, interest must also fall in proportion, else it becomes more profitable to turn labor into capital than to apply it directly" (1929, p. 199). The consequence is, as George sees it, that the relative shares in output of wages and interest remain in fixed ratio. In contrast to Karl Marx, George sees neither injustice in interest nor inherent conflict between labor and (non-monopolized) capital. Both share in a common interest against the landlord.[8] In truth, capital per se was peripheral to George's vision because, as he explained,

> we have reached the same point as would have been attained had we simply treated capital as a form of labor, and sought the law which divides the produce between rent and wages: that is to say, between the possessors of the two factors, natural substances and powers, and human exertion—which two factors by their union produce all wealth. (1929, p. 203)

This simplifying hint will be adopted in the subsequent discussion of George's views, reducing his distribution theory to an essentially Ricardian one (see Section III).

Walker divides income more complexly into rent, interest, profits, and wages. Rent is determined in the Ricardian manner, while the interest rate is determined in an unexplained way by the interaction of supply and demand for real capital.

Walker's pride and joy was his treatment of profit, which deviated sharply from the British tradition of the capital-

[6] His argument is essentially unchanged in the third edition (Walker 1887) to which reference will be made. Bernard Newton (1968, pp. 39–97), provides a detailed account of Walker's distribution theory.

[7] For George's treatment of distribution see George (1929, pp. 153–224). His stress on the productivity of time is vaguely reminiscent of the pioneering treatment in William Stanley Jevons (1871), but almost certainly independent of it.

[8] Industrial monopolists like landlords are seen as exercising an unjust privilege but this is as monopolist not capitalist. Landlord and monopolist tend to be confounded by George's terming private ownership of land a "land monopoly" (1929, p. 288 for example).

ist employer whose profits combine interest on his capital with wages for his supervisory efforts. The capitalist now becomes a mere rentier and the figure of the entrepreneur, often working on borrowed capital, takes center stage as the initiator and coordinator of economic activity who receives profits that are exclusive of interest. The views, and perhaps the entrepreneurial experience, of Amasa Walker apparently helped shape this aspect of his son's thought.

Entrepreneurial ability being a scarce and non-uniform natural talent, some entrepreneurs will be more skillful than others. The least skillful among the active entrepreneurs will obtain profits no greater than the wages they could have earned in paid employment. A more skillful entrepreneur will earn profits in excess of this opportunity cost, the excess constituting a rent equal to the additional value of output arising because the individual works as entrepreneur rather than as employee. Paying this rent to him as an excess of profit income over his opportunity cost harms no one else and is therefore just.

Walker simplifies matters "for purposes of scientific reasoning" (1887, p. 239) by setting entrepreneurial opportunity cost at zero. This produces an exact parallel between profits and land rent, zero-profit entrepreneurs corresponding to no-rent land. Subtracting from the total output the sums of all positive profits and rents leaves the amount available for interest and wages. The total payment of interest being already settled, Walker treats labor as the residual claimant, arguing rather implausibly that any unexpected increase in output must accrue to wages because other income payments are predetermined.

It should be noted that even in full equilibrium the residual-claimant status of wages is dependent upon the simplifying assumption that the opportunity cost of entrepreneurship is independent of the level of wages. Otherwise an increase in wages would lower the supply of active entrepreneurs, introducing interdependence between wages and profits. Non-pecuniary advantages to entrepreneurship will not eliminate this complication. They might make the monetary opportunity cost of entrepreneurship for an individual zero at some particular level of wages, but will not maintain it at zero as wages vary.

It is hardly necessary to dwell on the limitations of George's and Walker's attempts to establish a distribution theory that would replace the defunct classical one. Neither author was able to assemble an integrated, mutually consistent, and exhaustive account of the ways in which various claims on total product were reconciled and settled. This phase of their thought was soon to be superseded.

III. *The Problem of Poverty: George*

George's analysis (1929, pp. 230–60) of how secular progress may increase poverty may be couched in terms of a macroeconomic production function relating aggregate output to the total input of labor, land (which will be taken to include all other natural resources) being in fixed supply. He built, of course, upon Ricardian rent theory to which he was heavily indebted. But he extended it in important ways. David Ricardo had focused on the use of land in agriculture, essentially ignoring the land devoted to manufacturing and urban activities. George adopts a more aggregative viewpoint, encompassing all kinds of output and activity. Moreover he introduces economies of both agglomeration and scale resulting from population growth. A growing population may thus result in increased output per head despite increased pressure on land and natural resources. Yet, because real wages are determined at the extensive margin, where increased population pressure on fixed natural resources manifests itself, those owning only their own labor may be harmed by population growth, even though output per head may be increasing overall. America with its vast natural resources, and especially the American West, may seem an odd place for a preoccupation with the consequences of limited natural resources to be incubated, but it must be emphasized that the postulated diminishing returns to labor may be due as much to increased spatial dispersion of economic activity and its attendant extra costs as to increased pressure on already utilized natural resources. Peculiarities of the California scene—prolonged depression in the 1870s, and the insatiable conversion of large land tracts to private ownership, not least the massive land grants to railroads—may have helped darken George's views, however.

It will be well to follow George in taking up first the effects of exogenous population growth, with no "improvement in the arts" (in which term he includes the arts of both production and social organization). For it is here that his most striking analytical contributions arise (1929, pp. 230–43).

Population growth has three distinct effects.

(i) It increases the demand for land, requiring its more extensive and intensive utilization, thus running into diminishing returns.

(ii) It increases the efficiency of labor by permitting more specialization and a more complex division of labor, thus increasing the output of any worker on each piece of land (p. 232).

(iii) It leads to increased agglomeration of population and industry, greatly raising the productive advantage of the selected pieces of land which are the sites of such agglomeration by "bringing out in land special capabilities otherwise latent, and by attaching special capabilities to particular lands" (p. 243).[9] Pecuniary benefit accrues to the owners of such land and not to the workers employed on it (p. 235).

The last two effects are social or externality effects not observed in the private decisions of individual economic actors. The competitive wage for labor is simply the extra product coming from the first effect—the average product of labor at the no-rent margin—the addition of any one worker exerting only a negligible and uncompensated influence through the last two effects. The addition of these makes it at least possible for output per head to rise while population grows and the real wage rate falls.

George sought to counter Malthusian claims that population growth engenders poverty through increased difficulty of production and placed the blame for poverty on defective human institutions, not nature's niggardliness. A significant portion of *Progress and Poverty* was devoted to countering Malthusian views (1929, pp. 91–150). George denied analogy between human and other species, arguing that the human monopoly of rational thought could harness the biological fecundity of other species to human ends, sheer space limitation being the only inescapable constraint on mankind, but one still inconceivably far off. He was

[9] George illustrates this with his remarkable account of the development of a prairie tract from first settler to thriving urban community (1929, pp. 235–42). Urban land now yielding astronomical rent may have been inferior land at an earlier stage of development (p. 242).

enough of a Malthusian to recognize that real wages cannot be held permanently below a conventional subsistence level, itself moldable by circumstances, habits, and conventions, but for the most part he treated population growth as exogenous and not in itself a cause for anxiety. It would tend to raise the relative price of unprocessed natural products, but reduced processing and manufacturing costs could still allow real income per head to rise. Widespread consumption of services and processed or manufactured goods justified expressing real incomes in terms of output as a whole and not just raw products.

A formalization of George's argument may assist here. His production function may be approximated (with primes denoting derivatives) as

$$Q = A(N)[B(N) + F(L)]; \quad A,B,F,A',B',F' > 0 > F'' \qquad (1)$$

where Q is output while both L and N represent the labor force (proportional to population and assumed homogenous). At the aggregate level $L \equiv$ N, but any individual sees the return to extra labor as the effect of an increase in L with N constant. $F(L)$ represents the Ricardian diminishing-return effect, $A(N)$ the increased-specialization effect, and $B(N)$ the increased-agglomeration effect.[10] The competitive real wage rate, w, is given by $\partial Q/\partial L$, hence, setting $L = N$,

$$w = A(N)F'(N). \qquad (2)$$

As George recognizes (1929, p. 233) w may increase or decrease as N increases because A rises but F' falls, but there will be a decrease in w if the onset of diminishing returns is sufficiently severe. As population grows, output per head is given by

$$Q/N = A(N)[B(N)/N + F(N)/N] \qquad (3)$$

which can increase, despite a possible fall in $F(N)/N$ due to increased pressure on land, especially if agglomeration economies are increasing rapidly. Labor's relative share in output is

$$wN/Q = F'(N)/[B(N)/N + F(N)/N]. \qquad (4)$$

Ignoring agglomeration effects momentarily by setting $B(N) \equiv 0$, it is clear that labor's share may rise or fall as N increases, being constant when the elasticity NF'/F is constant, as with a log-linear form of F. Because the wage share could rise, there is thus a slight exaggeration in George's remark that

> increase of population, as it operates to extend production to lower natural levels, operates to increase rent and reduce wages as a proportion, and may or may not reduce wages as a quantity; while it seldom can, and probably never does, reduce the aggregate production of wealth as compared with the aggregate expenditure of labor, but on the contrary increases, and frequently largely increases it. (1929, p. 234)

Recognizing the agglomeration effect in (4) lowers labor's relative share and possibly makes it more adversely affected by population increase. However, this reflects extra absolute advantage to landowners rather than added disadvantage to labor. Unless relative deprivation is an issue, the problem of poverty depends upon the absolute and not the relative income that a worker receives.

The next phase of George's argument (1929, pp. 244–54) is to analyze the effects of "improvement in the arts" with population constant. Here he makes the very restrictive and quite unjustifiable assumption that such improvement always operates in a labor augmenting manner: "the effect of inventions and

[10] The form of (1) can be justified if it is assumed to apply only to $N > N_0$, where N_0 is a fixed number such that all agglomeration effects are restricted to the land employing the N_0 workers operating in the most productive conditions. Then $A(N)B(N)$ is the output of these N_0 workers, while $A(N)F(N)$ is the output of the remaining $N - N_0$ workers.

improvements in the productive arts is to save labor—that is, to enable the same result to be secured with less labor" (1929, p. 244). By thus equating its productive effects to those of a greater labor force, George automatically excludes the possibility that technical progress could alleviate the troublesome land constraint. Instead, it increases the pressure on natural resources in the same way as would population growth.

The aggregate production function (1) can now be written in the simpler form

$$Q = G(L.E); G' > 0 > G'' \qquad (5)$$

where E is the state of the arts, indicating the number of standard efficiency units of labor that an individual worker can offer, and L is the fixed labor force. The competitive real wage rate is again given by $\partial Q/\partial L$, and is now

$$w = EG'(L.E). \qquad (6)$$

As time passes E increases and each worker can offer more efficiency units, but the real return per efficiency unit falls because of diminishing returns due to fixed land. Total output and rent will certainly increase but, depending upon the speed at which G' declines, workers may experience a decline rather than an increase in their real wage (see 1929, pp. 250–51). However, if leisure were increased so as to keep $L.E$ constant, output, rent and real wage *per year* would be unaffected (1929, p. 252), a point whose implications for labor organization George did not pursue.

Despite the ambivalent implications of his analysis and his avowal (1929, p. 216) that the *relative* share of wages in output was his primary concern, George often slipped into assuming the worst: that progress with or without population growth would oppress labor, not just relatively to landowners but absolutely, becoming a curse rather than a blessing to the landless. Thus, "poverty deepens as wealth increases, and wages are forced down while productive power grows, because land, which is the source of all wealth and the field of all labor, is monopolized": "in spite of the increase of productive power, wages constantly tend to a minimum which will give but a bare living" (1929, pp. 328, 282).

These dire beliefs were reinforced by a third element that George introduced into his secular analysis: land speculation. Steadily rising rents and land values encourage the speculative holding of land for capital gain, and George believed that such land is typically withheld from productive use. Hence, the supply of land available for production is kept below what it would have been in the absence of speculation, exacerbating the effect of diminishing returns. At one point (1929, p. 441–42) he even implies that speculation is the sole cause of falling real wages. This aspect of his thought is considered further in the light of Walker's criticisms, but it might be noted here that for speculation to cause wages to fall persistently, rather than simply be lower, its scale would need to keep increasing.

IV. *The Problem of Poverty: Walker*

Walker, who had already developed his own views on the causes of chronic poverty, reacted with considerable hostility to George's diagnosis (1883a; 1883b, pp. 141–82).[11] His animus was provoked particularly by outrage at George's policy recommendations, but Walker's criticism of the analysis itself was far from temperate or just. He ac-

[11] Largely repeated in Walker (1887, pp. 417–33). Newton (1968, p. 53n.) indicates that Walker had not studied *Progress and Poverty* until 1882 at least.

cused George of "gross incapacity for economical thinking" (1883b, p. 6) and denied him any credit for his criticisms of Malthus or the wages fund theory. However, he did make two substantive criticisms of some significance: he found implausible George's assumption that technical progress was always labor saving, suggesting that it was often land saving; and he questioned whether land held for speculation would be withdrawn from productive use. On the first issue George can hardly be defended, although Walker's counterexamples were somewhat hazy. In particular, his extended invocation (1883b, pp. 177–81) of Mill's partial-equilibrium treatment of the effect of agricultural improvements on rent when output is constant (Mill 1965, pp. 723–29) was hardly germane given the macroeconomic character of George's argument.

George had recognized (1929, pp. 256–58) that in Britain agricultural land would usually be rented out rather than kept idle, but claimed that Americans were averse to renting and would instead move to distant areas where land was cheap and where they would acquire more than they could presently use in the hope of future resale at a high price. This process would cause extreme dispersion of development and keep much prime land out of use. Walker suggested, with some justice, that George's views had been unduly influenced by the exceptional situation in California (1883b, pp. 163–64). In longer settled areas, he suggested, the carrying cost of idle land, especially if mortgaged, would be a strong incentive to lease it: "How unreasonable . . . to assume that men owning good productive land will refuse to allow it to be cultivated now, simply because they cannot get for it a rent which corresponds to what they look forward ultimately to realize as its capital price!" (1883b, p. 166).

He did concede that "speculative treatment of building lots does cause a certain amount of city real estate to be held out of use" (1883b, p. 166). The reason for this is presumably that temporary use of an urban plot would often require a sunk investment, which could only be justified by the security of a long tenure. But such costs are not limited to urban use. What neither author recognized is that in a non-stationary economy the existence of such costs of site development might make it socially optimal to hold sites of all kinds vacant for future development.[12]

Walker was deeply skeptical of George's belief that the increasing toll taken by rent was a substantial cause of the impoverishment of the lowest classes of workers, especially urban ones. His skepticism derived partly from the statistical record on rent's share of national income, which hardly bore out George's fears, and partly from a conviction that technical progress allied with modest population restraint, would steadily raise living standards for the majority of workers. He had already developed in *The Wages Question* (1876, pp. 81–88) his own explanation for the "degradation" of the lower classes. The key, as he saw it, was the endogeneity of labor efficiency. This allowed an arbitrary reduction in real wages to be self justifying as it would lower the efficiency of the affected workers, partly through physical deprivation and partly through demoralization, to the point where "the laborer

[12] Non-renewable natural resources were ignored by George, apart from gold-mining anecdotes, but withholding such resources for future use might well be socially optimum. His argument (1929, pp. 248–49) that workers are harmed by preservation of land for the enjoyment of the rich clearly involves equity considerations, not efficiency ones.

earns what he gets now no better than he formerly did his larger wages" (1876, p. 84). Profits are no higher and production costs no lower so that the demand for labor does not increase. Short of migration, the only hope of restoring the initial situation is for the workers to adhere staunchly to their old "standard of comfort" or conventional subsistence level, refusing to propagate until the reduction in labor supply restores the old wage level, a process both slow and improbable, indeed virtually inconsistent with the assumed degeneration of productive efficiency and with what it implies for the degradation of the worker's outlook, ambition, and character. From this perspective real wages are in a kind of neutral equilibrium, ever prone to a vicious spiral downward given labor's bargaining disadvantage and vulnerability to business depressions.

This argument relies on a reduction in wages leaving production costs unchanged. What is perhaps more plausible, as Walker recognizes (1876, p. 55), is that at very low wage rates an increase in wages may raise productivity sufficiently to lower production costs, while at high rates production costs may rise with wage rates even though productivity increases somewhat. The neutral zone of wages lies between these two zones and may be quite narrow. To the question of why employers in the first zone do not raise wages voluntarily, Walker has two answers (1876, pp. 58–60). As the treatment of slaves and domestic animals by their owners frequently demonstrates, decisions of this sort are not always governed by pecuniary considerations. And, more significantly, if the productivity effects of higher wages are not immediate (and some, being intergenerational, may be very slow) then the lack of the right to continued enjoyment of the laborer's services may inhibit the employer's making what is, in effect, an investment in the worker's productivity. "There is no law yet which gives an employer compensation for 'unexhausted improvements' in the person of his laborer" (1876, p. 60).[13] Similar arguments might justify legal restrictions on the length of workday.

Walker's remedy for the problem of labor degradation was to improve each worker's effectiveness as an economic agent. For "it is only as competition is perfect that the wages class have any security that they will receive the highest remuneration which the existing conditions of industry will permit" (1876, p. 363). Self respect, sobriety, education, knowledge of industrial conditions, freedom from premature family responsibilities, and modest financial reserves, would all conduce to this end (1876, pp. 345–56, 414). Interferences in labor markets by governments or labor combinations were not to be condemned a priori but judged by their tendency to promote self reliance (1876, pp. 157–73, 337–41, 356–59, 385–92).

Degradation of labor is the dark side of the coin of endogenous labor efficiency, but the bright side is the concept of "the economy of high wages" which, meeting the ameliorist concerns of the age, was to be popularized following Walker's pioneering statement. George was by no means opposed to the idea. In his words "The efficiency of labor always increases with the habitual wages of labor—for high wages mean increased self-respect, intelligence, hope, and energy" (1929, p. 444). Mar-

[13] Walker also has interesting insights into the consequences of firm-specific human capital (1876, pp. 300–02). The extent to which the worker benefits from this is tempered by "the master's knowledge that, though the workman may take from him these advantages, *he cannot carry them to any one else*" (p. 302, stress in original).

shall (1961, Vol. I, p. 510),[14] crediting the lead taken by "Walker and other American economists" in demonstrating "the fact that highly paid labour is generally efficient and therefore not dear labour," hailed their finding as "more full of hope for the future of the human race than any other that is known to us."

V. *The Single Tax*

Although the term was developed only later as a Georgist campaign slogan (see Mason Gaffney 1987b), the concept of the single tax—a land tax replacing all other taxes and imposts—is clearly and fully developed in *Progress and Poverty* (1929, pp. 299–429). George there found the roots of poverty and rising income disparities in the private ownership of natural resources which are rightly the common inheritance of all. For, following John Locke, George maintained that a legitimate claim to property can be established only for the creations of human effort, acquired directly or by exchange. Natural resources not being so created are properly the collective property of society, providing the indispensable setting for the deployment of all human effort. A title to natural resources, even though acquired in good faith, is no more legitimate than the title to a slave, both being flawed at their very origin.

Outright expropriation by the state of all privately held claims to natural resources would thus seem justifiable, but George does not go quite so far. Instead, he proposes to leave owners in full possession, with complete freedom to control the use and disposition of their property, but to tax away a large fraction of that part of their income (possibly an imputed income) attributable to pure rent. The remaining fraction is to be retained by owners as an incentive to ensure the efficient utilization and development of the property. With this fraction small, land speculation and its attendant evils would be greatly attenuated. The incentive for an owner or tenant with long lease to improve land by adding buildings, fences, drainage, etc., would not be discouraged, because the portion of rent or imputed rent demonstrably due to such improvements would escape the single tax.

Administration of the single tax would require tax authorities to isolate the pure rent component attributable to any property *in its highest-valued use*, which might not be its current use (1929, pp. 437–38).[15] George believed that the necessary isolation of pure rent from the return to land improvements would be feasible, except perhaps for improvements such as drainage made long ago. He found an encouraging precedent in the American practice of distinguishing the values of the site and the improvements on it when taxing real estate. Conscious as he was of the corrupting effects of taxation and protectionism on politics, administration, and private morals (1929, pp. 417–18 for example) he should perhaps have been more wary of a system which would leave administrative authority to determine what portion of actual or imputed rental income should be subjected to a punitive tax.

Given George's belief that pure rent would absorb a growing share of a growing income per head, the revenue from the proposed tax promised to be large

[14] The statement dates from 1890. In 1892 Marshall added that Walker's finding was really more important than the refinement of input-demand theory by means of the marginal productivity concept (1961, Vol. II, p. 553).

[15] Basing the tax on the highest valued use would add a stick to encourage the switch to that use should the carrot of a small share of the additional income give inadequate incentive.

and growing—so large that all other taxes, including protective and revenue tariffs, could be wholly eliminated, along with their attendant collection costs, still leaving a surplus which could be devoted to public amenities and facilities, to paying down the public debt, and to acquiring natural monopolies to be run as public utilities (1929, pp. 455–56). The single tax would make more land available for production by discouraging speculative withholding and under-use, while improvements to land would be encouraged by being no longer taxed. Economic activity would also be enhanced by the elimination of all tax disincentives and monopolistic or protectionist restrictions, along with their attendant corruptions. For George all these consequences were not so much luxuries permitted by the single tax as essential complements to it, combining to establish a framework within which untrammeled competition could foster justice and fully serve the social interest. The resulting social state might be so improved that landholders would find their extra tax burden compensated by the uplifting of the society in which they lived. Interestingly, despite his passionate concern for the underprivileged, George was no redistributionist. The single tax simply restored to the collectivity what was its by right, and he did not envisage direct transfers to the poor. He disregarded the possibility that in the new regime the position of the workers, although initially improved, might again begin to deteriorate.[16] His optimistic prognosis here stood in stark contrast to his dire prognosis for the existing regime.

Of course, George's estimate of potential yield from his single tax has hardly been fulfilled, while the growth of government expenditure at all levels has exceeded anything he might have imagined. What remains significant in his single tax proposal is that it has, as he well understood, important efficiency advantages. By concentrating taxes entirely on a base supplied perfectly inelastically to society it eliminates all dead-weight costs of taxation. However, its equity appeal is less evident. The moral revulsion that had made possible the abolition of property in slaves without compensation was hardly transferable to ownership of natural resources. Despite George's best rhetorical efforts to paint land owners as parasites, unwittingly undermining and polarizing society, reaction to his views by the well-established was predictably hostile, although there were cheers in more radical quarters.

Walker was apoplectic, denouncing George's program as "mad and anarchical," "truly monstrous," "a precious piece of villainy," and "steeped in infamy" (1883b, pp. 6, 145; 1887, pp. 418, 419). He even accused George of wishing to give every person on earth the right "indiscriminately to enter and enjoy at will each and every lot and parcel of land upon the globe, and every building which may have been or may hereafter be erected thereupon" (1883b, p. 141)—hardly a propitious start to a cool critical assessment. Walker's choler was provoked by George's proposal—a logical consequence of his view of human rights—that landlords not be compensated for losses imposed on them by establishment of the single tax. The vehemence of his reaction was strange given his grudging acceptance of Mill's longstanding proposal for taxation of the "unearned increment" in land values as

[16] Population growth and labor-augmenting "improvement in the arts" would still increase the pressure exerted by fixity of natural resources and could lead to falling real wages—see Section III above.

being justified in principle although impracticable (1883b, pp. 121–40).

Mill had been arguing since 1848 for the communal claim to natural resources because "No man made the land. It is the original inheritance of the whole species" (Mill [1848] 1965, p. 230: see also pp. 227–32, 819–22 and Mill 1870). But Mill, unlike George, proposed to leave landlords to enjoy their current positions and their current land values, and to appropriate for the public only such future increments in those values as resulted from social development rather than the landowners' own actions. To the extent that future growth in demand for land was already anticipated in current land values, this meant that expropriation would be limited to any excess of future "unearned increment" beyond the level already expected. In Britain, the Land Nationalization Society, founded in 1881 and led by Alfred Russel Wallace, co-discoverer of the theory of natural selection, was already going well beyond Mill in calling for all ownership of land to lapse to the state after an interval without compensation (see Gaffney 1987c).

Criticisms of private property in land, and proposals to restore a public claim on land, were endemic in Europe through much of the nineteenth century, with even earlier roots.[17] Even in America, still transferring land extensively from public domain to private ownership, such alien ideas were hardly unknown. Given that George's land-reform proposals were largely variations on long-familiar themes, the extent to which they captured public attention and the vehemence of the public reaction to them may seem surprising. His call for expropriation now rather than in the distant future, and an upwelling of social tensions and concerns in the 1880s, may help explain George's rise to fame and notoriety. But the sheer spell cast on readers and auditors by his messianic vision of a transformed society must also share some credit.

George was aware by 1879 of the affinity of his single tax to the impôt unique' of the eighteenth century physiocrats, disclaiming any borrowing from them, however (1929, pp. 423–24). In truth, the parallel—which he emphasized increasingly in later writings—was more of form than substance. George followed Ricardo in stressing the limitation of nature's provision as the source of rent, while the physiocrats saw nature as providing a special bounty to agriculture, a bounty which in the form of rent provided society's sole disposable surplus.

VI. *Thoughts on the Business Cycle*

America's prolonged recession of 1873–78, precipitated by the panic of 1873, made both our authors keenly aware of the business cycle as a prominent feature of the post civil war American economy and a cause of suffering to many. Each took up the topic in 1879. Each, following Walter Bagehot, stressed the propagation of disturbances between industries. In George's words

> This stoppage of production at some points must necessarily show itself at other points of the industrial network, in a cessation of demand, which would again check production there, and thus the paralysis would communicate itself through all the interlacings of industry and commerce. (1929, pp. 264–65)

[17] Herbert Spencer had asserted the public's right to the land in his *Social Statics* (1851), but subsequently retracted. George (1892) teased this "perplexed philosopher" mercilessly for his volte face. In France Léon Walras was already an ardent proponent of land nationalization. Arguments for a social claim on land rent were a natural outgrowth of Ricardian theory and James Mill had already drawn this conclusion in 1821: see Donald Winch (1987).

George provided a sketch of a systematic endogenous growth cycle. Walker focused rather on the factors deepening and prolonging depression, offering only fragmentary suggestions as to the initial source of dislocation and the origins of ultimate recovery.[18]

George's cycle theory is essentially very simple.[19] Sustained growth raises land values without raising the real wage rate, triggering land speculation which withdraws land from productive use, thereby lowering the equilibrium real wage rate. Workers, already hard pressed, will not accept such a reduction, preferring to withdraw their labor, so that unemployment and depression result. The depression ends when resistance to real-wage reductions fades, or when land speculation is squeezed out, or perhaps when the equilibrium real wage rate is increased by technological progress. The frequent suddenness of the onset of depression is accounted for by the role of credit in masking increasing tensions until some shock precipitates a financial collapse.

George saw recurrent business cycles as an important contributory cause of the immiseration of labor. They are "intensifications of phenomena which always accompany material progress" and their net result is a "gradual forcing of wages. . .toward their [subsistence] minimum" (1929, pp. 6, 281).[20] Fortunately, the single tax, in addition to its other merits, would tame the business cycle by extinguishing land speculation.

Walker (1883b, pp. 162–64) found George's analysis of the business cycle neither plausible nor proven. Indeed, the way in which George slips from "may be" to "must be" in developing his argument makes it particularly vulnerable to Walker's sarcasm that "A monograph by Mr. George upon the significance of the word 'therefore' is really a desideratum of systematic logic" (1883b, p. 170). Walker's own theory of depression or "hard times" (1879, p. 120) is essentially a fixed price one, with adjustments taking place entirely through income effects. Depression is initiated by an unexpected reduction in the income of a group of producers, due to, say, unwise speculation or a natural disaster. These producers reduce their consumption of other goods, lowering the incomes of the producers of these goods, and so on in widening circles. Walker sharpens the analysis by invoking marginal propensities to spend out of income that differ by good but not by spender.[21] This means that the brunt of the output and demand reductions will fall upon goods for which the common marginal propensity to spend is high. By implication, Walker assumes that each individual's marginal propensity to consume all goods combined is less than one, so that propagation of the initial impulse eventually leads to a low-level equilibrium, not an implosion. The level at which this equilibrium is established might be lowered by a contagion of pessimism which causes producers to respond to a demand reduction with a greater reduction of output, thus lowering inventories. Walker believed that in

[18] See George (1929, pp. 263–81); Walker (1879, pp. 116–36; also 1887, pp. 171–86 where an extended passage from A. Marshall and M. Marshall (1879) is used to describe the business cycle).

[19] Because capital's role in the cycle exactly parallels labor's it is again expositionally simpler to omit it.

[20] George fails to clarify why recurrent business cycles should lower real wages permanently and cumulatively rather than just temporarily and reversibly. Walker's degradation argument (Section IV above) would be a leading candidate.

[21] Walker ranks goods in a hierarchy according to the degree to which their consumption is cut as income falls. In the extreme case no lower-ranked good would be cut if scope remained for cutting a higher-ranked good, but Walker does not seem to go quite so far.

the low-level equilibrium aggregate production might have fallen to two-thirds or even one-half of its initial level (1879, pp. 132–33). However, the precise conditions defining and determining the equilibrium were left unexamined.

There are evident parallels between Walker's analysis of hard times and John Maynard Keynes' later theory of underemployment equilibrium (1936), parallels that lend some credibility to the view of Walker as a significant precursor of Keynes (see Roger E. Backhouse 1987). Indeed, Walker's attention to the way in which different industries fare very differently in recession, because marginal propensities to consume their products differ, is more ambitious if less precise than Keynes' aggregative multiplier analysis. George, too, whatever the defects of his own attempt, deserves credit for his pioneering ambition to construct an internally consistent explanation for the regular occurrence of business cycles in a growing economy.

VII. *Money and Statistics: Walker to the Fore*

Monetary issues were peripheral for George, whose unfinished exposition of monetary theory (1897, Book V) retains little interest. Walker, however, became an influential, if not especially original, expositor and advocate of bimetallism and the quantity theory. He published three books on monetary topics, *Money* (1878), *Money in its Relation to Trade and Industry* (1879), and *International Bimetallism* (1896), besides occasional writings (many reproduced in Walker 1899, Vol. I, pp. 159–276).

A sound money man, wedded to a currency based on metal, Walker was nevertheless a mild inflationist. A rising price level would, he believed, encourage enterprise—a view entirely consistent with the vital productive role he ascribed to the entrepreneur working with borrowed capital. His support for bimetallism was encouraged by the expectation that it would provide a more rapidly expanding money supply, as well as a more stable one, than would gold monometallism. Somewhat inconsistently, given his stern strictures on George's confiscatory proposals, Walker viewed with equanimity modest inflation-induced redistribution from debtor to creditor or from rentier to entrepreneur. Such redistribution was acceptable, if it resulted from an increased supply of currency metal, being then "not the work of man but of god," but unacceptable if it was due to government manipulation of paper money which would carry "the sting of injustice and fraud" (Walker 1879, pp. 232–33). The distinction made here overlooks the role that government may play even with a metallic currency regime, for example in choosing bimetallism rather than monometallism, a point the western silver interests were keenly aware of.

One bimetallic country can hardly peg the gold price of silver against the entire world, while a group of bimetallic countries must coordinate their pegging levels. Hence fixed-ratio bimetallism is inherently international in nature. Abroad, especially in Britain and France, Walker became the best known American exponent of international bimetallism and took a prominent part in international discussion and campaigning. At home, while skirting entanglement in the heated rhetoric of the western silver interests, his views ran counter to the dominant gold monometallism of his economist colleagues. Nevertheless his earlier books performed a valuable pedagogic function as college texts, while his strong but judicious support for bimetallism and the quantity theory helped maintain balance in American monetary debate.

As a statistician, Walker was a collector and commonsense interpreter of data rather than a developer of statistical tools. His supervision of the U.S. censuses of 1870 and 1880 helped improve the quality and scope of those important enquiries and he took a considerable hand in the presentation and publication of the results. He was quickly recognized as one of his country's leading statisticians, serving as president of the American Statistical Association, 1883–97.

In later years Walker's statistical interests were mainly demographic and he gained most attention for his "displacement" hypothesis that low-quality immigration depressed the domestic birth rate by providing low-wage competition and so lowered the quality of the population rather than increased its size. This finding—which Walker supported more by statistical declamation than by statistical analysis—pointed toward the restriction of immigration in order to protect "the American standard of living, and the quality of American citizenship from degradation through the tumultuous access of vast throngs of ignorant and brutalized peasantry from the countries of eastern and southern Europe" (1899, Vol. II, p. 438; see also pp. 417–51).

Faith in Walker as a statistician is hardly increased by his dismal performance in a newspaper dispute with George in May-June 1883, their only direct interaction. The issue was whether a report from the 1880 census had described changes in farm size correctly. Walker, the patronizing professional, airily dismissed George's charges at first and, when backed to the wall, had no defense but bluster and ad hominem remarks. On this particular matter George proved the more skillful statistician by far.[22] Pique at being thus bested may have increased the stridency of Walker's subsequent attacks on George.

VIII. *George and the Academic Economists*

Progress and Poverty, besides offering diagnosis and prescription for society's ills, had attempted an entire reconstruction of the subject of political economy as George then conceived it.[23] In preparing the book he had mastered the ideas of the classical economists, but was hardly in touch with the newer currents of thought beginning to stir in the 1870s. Shortly after the book was finished he told a friend:

> You will see, I think, that it is the most important contribution to the science of political economy yet made; that, on their own ground, and with their own weapons, I have utterly broken down the whole structure of the current political economy . . . The professors will first ignore, then pooh-pooh, and then try to hold the shattered fragments of their theories together; but this book opens the discussion along lines on which they cannot make a successful defence. (Henry George, Jr. 1900, pp. 322–23)

The reception from the professors—not least Walker—confirmed George's conviction that the envisaged reconstruction of economics must be continued single-handedly. His incomplete and posthumously published *The Science of Political Economy* (1897) dem-

[22] The entire exchange which was published in *Frank Leslie's Illustrated Newspaper*, is reproduced as an appendix (pp. 247–75) to George (1883). The *New York Sun* observed that Walker "squirms and sputters as one flagrant blunder after another is brought forward" (Henry George, Jr. 1900, p. 409).

[23] As early as 1877 George had criticized the existing academic economics in an uncompromising address at the new University of California which must have foreclosed any hope of his being offered a professorship there (Barker 1955, pp. 240–43; Henry George, Jr. 1900, pp. 274–81; George 1904, Vol. 8, pp. 135–53 gives the text).

onstrated the perils of such an undertaking, but *Progress and Poverty*, regarded as a work on economics, has more merit than has usually been conceded.

If George in 1879 had been in command of the old political economy, by 1897 he was uncomprehending of the new academic discipline of economics which had replaced it. This he came to view as "a new and utterly incoherent political economy" exemplified in "the incomprehensible works of Professor Alfred Marshall" (George 1897, pp. 203, 208). He pilloried this "pseudo-science" as

> admirably calculated to serve the purpose of those powerful interests dominant in the colleges under our organization, that must fear a simple and understandable political economy, and who vaguely wish to have the poor boys who are subjected to it by their professors rendered incapable of thought on economic subjects. (George 1897, p. 208).

Looking back near the end of his life, the self-styled author of "the most successful economic work ever published" charged that "while a few of these professional economists, driven to say something about 'Progress and Poverty', resorted to misrepresentation, the majority . . . refrained from meeting with disproof or argument what it had laid down, and treated it with contemptuous silence" (George 1897, pp. 203–04).

The charge that the economists misrepresented or ignored George's ideas has an element of truth, although his own exaggerated pretensions and policy extremism hardly helped secure him a sympathetic hearing. George's chief modern biographer says of Walker's dismissive and somewhat unfair attack that "For the decade of the '80s . . . [it] could be called the official American academic review of Henry George's main ideas" (Barker 1955, p. 430). Conceivably, had Walker been more conciliatory and willing to do justice to George's strong points a constructive debate might have ensued, at least on questions of distribution theory.

After Walker there was for some years a resounding silence on the part of the American academic economists. George did not participate in the lively running debate on distribution theory in the pages of the *Quarterly Journal of Economics* (founded 1886), and his views received little notice there. It was not until 1890, when the American Social Science Association devoted a session to the single tax, that George came face to face with the economic establishment, receiving a largely hostile reception, especially from the youthful Edwin R. A. Seligman and to a degree from John Bates Clark (see Barker 1955, pp. 565–67; Steven B. Cord 1965, pp. 29–33). By then George's analytical contributions to economics had been largely superseded by later developments, leaving only his provocative policy proposals as the focus of contention. Also by then George's own position had hardened to the point at which reasoned discussion was probably fruitless.

In Britain, Marshall's hostility had given offense at the disorderly Oxford meeting in 1884. His behavior there was less than admirable. George's exposition had been weak and confused, but Marshall harassed him about errors that a serious reading of *Progress and Poverty* would have shown George had clearly avoided. (See George J. Stigler and Ronald H. Coase 1969, pp. 217–26 for a blow-by-blow account of the meeting.) Again, the main response of the economists to George was silence.

The imperviousness of the economists of his day to George's ideas was not, however, quite so complete as he was wont to claim. For example, Clark (1887, pp. 126–27; 1899, pp. viii, 84, 87, 98) indicated theoretical stimulus from George, and George's views on taxation probably had some impact on leading younger economists such as Seligman, Richard T. Ely, and Thorstein Veblen (Barker 1955, p. 567). There are even indications that American undergraduates at leading academic institutions were being introduced to George's writings in their economics courses (William J. Barber, ed. 1988, pp. 110, 196). In Britain, George had substantial impact on the economic thinking of Philip Henry Wicksteed and the Fabians, especially Sidney Webb and George Bernard Shaw.

George's apparent exclusion during the 1880s from the consolidating profession of academic economics may be an intriguing case study which bears on the general question of the establishment and defense of professional boundaries. But it could perhaps be argued that it was George's intransigence which excluded the economists from what might have seemed at the time a more impressive nascent movement, the Georgist one.

IX. *Retrospect*

Walker, the pragmatic, bluff, hearty, no-nonsense, quick-tempered economist-administrator played an important role in the consolidation of academic economics in America in the 1880s and 1890s, and in its rise to international stature. This came about partly through his early work on distribution theory, which was widely noticed and helped incite further developments in an area in which American discussion was to be prominent. But no less important in the critical 1880s was the unifying influence he exerted upon a rising profession threatened by *methodenstreit* between its new German-influenced entrants and their older colleagues. Walker's public stature, leadership qualities, and eclecticism as to method and policy, all contributed to this soothing effect.

Walker's writings, significant in their day, have not earned immortality, lacking profound new insights and vision, yet they retain a modest interest for their smaller inspirations and alertness to intriguing facts (see Robert M. Solow 1987). His pioneering espousal of efficiency-wage arguments is especially noteworthy and *The Wages Question* (Walker 1876) deserves renewed attention. The keynote of his writing was the need to modify the findings and policy prescriptions of the classical economists by close attention to the facts of his own world. A transitional figure between classicism and neoclassicism, a gradualist rather than a revolutionary, "Walker's task was to help challenge and modify certain aspects of British classical thought, and to create theories which helped lead the way to the neoclassicism which achieved its triumph by the turn of the century" (Newton 1968, p. 168).

A creeping conservatism of outlook after about 1880 increased Walker's antipathy to proposals for the radical reform of society and added vehemence to his peremptory dismissal of George. This was unfortunate, as Walker's reaction served as the "official"—effectively the only—response to George by the academic economists in the decade following the appearance of *Progress and Poverty*. Meaningful dialogue was perhaps impossible given George's fervent commitment to promulgating his prescriptions for society and his antagonistic stance toward the academics. But he did have talent as an economic thinker, whatever the flaws in his economic views, and might have blossomed as an economist with encouragement. It is amusing to speculate on the consequences of having switched George for Walker in the cradle. Perhaps he would now be established as a prominent figure in the economists' pantheon. As it was, Walker's choice of enmity over amity toward George must have helped curtail to some degree the latter's further development as an economic thinker.

George was an odd mixture of realist and idealist. His cynical views on the politics of his day would qualify him as a founding number of the public-choice school, yet he remained convinced that a New Jerusalem could be established by one simple change in property rights and tax base supported by control of monopoly and abandonment of protectionism. Largely untouched by the rising tide of marginalism, his most interesting and overlooked analytical contribution is the extension of the "magnificent dynamics" of the classical school (Section III above).[24] His treatment of rent arising from agglomeration economies is especially innovative, but his ideas on land speculation and the business cycle, while ingenious, remain unconvincing.

With all its faults, *Progress and Poverty* is a great work, lofty in conception, memorable in style, and suffused by a passionate concern for the lot of those increasingly left behind in a prospering but polarizing society—a concern echoing eerily in our own era. George's later economic writings, especially *Protection or Free Trade* (1886), have their rhetorical and expository moments, but are distinctly secondary. However, his long pamphlet *Our Land and Land Policy* (1871), which predates his economic studies, is essential reading as a prolegomenon to *Progress and Poverty*, revealing his diagnosis and prescription as already shaped by the excesses of the California scene.

The American tragedy for George was the federal government's profligate disposal to private individuals of land from the vast public domain, land which should have been retained in collective ownership and only rented out to users. There are interesting parallels to modern environmental and common-resource problems. Should individuals or corporations be granted free right to pollute the common environment or exploit common resources such as groundwater or the broadcasting spectrum? If not, should not some scheme of charges analogous to George's tax on pure rent be adopted both to promote efficient use and conservation and to compensate the community for dilapidations? Questions such as these may help point to George as a vague precursor of modern environmental economics (see Bruce Yandle, Jr. and Andy H. Barnett 1974; Jürgen Backhaus 1991; Backhaus and Jacob J. Krabbe 1991–92).[25]

George was perhaps the last of the great self-taught amateurs of economics: Walker the first of the new breed of professionals that was to dominate the subject. Today these shadowy figures from the discipline's past are remembered by its members only vaguely, if at all. The passage of a full century since the parallel and briefly intersecting lives of these two pioneers ended offers

[24] This phase of George's thought has parallels to the contemporary work of Marshall: see Whitaker (1974). Both authors emphasized scale economics in production, but only Marshall worried about their compatibility with competition. However, the regulation and public ownership of monopoly were integral to George's program: see Section V above.

[25] Two modern arguments invoking George seem further removed from his thought: a) restriction to the single tax as a constitutional constraint on a self-aggrandizing government ever striving to increase its tax base (see Backhaus 1991); b) the formal "Henry George rule" (expenditure on public goods should equal Ricardian rent) as a condition for optimum population when diminishing returns to land must be balanced against scale economies in the provision of public goods (see John M. Hartwick 1980 for details and further references).

a suitable opportunity for their brief reinvocation and for reflection upon the paths the discipline has taken since their day.

Appendix: A Select Guide to the Literature

Walker: Newton (1968) is a comprehensive study of Walker's work in economics and statistics, while Joseph Dorfman (1949, pp. 101–10) provides a useful brief assessment. A full-length authorized biography is James P. Munroe (1923). On Walker's work at MIT see also Richard P. Adelstein (1988) and Walker's annual reports as president to the Trustees. A full list of Walker's writings on all topics is appended to Munroe, while Newton lists all the writings on economics, statistics, and history. Walker's work was extensively discussed in his lifetime and in obituary notices (see Newton's bibliography). But the twentieth century journal discussion is meager, Emmanuel A. Goldenweiser (1912), Paul J. FitzPatrick (1957), Backhouse (1987), and Solow (1987) being the main items. *George*: The publishing history of George's works is complex and the most satisfactory bibliographic source on his writings continues to be Rollin A. Sawyer (1926). Scholarly editions of George's works are still lacking but a ten-volume collected edition of his main writings was published shortly after his death (George 1904), the last two volumes comprising the fine biography by George's son (Henry George, Jr. 1900). The standard biography is Barker (1955), while Edward J. Rose (1968) offers a briefer account for the general reader. Barker (1968) provides an excellent summary account of George's life. George's visits to Britain are dealt with in great detail by Elwood P. Lawrence (1957) and the reactions of British economists to George are covered in Newton (1971–72). Criticism of George's views by a wide range of individuals is analyzed by various authors in Robert V. Andelson, ed. (1979). See especially Cord's chapter on Walker and further chapters dealing inter alia with Clark, Seligman, Marshall, Simon N. Patten, Ely, Herbert J. Davenport, and Thomas N. Carver. On the question of George's influence on Clark see also Donald R. Stabile (1995) and Gaffney (1995). Cord (1965), an earlier attempt to cover the whole gamut of contemporary and later reactions of economists and historians to George, is comprehensive but uneven.

There is an extensive modern journal literature on George's economic views, predominantly contained in the pages of the *American Journal of Economics and Sociology*. Extensive collections of these articles are reproduced in Will and Dorothy B. Lissner, eds. (1991) and Mark Blaug, ed. (1992). Of most general interest are Yandle and Barnett (1974), Charles Collier (1979), Frank Petrella (1981), Terence M. Dwyer (1982), Aaron B. Fuller III (1983), Leland B. Yeager (1984), Gaffney (1987a), Backhaus (1991), and Backhaus and Krabbe (1991–92).

For the story of Georgism after George see Barker (1955, pp. 620–35) and Cord (1965, pp. 78–79, 103–09, 146–48). The general history of the single tax is briefly covered in Broadus Mitchell (1934) and Gaffney (1987b). T. Nicolaus Tideman (1992) deals with the general issue of legitimacy of governmental expropriation.

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