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ARTÍCULOS

"An Essentially Different Scheme of Distribution from that Proposed by Clark." A Note on Charles William Macfarlane's Neglected Marginalism

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ENG **Abstract:** Charles William Macfarlane (1852-1931) represents an almost unique and completely forgotten economist during the Progressive Era: although he was outside Academia, he was able to take an active part in the theoretical debate of the time by proposing a peculiar version of marginalism far away from the Austrian school version and close the classical approach. This paper deals with Macfarlane's theory of value and distribution, by discussing its influence in the discipline, and it presents an archival appendix which reproduces an unpublished response by Clark to Macfarlane to provide further evidence on the reception of Macfarlane's work among his contemporaries.
Keywords: Marginalism, Classical school, American economic thought, Progressive Era.
JEL Codes: B16.

ES "Un esquema de distribución esencialmente diferente al propuesto por Clark". Una nota sobre el marginalismo relegado de Charles William Macfarlane

Resumen: Charles William Macfarlane (1852-1931) es un economista casi único y completamente olvidado durante la Era Progresista: aunque estuvo fuera de la Academia, supo tomar parte activa en el debate teórico de la época al proponer una peculiar versión del marginalismo alejada de la escuela austriaca y cercana al planteamiento clásico. Este artículo aborda la teoría del valor y la distribución de Macfarlane, analizando su influencia en la disciplina, y presenta un apéndice de archivo que reproduce una respuesta inédita de Clark a Macfarlane para proporcionar nuevas pruebas sobre la recepción de la obra de Macfarlane entre sus contemporáneos.
Palabras clave: marginalismo, escuela clásica, pensamiento económico estadounidense, era progresista.
Códigos JEL: B16.

PT "Um esquema de distribuição essencialmente diferente daquele proposto por Clark." Uma nota sobre o marginalismo negligenciado de Charles William Macfarlane

Resumo: Charles William Macfarlane (1852-1931) representa um economista quase único e completamente esquecido durante a Era Progressista: embora estivesse fora da Academia, conseguiu participar ativamente do debate teórico da época ao propor uma versão peculiar do marginalismo afasta-se da versão da escola austríaca e fecha a abordagem clássica. Este artigo trata da teoria de valor e distribuição de Macfarlane, discutindo sua influência na disciplina, e apresenta um apêndice de arquivo que reproduz uma resposta não publicada de Clark a Macfarlane para fornecer mais evidências sobre a recepção do trabalho de Macfarlane entre seus contemporâneos.
Palavras-chave: Marginalismo, Escola Clássica, Pensamento Econômico Americano, Era Progressista.
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> As is well known to students of economic theory Dr. MacFarlane has in his work Value and distribution, obliterated the distinctions between the objective classes of agents yielding rents, and other incomes, more fully than has any other writer.[1]

1. Macfarlane's role in the fragmented American marginalism

American marginalism remained highly fragmented and inherently pluralistic during the so-called Progressive era–the period extending from the second half of the 1880s to the late 1910s (Coats 1992; Rutherford 2011). The US scene lacked the unifying authority of a figure like Alfred Marshall in England or Vilfredo Pareto in Italy, around which some sort of (loosely defined) paradigm could emerge and spread. Even John Bates Clark, the only first-generation American neoclassicist who "[came] near to developing a distinctive school" (Ise 1932, 390), advanced a theoretical system that was far more divisive than consolidating among his contemporaries (Fiorito and Vatiero 2023). Thomas N. Carver, Frank Fetter, and Herbert Davenport's contributions, just to name some other leading theorists of the time, were equally controversial, while Fisher's *Mathematical Investigations in the Theory of Value and Prices* (1892) had no impact on the discipline until its rediscovery in the mid-1920s. It is not surprising, therefore, to find Harvard's Frank W. Taussig asserting in 1906 that "in the present confused state of economic theory there is no possibility of confining oneself to the mere exposition of accepted principles." The problem, Taussig lamented, was that there seemed to be no such fundamental principles "on which economists are agreed" (1906, 622). Taussig himself, to be sure, contributed much to this confusion with his attempt to revive the classical "wage fund" doctrine and his harsh criticism of Clark's productivity theory (1896).

Among the lesser-known figures who participated to the early American debate over marginalism, Charles William Macfarlane (1852-1931) represents an almost unique and completely forgotten case.[2] Born in Philadelphia on November 5, 1852, he was the youngest of the seven children of David and Catherine Macfarlane, of Scotch descent. After graduating from high school in his native city, he went to Lehigh University, obtaining a degree of Civil Engineer in 1876. The following year, Macfarlane found occupation in the foundry of William Sellers and Company of Philadelphia, where he shortly reached the rank of superintendent of the foundry division in charge of a force of more than five hundred men. Despite the enacting duties of his task, Macfarlane found time in the evenings to write his first book, *Canons of Criticism* (1885), a discussion on the nature of poetry which drew attention to his literary gifts.[3] In 1866 he resigned from his job and, wishing to start on a career of his own, he entered the real estate business in West Philadelphia. The move was a successful one and in less than two years he accumulated the resources which allowed him to devote the rest of his life to studying and writing.

In 1888, aged thirty-six, Macfarlane entered the graduate school of the University of Pennsylvania, coming under the influence of Simon N. Patten. In addition to advanced work in history, economics, and philosophy, he continued to execute his studies and criticisms of literature. In 1891, as did other American scholars of the time, Macfarlane went to Germany to pursue graduate studies–at the University of Freiburg, researching under Eugen von Philippovich and obtaining his Ph.D. in 1893 with a dissertation on *The History of the General Doctrine of Rent in German Economics* (Macfarlane 1893). Upon his return in the US, Macfarlane published a series of papers on *The Annals of the American Academy of Political and Social Science* (1894; 1895; 1896), including the translation from German of an essay by Eugen von Böhm-Bawerk (1894), but it was only with the imprinting of his major work, *Value and Distribution* (1899), that his name acquired notoriety among professional economists. The volume was reviewed, among others, by people such as Clark, Jacob H. Hollander, Arthur T. Hadley in America, and Francis Y. Edgeworth across the Atlantic. For unknown reasons, Macfarlane's interest in economics somehow faded in the following years and he did not publish any other significant contribution, except for two brief commentaries on Patten's social economics (1902) and Clark's *Distribution of Wealth* (1903).[4]

There are at least two elements which make the case of Macfarlane of particular interest, apart from his biography.[5] First, in a period of rapid

1 Frank A. Fetter in The Relations Between Rent and Interest–Discussion 1904, 235 n3.

2 Even Joseph Dorfman, in his encyclopedic *Economic Mind in American Civilization* (1949, 253), devotes Macfarlane only a passing reference. Our brief sketch of Macfarlanes's life and career draws upon an unsigned biographical entry found in the first volume of the *Encyclopedia of American Biography*, New Series (Macfarlane, Charles William C. (1934, 122-127).

3 After receiving a copy of *Canons of Criticism*, Noah Porter, the famous philosopher and then president of Yale, wrote to Macfarlane: "I have read your work with great satisfaction, and like the train of thought and the treatment of the subject. I agree with you in the most, if not all, the positions you take." Cited in Macfarlane 1931, 219.

4 Macfarlane's last work, which appeared shortly after the Armistice under the title *The Economic Basis of an Enduring Peace* (1918), was a small book where he discussed the distribution of supply of coal and iron in Western Europe and more particularly the relationship of the deposits in Lorraine and France in connection to the peace settlement. Macfarlane passed away on May 15, 1931. The same year, his wife (Kathleen Selfridge Macfarlane) published a collection of his husband's addresses and correspondences under the title *Science and literature as Interpreted by Charles W. Macfarlane* (1931).

5 Macfarlane was also a man of adventure. Just before entering the University of Pennsylvania, he joined his friend William Henry Jackson, the celebrated photographer, in an expedition

professionalization of the social sciences, in which the recently created professional associations had established national networks of scholars dedicated to promoting their academic credentials, Macfarlane stands as a figure who entered the discipline relatively late in life and never held a university position. Yet, as an outsider, he was able to take an active part in the theoretical debate of the time and to obtain recognition from his "professional" counterparts to the point that the American Economic Association elected him vice president in 1913. Second, and this is what mostly concerns us here, Macfarlane proposed a version of marginalism which distanced him from all his contemporaries. His main purpose, as he stated in the opening passage of *Value and Distribution*, was to "give more permanent form to the scattered work of the Austrian school," and to bring it "into some sort of co-relation with the work of the so-called orthodox school of economists," by which he meant the classical approach. In what follows, we offer a brief assessment of the main coordinates of Macfarlane's theory of value and distribution, also discussing its influence in the discipline. The archival appendix reproduces an unpublished response by Clark to Macfarlane which provides further evidence on the reception of Macfarlane's work among his contemporaries.

2. Macfarlane's main contributions to American marginalism

"In the almost revolutionary change in the whole status of the theories of value and distribution which the last quarter of the century has witnessed," Macfarlane (1899, xix) wrote in relation to the contribution of the Austrians, "we have a belated attempt to bring our theories into some sort of harmony with the existing facts." Accordingly, he identified the core of the Austrian theory in the related contentions that prices of consumer goods are determined by their relative marginal utility to consumers; and that each factor's price is determined by its marginal contribution in producing these consumer goods. In other words, the market system imputes consumer goods prices (determined by marginal utility) to the factors of production in accordance with their marginal productivities. This approach, however, faces two main problems. First, in Macfarlane's words, marginal utility, and marginal productivity theory both rest on the "unwarranted assumption" (1899, xx) of ideal free competition among consumers and producers, respectively. Second, Macfarlane lamented, while the early Austrians adopted their theory to explain prices of consumer goods and wages of labor, they still left great lacunae in the theories of capital, interest, and rent. This line of complaint should not sound surprising. At the time, especially among American theorists, rent theory was still in a particularly inchoate state–with rent being defined either in the old-fashioned sense of income accruing to land (see for instance Carver 1901), or in the broader sense of differential income between more and less productive factors. In this latter view, introduced in the American debate by Clark (1891), rent theory had become a direct appendage to distribution theory.

to the summit of Popocatepetl, a semi-active volcano located approximately seventy kilometers southeast of Mexico City.

Macfarlane correctly understood that the abandonment of the assumption of perfect competition and the reformulation of rent theory were two sides of the same coin. "The rise of the modern system of labor organizations, trusts, etc." he stated (1899, xxi), "has compelled a radical change in the attitude of economists towards the theories of value and distribution." No theorist can today assert that "scarcity" values are "rather conceivable than actually existing," as John Stuart Mill once put it. Mill's contention might well be reversed since now "scarce goods are the rule rather than the exception." It was the realization of such a pervasiveness of scarcity value that led the Austrian school to the rejection of the classical emphasis on cost of production and to embrace marginal utility theory. Yet, "it is strange that the most strenuous advocates of the Marginal Utility Theory of Value have failed to see that this recognition of the general prevalence of scarcity values must compel the readjustment of our theory of distribution." In this connection, Macfarlane regretted, even an acute mind like Böhm-Bawerk, makes no exception. Although he had explicitly recognized that "there are at the present time very few products in which some patented machine or process or some import duty on raw or auxiliary material does not play a part" (1894, 44 quoted in Macfarlane 1899, 28), Böhm-Bawerk continued to follow the narrow classical partition of the social product into rent, wages, and interest.

"If the assumption of free competition does not correspond with the facts, then the surplus due to such scarcity value must receive recognition and name in our scheme of distribution" (Macfarlane 1899, xxi-xxii). This was the crux of the problem to Macfarlane's eyes. Monopolistic surpluses, he argued, can emerge among both producers and consumers. As to the former, Macfarlane's discussion offers no element of novelty. He repeatedly referred to those cases in which competition is "interfered with by patent, import duty, etc." so that "the marginal producer frequently secures a surplus above his cost" (1899, 26). Far more original was the way he dealt with consumers' surplus. Drawing directly from Böhm-Bawerk (1891), Macfarlane stated that the price of any commodity is fixed between the valuations of the two "marginal pairs," i.e., the last buyer and seller and the first unsuccessful buyer and seller. For this to happen, agents must be very numerous, so that the interval between the valuations of the last buyer and that of the first unsuccessful competitor is narrowed to a point. This result, however, rests upon another "altogether unwarranted" assumption, namely that "price will vary continuously with the supply of the commodity and buyers will be able to range themselves in a differential series" (1899, 48) As Macfarlane explained:

> Though there were a million buyers, how can it be said that the valuation of the million and first will necessarily vary by a differential from the millionth buyer? Why may there not be at any point a non-competing group or an interference with the freedom of competition among buyers as well as among sellers, among consumers as well as among producers? If such an interference with the freedom of competition does arise, then the price may be fixed at

> a point which is somewhat less than the valuation of the thousandth buyer and somewhat higher than the valuation of the thousand and first. Under these conditions the utility of the commodity to the actual marginal buyer would be greater than the price paid. He would therefore secure a marginal surplus and marginal utility would here fail as the standard of price, for the same reason that it fails in the case of isolated exchange, one-sided competition, and for all goods that are sold in markets that are not large and well organized. (1899, 50)[6]

Against this background, Macfarlane (1899, 54) concluded that while value is determined by marginal utility, "price is never so determined save in the case of normal value and price." In the case of scarce goods, the marginal utility of the commodity to its consumer and the marginal utility to its producer only set the limits where price may vary. Its final location within these limits ultimately depends upon "the relative monopoly strength of consumer and producer," and is therefore "incapable of any exact determination."

Under scarcity conditions, Macfarlane insisted (1899, 57), "neither competition nor monopoly is absolute on either side of the transaction," and the emergence of a monopoly surplus on the consumers or producers' side is a common feature of all market exchanges. The difficulty is that these surpluses are often either dismissed among economists as temporary phenomena or conflated into the general category of rent. But, Macfarlane (1899, 120) protested, as soon as the assumption of perfect competition is set aside, "they must be reckoned with and named from the very inception of any modern treatment of the problem of distribution." To do so, it is necessary to clearly distinguish between rent, properly conceived, and monopoly surplus, for which he reserved the name profit. In this regard, Macfarlane did not hesitate to praise the work of Clark (1891), which had contributed to generalize the narrow classical analysis of land rent into a broader theory of factor pricing. However, Clark had failed in limiting profits to the extra gains that emerge only under dynamic conditions, to differentiate between the distributive quotas which enter the determination of price and those which do not. This aspect will be taken up below.

To illustrate his argument, Macfarlane took the case of a commodity which is not freely reproducible or that has, in his jargon, a scarcity value. He also assumed that entrepreneurs engaged in its production differ in ability, so that all of them, except for the least efficient, will receive a differential rent, whose amount is determined by their degrees of skill. Since, however, the commodity in question has a scarcity value, Macfarlane (1899, 122) wrote, it follows that "each and every entrepreneur engaged in the production of this commodity, the marginal man as well as the most skillful, will receive an additional surplus, to which I would restrict the term profit." He then discussed the differences between rent and profit under four distinct heading:

1) "Rent as an Individual, Profit a Group Surplus" (1899, 122). While rent varies with the individual skill or ability of the entrepreneur, profit is secured in equal amounts by each member of the "group" of entrepreneurs engaged in the production of the commodity in question.
2) "Rent as a Differential, Profit a Marginal Surplus" (1899, 122-123). Individual surpluses may be considered as arranged in a declining series and, if their number is large enough, "their variations might be by differential increments." Individual rents, therefore, might be regarded as differential surpluses. Profit, instead, is secured by the marginal entrepreneur in common with all others engaged in the same production, and he should be referred to as the "marginal surplus."
3) "Rent as a Limited Monopoly, Profit a Monopoly Surplus" (1899, 123-124). Profit as a group or marginal surplus enters the determination of price and is clearly the result of a monopoly advantage in production, and so "might fittingly be styled a Monopoly Surplus." Rent, on the other hand, is not the result of a similar monopoly advantage, or at least not to the same degree. In the case of wheat land, for instance, it is not a question between good land and no land at all, but between good land and poorer land. In other words, Macfarlane explained, while there is undoubtedly a scarcity of the best land, yet the monopoly in such land is limited by the existence of other available (albeit poorer) land. Hence, profit is a monopoly surplus, while rent is at most a "limited monopoly surplus."
4) "Rent as a Price-Determined, Profit a Price-Determining Surplus" (124-125). According to Macfarlane this is the most significant difference between rent and profit. Under conditions of free competition, he reiterated, the price of a commodity is equal to the cost to the marginal producer, but where the good has a scarcity value price will include a surplus above the marginal producer's cost that must be paid if the supply of the commodity is to be maintained. It is, therefore, the "essential and all-important characteristic of the group, marginal, or monopoly surplus, that it enters into the determination of price, while the individual, differential, or limited monopoly surplus does not enter into the determination of price."

As to the last point, Macfarlane agreed with Mill's well-known contention that if alternate uses for land exist–growing wheat or grazing cattle, in Macfarlane's example–the rent paid for grazing land becomes a factor in determining the supply of wheat and hence the price of wheat.[7] The problem with Mill, however, is that he considered what land can earn in its alternative use as a component of the total rent paid for growing wheat. Doing this way, Macfarlane

[6] Macfarlane's discontinuity objections were like those advanced in the same years by Gustav Cassel. See Stigler 1950 for a discussion.

[7] "When land capable of yielding rent in agriculture is applied to some other purpose, the rent which it would have yielded is an element in the cost of production of the commodity which it is employed to produce" (Mill [1848] 1909: Book III, Chapter 6, 479).

(131) protested, he "inadvertently includes a marginal surplus or profit under rent." While in fact rent only accrues to inframarginal landlords in proportion to the superior productivity of their land, the amount which would have been paid for grazing purposes "is secured by the owners of the marginal land in wheat production in common with the owners of the better land employed in the producing of wheat" (132). Therefore, it is a "group, monopoly," or a "marginal surplus" and, as such, it enters the price of wheat. Rent on the other hand is always price determined and should be defined with respect to the variations in the productivity of any factor employed in the production of a single specific commodity. Going back to his example, Macfarlane (1899, 133) clarified, "the rent of wheat land is not the difference in productivity between the best wheat land and the poorest land in any employment, but the difference between the best and poorest wheat land."

3. Macfarlane on Böhm-Bawerk's notion of marginal utility

Having established the difference between rent (differential surplus) and profit (marginal surplus), Macfarlane was ready to turn his attention to interest and wages–which he grouped under the common heading of "normal surplus." In introducing the question of the origin of interest, Macfarlane briefly reviewed the classical theory put forward by Ricardo, as well as the several utilizations, exploitation, abstinence, and productivity explanations which had succeeded over time. Macfarlane's criticism on Böhm-Bawerk's "exchange theory" of interest, as he termed it, deserves a detailed discussion. In its essence, this theory explained the rate of interest by the agio, or premium, that present goods command over future goods. For such an agio, Böhm-Bawerk advanced his famous three reasons: 1) relative under-provision of present versus future income, 2) perspective undervaluation of the future, and 3) the increased productivity of more roundabout or time-using methods of production. This last reason, which he had labelled "technical superiority of present goods," can best be illustrated by a classic example. In any given year, trees planted earlier are taller, and thus more worth than those planted later. The resources devoted to planting, Böhm-Bawerk concluded, are more valuable earlier they are applied. While accepting most of the exchange theory of interest, Macfarlane rebutted Böhm-Bawerk's contention that such third cause is the "chief pillar" (1891, 264) of his entire approach.

Macfarlane laid down his objections step by step. First, he argued, contrary to what Böhm-Bawerk had asserted, the technical superiority of present goods is not an "independent" cause of value.[8] If only this reason for interest were operative, in fact, the greater physical productivity of roundabout methods would at most result in an increase in utility and not in an increase in value. "The indefinite general concept of utility is only converted into the more definite concept of marginal utility or value by the limitation of the supply" (1899, 206), and this is made possible by the operation of Böhm-Bawerk's first and second reasons. Second, Macfarlane warned, the technical superiority of present goods does not necessarily lead to an increase of value. The necessary condition for this to happen is that the percentage increase in the quantity produced must outweigh the percentage fall in price–a contention consistent with his rejection of free competition. Finally, the increase in physical productivity deriving from an increase in capital is by no means a necessary condition of interest. Böhm-Bawerk, Macfarlane (211) urged, had failed to recognize that the typical cases of interest are those in which do not imply any physical change in the commodity, or those in which "the increase in value is determined from the side of the consumer rather than from the side of the producer," i.e., by variations in demand rather than in supply. In the case of ice cut in January to be sold in July, an example brought by Böhm-Bawerk (1891, 297) himself, it is true that the expected higher value of ice is due to its limited supply in summer as compared to winter. At the same time, however, it is equally true that this increase in value is a consequence of the increase in demand caused by the return of warm weather.

These strictures notwithstanding, Macfarlane remained a friendly critic of Böhm-Bawerk. "Despite what has here been written," he clarified (1899, 213), "I believe that the essential elements of the Exchange Theory will stand impregnable against all assaults." Specifically, he proposed two improvements to the theory. First, he replaced Böhm-Bawerk's definition of capital stock as a collection of physical capital goods with Clark's notion of capital as an abstract fund which is permanent, homogeneous, and perfectly malleable. Second, Macfarlane equated Böhm-Bawerk's first and second reasons for the existence of interest (the abundance of expected future goods relative to present goods, and the systematic underestimation of future) to abstinence. This was true to the extent that, like abstinence, they operate as a limitation to the supply of capital.[9] He was then ready to make the interplay of abstinence and capital productivity, the two blades of the scissors, explicit:

> Here, then, we have the ultimate facts regarding interest. For while capitalistic methods eventually result in an increase of the supply of present goods, and so tend to decrease the value of such goods, yet human desires continue to outrun the supply of present goods, and because of these present goods are more highly valued than future goods. Again, the adoption of roundabout methods depends upon the increasing of the supply of capital. If this supply should be indefinitely increased, capital would be forced to find employment in less and less

8 "About the first two factors we know already: their effects are cumulative. ... It is different with the co-operation of the third factor. True, it also tends to strengthen the action of the other factors, but it does so alternatively, not cumulatively" (Böhm-Bawerk 1891, 273).

9 Macfarlane cited a passage of Böhm-Bawerk (1891, 363) in which the Austrian economist had explicitly affirmed that the "prospect of interest induces saving and accumulation of capital," and in this connection "the much used and much abused expression 'Reward of Abstinence' is in its proper place." According to Macfarlane (1899, 227), however, such a recognition of abstinence, is then obscured by Böhm-Bawerk's "failure to recognize that it is marginal abstinence that enters into the determination of interest."

> productive industries until it reaches those in which no surplus value can be realized. In other words, the supply of present goods would become so abundant that men would cease to value them more highly than present goods. Capital, however, is not thus indefinitely increased, and this since such increase involves the exchange by the marginal saver of a present for a future good. Hence, so long as man's desires outrun his powers of production, or so long as present goods are more highly valued than future goods, an exchange of the former for the latter involves a sacrifice or disutility. It is this that tends to restrain the increase in the supply of capital, and so the adoption of that capitalistic method of production whose ultimate effect is to decrease the value of present goods. (1899, 229)

Macfarlane was adamant in stating that, differently from rent and profit, interest is a case of "normal" value or "normal" surplus. What Macfarlane meant by "normal" is made clear by the following statement: "while the Austrian economists are undoubtedly right in their contention that among concrete commodities scarcity values are the rule, yet when we come to capital as the earner of interest per se, we clearly recognize that we here have the conditions of ideal free competition" (1899, 227-228). "When ... we are dealing with a mobile, homogeneous fund," he reiterated in a later passage (1899, 291), "we are dealing with the conditions of free competition or with normal value, hence marginal utility and marginal disutility will here coincide and mutually limit each other." Unfortunately, Macfarlane did not support this claim with an adequate justification, leaving unexplained why the scarcity which he found to be the "rule" among physical goods (including capital instruments) would disappear once these are dissolved into an amorphous capital fund *à la* Clark.[10]

Wage determination also felt under the domain of normal value. Drawing again upon Clark, as he had done for capital, Macfarlane (269) reduced labor to a "mobile, homogeneous fund capable of taking any shape the entrepreneur may desire." Wages rate, as the rate of interest, is therefore fixed by the marginal productivity of this fund or, to put it differently, by "its product in the least productive industry in which it will find employment" (1899, 310). Clark's schema is however silent about what determines labor supply–and this is where Macfarlane turned to the work of Patten, his mentor at the University of Pennsylvania. Following Patten (1892), Macfarlane held that any increase in the supply of labor depends, at first, on the realization of a surplus above the cost of maintaining the present workforce at the existing standard of life. To secure this surplus, labor hours are prolonged beyond the point which would be sufficient to maintain subsistence at the existing conditions, and this involves a "postponement of present enjoyment or an increasing abstinence on the part of the marginal laborer" (1899, 297). It is this unpleasant (yet essential) abstinence from present enjoyments by the worker which limits the extension of his hours of labor. This, in turn, place a check on the realization of that surplus which is necessary for an "increase in the amount or efficiency of labor" (1899, 297).[11] With abstinence as a determinant of the labor supply, Macfarlane could draw a parallel between his own normal value theory of wages and Böhm-Bawerk's exchange theory of interest–"If there is any abstinence or postponement of enjoyment on the part of the laborer there must in some way be an exchange of present for future goods" (299). To prove this, he divided labor transaction in two steps. The first step is that in which the laborer postpones the enjoyment of the goods under his control so that he may extend his hours of labor. For this he receives in exchange the unfinished products of his labor or "future goods." In the second step, the laborer exchanges these unfinished products for present goods in the form of wages.

Macfarlane, it should be noted, placed two important caveats on his own theory. First, he emphasized that normal values such as interest and the "gain of labor" can be carefully considered as surpluses only in a stationary society. Under static conditions, in fact, the "social cost of production" is limited to the "actual wear and tear" of the capital and labor employed and whatever exceed this limit forms a surplus (1899, 301). In a progressive society, instead, the social cost equals the maintenance of the existing factors plus the disutility or abstinence incurred in securing that surplus which increases the supply of capital and labor.[12] The second caveat is that the theory proposed gives but a "partial" solution which "in no way accounts for market wages" (303). Market wages, in fact, like all "scarcity prices," cannot be subjected to "anything like an exact law." Normal wages, and this was Macfarlane's conclusion, are instead "capable of exact determination," and in a progressing society they include "a gain which is equated to an abstinence on the part of the laborer."

4. Macfarlane's theory of distribution and its reception

Before launching into the discussion of Macfarlane's reception among his contemporaries, a recapitulation of the main coordinates of his theory of distributions becomes necessary. After rejecting the assumption of "ideal free competition" among producers and consumers, Macfarlane proposed a schema of distribution which included three distinct shares or forms of surplus: 1) rent, or the differential surplus that does not enter into the determination of price; 2) profit, or the marginal surplus that does enter into the determination of price; 3) interest on capital and gain of labor, or the "normal" surpluses which enter into the determination of price and into

[10] Macfarlane here diverged from Clark (1888, 29) who had asserted, without explanation, that the sum of all interest earned by true capital is equal to the sum of all rents earned by concrete instruments of production.

[11] Summing up, in Macfarlane's (1899, 297) words, "the supply of labor, and so the margin of production, is determined by the disutility or abstinence endured by the marginal man who postpones his consumption in order that he may continue his labor."

[12] From this it follows that "the interest on capital and the gain of labor are surpluses if we have in mind the maintaining of existing conditions ..., on the other hand, they are part of our costs if we have in mind an increasing supply of capital and labor or a progressing society" (Macfarlane 1899, 302).

the social cost of production in a progressing society. Rent and profits are universal surpluses, in the sense that they can be earned by any factor of production (including the entrepreneur), while normal surpluses can only be earned by labor and capital, i.e., those factors which can be reduced to abstract homogenous funds and therefore are "freely reproducible." The whole scheme is represented in the following chart:

Factors of Production	**The Three Forms of Surplus**		
	Differential	**Marginal**	**Normal**
Land[13]	Rent	Profit	
Entrepreneur	Rent	Profit	
Capital	Rent	Profit	Interest
Labor	Rent	Profit	Gain of Labor

To avoid confusion, Macfarlane recognized that it might have been preferable to make use of entirely updated terms, rather than holding to the traditional categories of distribution inherited by the classics. This was a minor issue since the whole question was not a purely lexical one: "it is far less important what terms are employed than that we should clearly distinguish these several surpluses in our study of distribution" (315).

Macfarlane's *Value and Distribution* was received by the academic community with mixed feelings. On the one hand, all reviewers expressed appreciation for the "admirable conspectus it gives of the theoretical work of the present generation of economists," as Adolph Miller (1899, 118) of the University Chicago put it. "All the important discussions," Miller continued, "have been carefully sifted, and the results put together into some sort of a coherent whole."[14] Much in the same vein, Edgeworth (1899, 233) called attention to the "historical matter with which Dr. Macfarlane has enriched his learned pages." "Contending with the great Austrian leader on the theory of interest," Edgeworth added, "Dr. Macfarlane appears to us to be victorious all along the line." Responses concerning the more constructive parts of the book, on the other hand, were of a far less enthusiastic tone. The contention that marginal utility theory can only establish limits within which price may vary, Hollander (1899, 124) pointed out in his sharp review, "verges closely upon hypercriticism in exaggerating an element of inexactness of which ordinary theories of value make prompt admission." As to distribution theory, Hollander conceded that Macfarlane had rendered an important service by urging a clear distinction between a "price-determining" and a "price-determined" surplus. However, Hollander continued, it remains an open question whether the restriction of the term "profits" to the first, and "rent" to the second kind of surplus is, "in the face of popular and scientific usage, either possible or desirable." This was a recurrent line of criticism. "While admitting the theoretic distinction between payments which do and do not enter into the determination of price," Edgeworth (1899, 235) noted, "[many] will recognize the practical impossibility of separating the two elements." Charles S. Devas (1901, 61) referred to Macfarlane's different surpluses as "phantoms of the imagination" from which he could not draw any theoretical explanation. Frank Fetter (1904, 192), in even sharper terms, spoke of Macfarlane's attempt to define each income share according to its causal relation to price, as a "transcendental inquiry as difficult to apply as the small boy's method of catching birds by salting their tails."

The critical exchanges between Macfarlane and Clark deserves to be dealt with at length. The first discussion of Clark by Macfarlane was in an early essay entitled "Rent and Profit" (1894) where he introduced his distinction between "differential" and "marginal" surpluses. There, Macfarlane conceded that Clark had acknowledged the different nature of these two kinds of income shares–not only calling one "rent," and the other "pure profit," but also stating explicitly that the latter "is the one part of the actual social income not governed by the law of rent." And yet, Macfarlane continued, this clear distinction did not save him from "verbal" confusion:

> Professor Clark, indeed, carries this recognition of these two forms of surplus so far as to call one "rent" and the other "pure profit;" yet elsewhere in this same article, he is betrayed into including both forms of surplus under the common term "rent;" this resulting in such verbal contradictions as cannot fail to confuse the general reader.[15] Not a little confusion would have been avoided if he had thrown the accent not upon the differential, but upon the "price-determined" aspect of this gain. t would then have appeared, that what he is pleased to call the rent of land, really includes both the "price-determined" and "price-determining" surplus. (1894, 97-98)

Such a criticism of Clark did not pass unnoticed, and Hollander came Immediately in defense of his friend and colleague with a note entitled "J. B. Clark's Use of the Terms 'Rent' and 'Profits'" (1894). In his rejoinder, however, Hollander addressed the issue at stake only partially, denying that Clark had in any way included profit into land rent. Pure profit is a temporary consequence of dynamic changes and constitutes the remuneration of the entrepreneur function. As such, Hollander (94) wrote, it can accrue to the landowner only when "this agent is at the same time the employer of labor and capital," just as wages and interest would merge under similar conditions.

13 Land includes all natural forces except labor.

14 Hollander (1899, 124; see also Hadley 1899), who saw the volume mostly as a "critical, historical review of recent theories of value and distribution," praised the author's "scholarship, maturity, acuteness and discrimination."

15 Macfarlane (1894, 99) attributed to Clark the contention that in an unbalanced condition of industry favorable to agriculture, "there will accrue to the employer of laborer, and later to the owner of land, a surplus equal to the difference between the productivity of labor in this special branch of industry, and its productivity in that branch in which it is least productive, since the rate of wages is set by the latter." Clark found this to be a misinterpretation of his position. See his response to Macfarlane reproduced in the appendix.

To make sense of Macfarlane's point, he (94-95) allowed, "we should have to regard agriculture as an isolated industrial group, with a dynamic gain petrified into a permanent group advantage by the exclusion of all additional industrial factors."[16]

Hollander's note did not exhaust the reactions to Macfarlane. Interestingly, archival research has revealed that Clark himself had written an articulate response which, for unknown reasons, never appeared in print. Clark found no objections to Macfarlane's notion of marginal rent. When land has a competing use, he agreed, this is an element of cost or a "potential" surplus–i.e., "it is what the land would yield, above wage and interest, if it were used for another purpose." Clark, however, found Macfarlane's Insisted distinction between "price determined" and "price-determining" surplus to be misleading and, at a closer examination, unfounded. Clark's response to Macfarlane is fully reproduced in the appendix, and it is not necessary to follow here his line of reasoning step by step. His main argument was that once we consider the point of view of the whole economy, differential rent analysis produces a level of aggregate payment for the total resource of available soil. In this case, there is no necessity of "pulling" land away from competing uses and all rent becomes "differential" in the proper sense. In other words, following Clark's reasoning, it is true that the rent obtained in the production of commodity A is partially determined by the rent (and thus price) that could have been received in producing commodity B. But once the full chain of casual relations is developed–for all commodities B, C, D, E and so –we must necessarily reach the production employing the poorest unit of soil for which no competing use is available. Aggregate rent is determined by the marginal productivity of land at that level of output where it is just worthwhile to employ social capital (inclusive of land). "In a truly philosophical view of rent," Clark (*infra*) concluded, "price ceases to be a primary determining factor. It has a certain secondary work to perform. It is an element in the adjustment of different industries. It is not a primary cause of general rent."

It is not clear whether Macfarlane had the chance of reading Clark's rejoinder, but it is significant that in *Value and Distribution* he turned again his attention to Clark.[17] Only in the very last section of the book, emblematically entitled "An Essentially Different Scheme of Distribution from that Proposed by Clark," Macfarlane found the way to distance his own theory from that of the eminent economist. "It is manifest," he stated in the concluding sentence, that

> [Clark] divides the entire social surplus into rent and profit. I, on the other hand, have recognized three forms of surplus, –the differential, the marginal, and the normal; or rent, profit, and, under the normal surplus, interest on capital and gain of labor. The source of our disagreement is found, I think, in the two competing differential concepts, one confined to the single industry and the other including the whole range of industry... I have fixed upon the first, while Clark has taken the second as the concept having the greatest economic importance. If Clark has not modified his views upon this point, it will be in order for the reader to pass upon the two schemes of distribution when his work appears. (Macfarlane 1899, 316)

Clark did not mention Macfarlane in his celebrated *Distribution of Wealth* (1899a) but accepted to review his *Value and Distribution* for the *Political Science Quarterly*. The review was dismissive of Macfarlane's contribution and somehow superficial.[18] The difference that Macfarlane perceives between his theory and that of other economists, Clark (1899b, 538-539) held, is mostly due to his confusion between static and dynamic elements. Macfarlane's "natural" surpluses are nothing but static categories, while the "monopolies and quasi-monopolies" he emphasizes pertain to the realm of economic dynamics. "Those who divide economic theory into static and dynamic divisions avoid this difficulty," noted Clark, and "in revealing the necessity of making this distinction, Dr. Macfarlane's book renders a service that is, perhaps, incidental to its main purpose."

Macfarlane returned the courtesy and four year later published a note entitled "Distribution by a Law of Rent" (1903), intended to be a "belated review" of Clark's *Distribution of Wealth*. Ironically, Macfarlane turned the criticism he had received against Clark himself, accusing him of conflating static and dynamic elements in his exposition of marginal productivity analysis. In his attempt to show that interest and wages are differential surpluses, Macfarlane pointed out, Clark had assumed that the fixed amount of capital constantly changes its physical form to accommodate changes in the labor force. As additional units of labor are added to the production process, the tools in use are modified to allow the increased labor force to work as efficiently as possible. This process continues until the ratio of capital to labor that will yield the greatest product is reached. Such a change in the form of concrete capital, Macfarlane objected, introduces a dynamic element in Clark's static analysis:

> In describing a static society Clark [1899, 28] writes: "Tools and materials might never change; they might not alter, either for the better or for the worse, the amount of wealth that industry would yield. Social production can thus be thought of as static." Again he [197] writes: "A worn-out instrument will be replaced by another that is exactly like it... This would be clear in a completely static society." In a word, it is here clearly recognized that constancy in the concrete forms of capital is an essential condition of a static society. Yet in this same connection Clark [198] writes: "We are, however, to introduce labor, increment by increment,

16 This, it should be noted, comes remarkably close to Macfarlane's (1899, 131) own assumptions which contemplated the existence of non-competing uses for agricultural land.

17 There is no archival record of correspondence between Clark and Macfarlane.

18 Clark (1899b, 538) could recognize only one merit to the author, namely that of having "intentionally" adopted a partial equilibrium approach. This allowed him to avoid the pitfalls of those authors who draw conclusions "concerning industry as a whole... when their data have been taken from a single specific business or industrial group."

into this general field of industry; and this, of course, compels such a change in the form of capital as we have already described. The amount of capital remaining fixed, the instruments become more numerous and cheaper, as the force of labor enlarges." Now if constancy in the form of the capital goods is an essential condition of a static society, then the above assumption of a change in the form of the instruments to suit the increasing supply of labor is an abandonment of static conditions so far as capital is concerned.

This abandonment of static conditions, in turn, opens the door to the dynamic frictions which Clark had considered the source of profit. Accordingly, any disturbance of the optimal ("normal," in Clark's jargon) capital labor ratio gives to the scarcer factor a "monopoly advantage." When labor is added in successive increments, Macfarlane reasoned, "it is capital that enjoys this monopoly advantage or in some way secures that 'pure profit' which is always to be found in a dynamic society." Contrary to Clark's conclusions, this implies that the reward of capital exceeds the marginal productivity of the abstract fund employed and "must at least include the 'pure profit' or the monopoly surplus secured by those who control concrete forms of capital goods."[19]

5. Conclusions

Macfarlane's contribution upon the economic profession was marginal: none of the economists of the time found significant constructive elements in his distribution theory and the related taxonomy of income shares. Some rejected his elaborate distinction between differential, marginal and normal surpluses as devoid of any theoretical and practical content. Others minimized the alleged elements of novelty in Macfarlane's treatment of rent.[20]

Yet, a complete dismissal of Macfarlane's marginalism would be a mistake–and there are several reasons for affirming this. First, as we have shown, Macfarlane played a key role in the early neoclassical discussion over the nature of rent, insisting (far more explicitly than others) on the necessity of a clear distinction between its differential and opportunity cost components. In this connection, when some thirty years later Joan Robinson proposed to restrict the notion of rent to the "surplus earned by a part of a factor of production over and above the minimum earning necessary to induce it to do work," she was crashing through long open doors. Second, at a more general level, Macfarlane's rejection of the assumption of perfect competition made his version of marginalism almost unique. Certainly, his theoretical contribution to monopoly or quasi-monopoly theory was modest, as his critics pointed out. At the same time, it can be argued that Macfarlane's emphasis on the pervasive existence of non-competing groups within otherwise competitive markets places him in the theoretical path which later gained momentum in the United States with the work of Edward H. Chamberlin. Third, our assessment of Macfarlane allows us to shed new light on the inherent pluralism of early marginalism in the United States. Macfarlane was a man of his times, and we find a coexistence of classical, marginalist, Austrian, and institutional arguments in his theory of distribution. He followed Clark in considering capital and labor as homogenous abstract funds, but he rejected his conclusions as to the exhaustion of the product. He accepted Böhm-Bawerk's third cause for interest, but he sought to revive the classical notion of abstinence as a determinant of the normal surplus on capital. He agreed with marginal productivity as a determinant of wages but combined it with a typical Progressive Era "standard of living" explanation. In the end, and regardless of its success, we can affirm that Macfarlane's marginalism perfectly epitomizes that "eclecticism" which Hollander (1899, 93) found to be the "dominant note" in American economics at the turn of the last century.

Appendix

Response to Macfarlane

(John Bates Clark Papers, Rare Book and Manuscript Library, Columbia University. Undated: box 11; folder 16)

Mr. Macfarlane's acute criticism of recent theories of rent, including my own, calls for a fuller statement of my view. In the article that he criticized the view is expressed that the principle of differential gain, which appear to me to be the basis of the law of rent, is capable of being applied not only to land, but to the permanent fund of social capital and to the equally permanent fund of social labor. The agents that, in this view, yield "rent," surplus or differential gain are not particular concrete things. They are permanent funds. The capital in the case is not a particular stock of hammers, saws, looms, etc. with the accompanying raw material such as iron, lumber, and wool. These concrete things are perishable, and if they and they only constitute the capital that is to be studied, this agent will soon be gone. As these things pass away other takes their place, and a never-ending series of them thus exists. This fact gives to capital its permanence and makes it possible to treat it as a fund yielding a perpetual income. The permanent fund of capital yields akin to what has been traditionally studied as rent.

In like manner labor, consisting of the action of perishable men, may be resolved into a permanent productive force. As some men go others come, and work is never discontinued. The permanent fund of social labor yields a gain that, when studied, reveals

[19] In the round table which followed Macfarlane's paper (*Distribution by a Law of Rent-Discussion* 1903) it was the turn of Alvin S. Johnson, a self-proclaimed "disciple of Professor Clark" (1899, 166), to take the defense of his mentor. "It is true that the diagrams employed by Professor Clark represent a dynamic and not a static state," he admitted. What they are intended to show, however, is the process of adjustment leading to a "truly static description of income," where payments to the factors exhaust the product when each receives its marginal product. Macfarlane remained unconvinced by Johnson's defense. "By no legitimate exercise of the scientific imagination can we divide the total income of a dynamic society into static incomes," he (1899, 171) rebutted, "nor can we escape the difficulty by admitting that this is the diagram of a dynamic society and by then holding that by an effort of the imagination we here employ it to illustrate static conditions."

[20] As Edgeworth (1899, 235) noted, Alfred Marshall had already cautioned his readers that "the doctrine [of rent not entering into cost] is not misleading with regard to agricultural produce as a whole, but when the doctrine is applied to any one kind of produce taken separately it is misleading."

its kinship to the differential gains the most familiar and available type of which is the rent of land.

For certain reasons, which I have stated in the article to which Mr. Macfarlane refers [Clark 1891], the gains that are afforded by these two all-embracing funds,–that of capital, on the one hand, and labor, on the other,–appears to be more completely and accurately differential in their character than is the gain that is yielded by land devoted to agriculture. Land devoted to any limited use cannot, as I have tried to show, yield a rent that will stand the severest test as a differential gain. It is not practicable here to repeat the argument on this point. If it is valid, land for merely agricultural uses fails short of affording an income that is in every respect analogous to those that are afforded by the permanent fund of capital and the continuing force of labor. Yet agricultural land is sufficiently like these two funds to make it useful as a type of rent producers. Up to a certain point its action is like that of the others, and it has been presented in this light so often during the past eighty years that some of the main facts concerning it are thoroughly understood. I must frankly admit the correctness of Mr. Macfarlane's statement that I have called land a good type of rent and have still charged it with being imperfect at one point, provided the land that is so used be confined to agriculture only. It is the limitation in the use of it that mars the completeness of its action as a creator of true differential gains. To presenting a new theory a type that is at one point imperfect may render a useful service, provided that, in the end, the imperfection be pointed out.

It is the difference between the action of land for agriculture and land for all uses that afford a key for the complete solution of the rent problem. All land taken together affords a rent, or differential gain, which will bear scrutiny. Land taken separately does not do so. Here the fund of capital may be used as a type. It is permanent, as we have seen, and it has another quality that merely agricultural land lacks; it is universal in its productive action. It creates not one product or one grade of products, but wealth in general. Social capital produces every kind of commodity that men use. It co-operates with labor not at one point, and not merely at many points; it increases the product of labor everywhere. Some fraction of every useful thing that mills, shops, farms, etc. turn out is attributable to it. Interest is the part of wealth in general, as annually created by universal industry, which is distinctly attributable to the productive action of capital. For the full agreement on this point, I must again refer to the article that Mr. Macfarlane criticize. Multiform is capital; and interest is like it in this respect. This quality is essential. The problem of interest could never be solved by studying capital confined to one use or to one class of uses. It could not be solved by studying, for example, the successive "doses" of capital that eminent and early writers have spoken of as applied to agricultural land. Capital is a permanent and universal social agent of production. The rate of interest is nothing if not universal. What one man can get for capital in one use is determined by what all men get from capital applied to all uses.

Land is one part of the permanent fund of social capital. Not otherwise can that fund be made all-embracing, and not otherwise can a study of it reach, in a natural way, the law of interest. Two productive agents and two only give grand differential gains, which are cardinal divisions of the static income of society. They are social capital and social labor. A dynamic income, or a gain due to social changes exists. This is the "pure profit" of the article under criticism, and it is broadly distinct from every element of gain that can be traced to a permanent producing agent. It is due to changes in the internal relations of society, while all rent, or differential gain, is permanent and static. It would continue if the internal changes in society were to cease, and if the social structure were to be frozen into fixity. Of this we will speak later.

Universality is an attribute of true rent producers. All land, taken together, has this quality; some land, taken separately, has not. A radical change in the theory of rent appears to be involved in this fact. If land be included with other instruments of production as embodying the general fund of social capital, the rent of it becomes a part of general interest. It is a sub-division of a cardinal division of the static income of society. This, as I venture to affirm, is the logical and fruitful mode of approach to the problem of the rent of land. It gives us a law of the rent of all land, as a universal agent of industry. The rent of a particular piece is dependent, in a way that it is in the highest degree interesting and important to study, on the rent of the whole.

Land is imperishable in its physical structure, while made instruments are perishable. The part of the social fund of capital that is embodied in artificial instruments is permanent, because, as one thing perishes, another is created to take its place. The part of the general social fund of capital that is embodied in land is imperishable because the land itself is so. This instrument alone is in its physical constitution permanent. The whole fund, taken together, has, therefore, the character of imperishability. The unmade part continues of itself, and the made part continues by virtue of the self-renewing power that it has while industry is in progress. A full study will show that it is a self-renewing power that capital seeds possess. It is not labor that, in a true sense, maintains the tissue of social capital. Labor works with it and creates the part of the social product termed wages, and that only. Capital creates interest and maintains its own structure besides.

Again, both land and the artificial part of social capital are universal in their action. They both help to create every product that comes into existence. Every mill, shop, railroad, etc. uses land, and must use it; and a part of the output of every mill, shop and railroad is attributable to land as a rent.

If land were used for agriculture only, and if made instruments sufficed for other industries, it would be logical to treat land as the Ricardian study has done. We could begin by ascertaining the rent of it for someone limited use. We might study wheat alone with advantage. For a reason that will soon appear we cannot do so as land is. We must treat it first as a social agent, which co-operates with a permanent fund of artificial capital goods in producing wealth in every form.

Finally, as the third fact that holds true of land and the artificial part of social capital, both are, in the economic sense, mobile. Both may be taken out of one industry and devoted to another.

Artificial instruments are not, in themselves, thus mobile. A plow cannot be used for weaving nor a loom for tilling the soil. The pure capital that is in the plow is perfectly mobile, because when the plow wears out, it is possible to make a loom to take its place in the fund of social capital. In the self-renewing action that goes on in the stock of capital goods, the amount of the fund of pure capital may be perpetuated without maintaining one unchanged list of *forms* in which the fund is embodied. Artificial capital changes its form ad libitum, and only thus is it, in the economic sense, mobile. You can carry a saw from Boston to New York; but you cannot take it out of the carpentering industry into cloth making. You can take the part of the social capital that the saw embodies into any industry that you may select.

Land alone is literally and concretely mobile. You can take it out of one industry and put it into another. You can till it, or build a house on it, or erect a shop or a mill on it. You can destroy the shop to make room for a railroad station, etc. As artificial capital gets its imperishability by virtue of its self-renewing power, while land is imperishable, so artificial capital derives its mobility through its power of self-replacement, while land is mobile. The whole fund of social capital has three cardinal attributes. It creates general wealth, and the income that it earns is gauged by its power to produce it. It is permanent. It is mobile. Land in the concrete has literal permanence and mobility, while artificial capital acquires these attributes through the continuous perishing and renewing of its material tissue. Already we begin to see why a law of rent cannot be based on the study of land in limited uses. We shall soon see this with greater distinctiveness.

If we study land in one particular use, as in the raising of wheat, price becomes a crucial factor. A farmer gets his income by selling his wheat and buying other things. If the price is high, he gets much. On the other hand, if the price of wheat is high in terms of cloth, groceries, lumber, etc. the price of those things is low in terms of wheat. A change of price that may inure to the benefits of the farmer might injure others.

In determining the general amount of the social income itself prices are not a cardinal influence. You cannot add together ratios of exchange and get a sum. In the rent problem price has been used as a mode of expressing ratios of exchange. From these we cannot get a total of the social income. For reasons that recent discussion has made familiar, ratios of exchange cannot yield sums; and the reasoning that proves this shows, if it be carried far enough, that they cannot give the total amount of rent. A part of the output of everything falls to the owner of land. The rent of a piece of land for one use is determined by what its product will sell for in terms of other things. The rent of all lend is not thus governed by exchanges but is a directly determined part of the output of goods of every kind resulting from general industry. So much of wheat, iron, wool, etc. is rent. When all land is taken into account, prices pass out of view, and all wealth, considered in kind, comes into view. It may be measured, indeed, but not by any standard that expresses ratios of exchange.

This conclusion may be reached by the method of study adopted by Mr. Macfarlane if it be pursued farther. Let us take the limited view, as the Ricardians have done, and consider the rent of a particular piece of land. Let us also forget, for the time being, the mobility of this agent. A piece of land cannot be honestly said to be permanently devoted to the production of one commodity only. It is capable of being used for nearly everything; but, for the time being, we will forget this part. Instead of taking land for what it really is, namely, a universal producer, an agent for creating anything, we will call it an agent for creating one thing only. The price of that thing becomes, in this view, a decisive influence on the rent of the area in question. If the article sells for a great deal, then much wealth in other forms may be had for it. The capitalist and the laborer will get no more for their services here than they will elsewhere; and the part of the returns from the tillage that is more than these men's claims will go to the landlords.

This land may be of varying qualities and the poorest part of it may command a rent. The product, let us say, that it is fore-ordinated to produce is the rare wine to which Mr. Macfarlane refers. The poorest soil devoted to this use would yield a surplus and earn a rent for its owner if it were used for other purpose.

In the rent actually paid for a piece of land devoted to any intensive use Mr. Macfarlane distinguishes two parts, of which one is in his nomenclature "price determined," and the other "price determining." From the product of the best land in the vintage subtract the product of the poorest that is used for that particular purpose, and you have one part of the rent of the best wine growing land. This is the "price determined" portion. It is governed by the value of the wine. The wine sells for enough to pay an entrepreneur for raising it in the poorest land in that tract. By reason of the greater productivity of the better parts of the area, the men who there raise wine will get a surplus above what is received by the men who use the poorest or marginal land. This surplus will be exacted by the owner of the land and will constitute the "price determined" part of the rent of the tract of wine growing land.

The rent commanded by the poorest wine land is the "price determining surplus," in the nomenclature of Mr. Macfarlane. Here terms must be used with care. A surplus, in this connection, is a residuum remaining in the hands of an entrepreneur after costs have been defrayed. It is inherently dependent on the price of the thing that the man has for sale. It is by the sale of the wine that is produced on the marginal land that the wine grower gets the wherewithal to pay the rent of that land.

This rent, however, is a potential surplus. It is what the land would yield, above wage and interest, if it were used for another purpose. To get it the wine grower must pay the same amount; and if he wishes to cultivate more of the same quality he must pay more at the same rate. This necessity for paying rent for additional land has the effect of restricting the output of wine. If other land of nearly similar quality were rent-free it would be profitable to take some of it into the vintage area and increase the output of wine. The withholding of some land from the creation of this products restricts the amount of it and enhances its price. This restriction is due to the rent that land resembling the poorest wine land yields; and this gain is due to the "price determined" surplus that it already yields as it is given over to another product.

I do not object to Mr. Macfarlane's useful division of the rent of a particular tract of land into two parts, of which one is directly determined by the price of the article produced on it, and the other is indirectly determined by the price of the other article that is produced on more or less similar land. The element that acts on the price of wine is the limitation of its quantity. That is affected by the withholding of other land from vintage uses. This withholding is due to the surplus that this other land affords when devoted to another product. This surplus again is gauged by the price of that other product. If this entire chain of causes and effects be kept in mind, then the term "price determining surplus" may be used without creating an actual confusion of thought. Another term might avoid the danger of confusion.

The point at issue here is not one of terms, nor is it a problem of logic to be solved for the mental satisfaction that there is in getting all the points clearly in mind. A question of cardinal importance depends on it. The whole relation of rent to price is in question. We may designate by the letters A, B, C, D, and E a series of products secured using land. A may represent that which is gained by the most intensive industry, or that which involves the largest outlay in labor and auxiliary capital per acre. B then designates something that is gained by a less intensive industry, and E is that product the creation of which involves the least of capital and labor to the unit of land. The poorest tract that produces the article A will command a rent if devoted to the production of B. The rent of the poorest land devoted to one use is, in this view, contingent on the price of an article that is different from the one that is produced on the area in question.

The rent of the poorest land devoted to B depends on the price of C; that of the poorest devoted to C depends on the price of D, and that of the poorest used for producing D depends on the price of E. This is not saying that the rent of the poorest land devoted to A is an element in fixing the price of A. The danger of drawing this inference is the one that is to be apprehended, as I think, from Mr. Macfarlane's phraseology. As another writer has stated, there is always an intensive margin of cultivation to be considered. The last unit of labor applied to the first grade of land earns wages only, and there is therefore a certain final unit of the product A, from the price of which no element of rent is to be deducted. The entrepreneur will put men, one after another, into the field devoted to the production of A till the point is reached at which another man would not create enough of it to earn his pay. The price of the final unit of A, from this point of view, just pays the wage of the man who creates it.

The fact is that the contracted area devoted to A causes this point to be reached earlier than it would be if there were more land to be had, rent free, for the creating of this product. The withdrawing of land from the A producing industry, and the devoting of it to the production of B is the restricting influence that limits the output and raises the price of A.

This introduces a subject not considered in the Ricardian studies, namely the apportionment of land along different industries. This is the field in which price operates as a cardinal influence.

It is clear, then, that the rent that the poorest land devoted to A commands is due to the price of B, the article which may be produced on it, and that is produced on adjacent land. In its relation to B this part of the total rent of the land devoted to the production of A is a price conditioned rent. This is the part termed by Mr. Macfarlane the "price-conditioning portion," and for which a less dangerous term might be employed. In like manner the rent of the poorest land devoted to B is conditioned by the price of C, etc. following the series to the end we find that each part of the rent of series and grades of rent is conditioned by the price of some article.

We may assume that A, B, C, D, and E represent all the commodities that are produced in the society that we are considering. All articles are created using land, as well as of other capital and of labor. Mills, railroads, etc. are as dependent on land as are farms, and, by letting the letters in the illustration stand for all commodities, we make a quite simple but truthful representation of the facts connected with land. The rent of each piece is conditioned by the price of something. In the case of different pieces of land, the prices of different articles are involved. It is the price of A that conditions a certain part of the rent of the best land devoted to its production while the price of B determines that of the remaining portion. As the price of B determines the rent of the poorest land devoted to A, it also determines a part of the land devoted to B. The price of C affects the rent of land devoted to B, and so throughout the list. Each article's price on the list influences the determination of rent. In each instance, the price of a particular article affects the rent of a specific part of the land. This is not the full extent. The price of E is the cause of the rent of the land devoted to it, and is a factor in determining the rent of land devoted to D. the rent of the lowest grade of land re-acts on that of the second quality, and that re-acts on the rent of the third, etc. in reality the price of E is an element in determining the rent of land devoted to A. in a true society, one in which exchanges are free and normal, the uses of the different parts of the entire land are interdependent. Rent is, as we shall see, a social phenomenon. The productive power of all land is the cause of it. Price is a part of the mechanism by which the different articles are produced in the right proportionate quantities.

Now as the rent of each piece of land is conditioned, in this view, by the price of something, it might seem that all prices, taken together, are the adequate cause of all rent. We might seem to have established a universal dependence of rent on price. What we have really done is to emancipate general rent from the control of price altogether. Granted that one piece of land is devoted to one use, the rent of that piece is contingent on the price of the product that it helps to create. All-land creates all-products. That amount is not measurable by ratios of exchange. Specific rent is closely related to price; general rent is disconnected from it.

As the purchasing power of all the articles in the list must be included to get the sufficient cause for all the rents in the case, the striking result is reached that price, purchasing power, or ratio of exchange is not a primary influence on rent at all. The including of all prices has a cancelling effect. The different ratios of exchange offset each other.

The price of A is an expression for the amount of B, C, D, and E that may be had for it. The price of B is the measure of the amount of A, C, D, and E that may be had for it. Such prices cannot give a sum. The true total in the case is simply the absolute amount of wealth that is created.

In a truly philosophical view of rent price ceases to be a primary determining factor. It has a certain secondary work to perform. It is an element in the adjustment of different industries. It is not a primary cause of general rent.

This is one mode of reaching a conclusion, that we shall reach again by a different mode of approach. The grand defect of the Ricardian study of land is the limited view that it takes. It never rises to the level of a social sturdy. It never takes all land into consideration. It does not adequately recognize the mobility of land. Piece by piece it considers it. As the returns from one piece come by exchanges, price is an element in fixing the rent of one piece. The returns from <u>all pieces</u> do not come by exchanges but are the direct grand total of wealth that the land helps to produce.

I have stated what I believe is the true method of studying the rent of land but cannot here give adequate proof of the correctness of the view. I take the responsibility of proving, in time, that land is to be treated as a universal agent of production; it has power to produce anything. It is in the economic sense mobile. Parts of it are continually taken out of one use and into another. It is like labor and capital, in that its earnings are gauged, not by its power to create any one thing, but by its power to create all things. The adjustment of prices is a part of the social mechanism by which it is determined how much land and what variety of it shall be devoted to each use. It is not the element that is determining how much shall be used altogether, nor what shall be the total rent of it.

The law that governs the total rent of land is a part of that which fixes the aggregate return of all instruments of production. The general rent law may be attained by first formulating the general law of interest, and then ascertaining the influences that fix the part of interest accruing to landlords. These statements must stand, for the present, as unproven theses, for which the responsibility of proof is freely assumed.

Mr. Macfarlane thinks that, in the article that he cites, I have identified "pure profit" with the "price determining" part of rent. He is led to this view by an inference that he draws from a paragraph that I will soon cite. He quotes, indeed, my statement that pure profit is entirely distinct from rent and infers that I have contradicted in terms what I have stated by inference.

In my own thought rent and pure profit are so widely separated in quality that the possibility of identifying them had not before occurred to me.

Rent is always static while profit is dynamic. If industrial progress were to cease, and if all changes in the structure of society were to cease with it, rent would continue, but profit would vanish. The sign of the social state in which pure profit is possible is an unbalanced condition of industries, a state in which labor and capital, including land itself, tend to move from one department of production to another. They move toward the industry in which profit exists, and, if law has its full effect, continue so to move till the profit is there annihilated. Rent of every kind continues as before; and a full study would show that after the transfers are completed, it is slightly higher than it was before.

If rent is studied in a concrete way, it can always be traced to the permanent superiority of some agent of production.

Profit often comes to an employer in consequence of a rise in the value of his product with no change in the instruments by which it is created. Even if it comes in consequence of a newly invented machine and is thus due to the superiority of that instrument, the condition that affords this special gain is transient, and will vanish when competitors have fully supplied themselves with the new machinery.

The sum of the rent of lands in all uses cannot be referred to price as a cause. The total profits of society are directly due to prices. Reduce prices to such a level that labor and capital would show no tendency to move from one industry to another, and profits would vanish. Disturb the equilibrium of prices and profits will re-appear.

Mr. Macfarlane cites the passages in my former article [1891, 313 quoted Macfarlane 1894, 96-97: emphasis added] in which the source of pure profit is described. "It results from an unbalanced condition of industrial groups. Conditions are continually appearing in which too little is produced of certain commodities to meet the normal demand for them, and in which they sell for more than enough to pay interest on all pure capital and wages on all the working energy employed in producing them. Included in this total interest will be the rent of any land that may be used in these industries, and included in wages will be the rewards of managers' time and effort. *Above all these claims*, the selling price of the goods may afford a residuum of pure profit."

It appears, then, that in the passage that is cited by Mr. Macfarlane, pure profit is distinguished from all rent, including the marginal as well as the other variety. It does not go to the landlord, but remains, if it continues at all, in the hands of the entrepreneur. If I have at any point identified pure profit with the marginal rent, I have fallen into a greater confusion of thought than that with which my courteous and able critic has charged me.

The ground for inferring that, despite statements to the contrary, I have identified pure profit with marginal rent is a statement [1891, 308 cited in Macfarlane 1894, 98] concerning the law of wages. "In any limited section of the general field of labor wages must conform to a standard that is set in and for that general field." This meant, of course, that general wages tend to govern the rate of pay in any one industry. Labor would move from the points where it creates less to those in which it creates more, till, in the absence of further disturbing causes, the pay of men of equal personal power would be everywhere the same. "Such a condition of universal equilibrium is never practically reached" [1891, 314 cited in Macfarlane 99].

It is from this last sentence that Mr. Macfarlane draws the inference that I have identified profit with marginal rent. "in other words," he says [Macfarlane 1894, 99], "the productivity of labor in some parts of the general field is greater than in other parts," and the excess produced by the men who work under the better conditions "will accrue to the employer of labor, and later to the owner of the land." It will be received "by all owners of land," and will thus become a price determining surplus.

The difficulty with this inference lies in the fact that nothing in my discussion justifies the view that this surplus goes to a landlord. At any one point at which this surplus appears it will soon pass out of existence by reason of an increase in the production of the article that yields the profits. If it were due to a superior quality of land the landlord could get and keep it; but it is due to a relation that it transient. The price of the article will fall, and the permanent gain in the case will be distributed among all consumers.

It is true, indeed, that the condition of universal equilibrium, in which all profit should have given itself over to the consuming public, is never reached. Before the surplus has vanished at one point it appears at another. Before the price of the commodity A has so fallen as to yield only interest, –including rent of all kinds, –and wages, the price of E may be sufficient to afford a similarly transient gain. Now here, now there, now elsewhere, the element pure profit appears, and the completely balanced state of industries that would exclude it is never universally attained. If pure profit continued at one point in the industrial system and attached itself to land it would become a "marginal" rent, but not otherwise.

The thing that does happen, when profit appears, is a realization of the mobility or land to which, early in this paper reference has been made. The profit is in excess of the marginal rent. The winegrower in the illustration gets from the poorest tract that he cultivates more than that land would command for another use. Will his landlord seize and keep this surplus? Clearly not. if he tries to do so the other land of similar quality will, as it were, move into the favored industry. Land as well as other capital and labor will be taken from the other industries and devoted to winegrowing. So far is pure profit from being identical with marginal rent, that it is a means of keeping land so distributed that marginal land tends to command its natural rent and no more.

At the points at which pure profit has ceased to exist the marginal rent is normal. Profit is a lure that calls labor, auxiliary capital, and land itself to favored points; and when it has placed them there in the full and natural measure it ceases itself to exist. It is this economic power of movement that land possesses in common with other agents of production that makes it necessary to study it in its entirety, and not merely piece by piece. It is a social agent of industry and has general laws. There is a total rent received from all of it; and the detailed studies in which prices figure serve only to show how that total is apportioned among different areas. There is such a thing as a unit of land. It is not a certain area, nor it is a piece having a certain fertility, a power of merely agricultural production. It is an economic unit, or a piece having a certain power to create wealth. The form of the wealth created is a matter of secondary importance. All land has a certain wealth creating power. It brings daily a certain value into existence. A certain fraction of that total may be created by a thousand acres of pastureland by a hundred acres of land under tillage, by ten acres of residence land, etc. The piece that creates this amount of wealth, whatever may be its area, is, in a comprehensive study, a unit of land. It is studies that are secondary in rank that tell us among what industries land is to be apportioned, in order that the normal rent of the whole of it may be realized. These studies tell us how much of it each industry shall have. Here prices are an element. Here also pure profit has its effect since it lures land itself to those points in the economic system at which it will do its best work. Rent would attain its maximum, and profit would vanish if the apportionment were perfect and universal.

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