PEER-REVIEWED

An Engineer's View of an Ideal Society: The Economic Reforms of C.H. Douglas, 1916-1920

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Intellectual engineering reform movements in early twentieth century America—including scientific management, the progressive engineering platform, and technocracy—have received a great deal of attention from historians.[1] Contemporaneous with these American movements, a British engineer working at a Royal Aircraft installation in the south of England was also developing a system of social and economic reform: the engineer was Major Clifford Hugh Douglas (1879-1952) and the reforms would become the foundations of the Social Credit political philosophy. Social Credit was applied most notably in Canada during the Depression.[2] While Social Credit has been studied extensively as a political and economic system, little consideration has been given to the influence of Douglas' engineering career, the influence of his engineering background on his ideology, or to the relationship between Douglas and the American engineering reformists.[3] This paper aims to remedy these deficits by analyzing Douglas' proposed reforms in an engineering context.

Douglas conceived of and published his basic economic theories between 1916 and 1920. Douglas' early ideology—developed from 1916 to 1920, and expounded in his books *Economic Democracy* and *Credit-Power and Democracy* (both 1920)—was rooted in socio-economic and monetary theories. In later years, he and his collaborators reworked and politicized his system, and by the 1930s it had matured into the political agenda of Social Credit. Accordingly, in order to best ascertain the influence of Douglas' engineering experience on the

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[1] Historians who have studied the American intellectual engineering movements include William Akin (1977), Monte Calvert (1969), Peter Meiksins (1988) and, most prominently, Edwin Layton (1986).

[2] For a detailed study of the implementation of Social Credit policies in Canada, see Irving 1959.

[3] For example, Douglas and Social Credit are absent from R. Angus Buchanan's study of British engineering (Buchanan 1989), from John Pullin's history of the British Institution of Mechanical Engineers (Pullin 1997), from L.T.C. Rolt's technically-oriented history of the same institution (Rolt 1967), and from the historical sections of Ian Glover and Michael Kelly's sociological study of engineering in Britain (Glover and Kelly 1987)). It should be noted that John Finlay discusses Douglas' engineering career in his biographical sketch of Douglas, and Crawford Macpherson considers Douglas' engineering influences in a broader essay on the political system of Social Credit. (Finlay 1972, Macpherson 1949).

development of his political system, this study focuses on Douglas' early work (that is, from 1916 to 1920). In the same years, the American progressive engineering movement, embodied by reformers Morris Cooke and Henry Gantt, was at its zenith. The philosophies of Douglas and of the American progressive engineers had several parallels: both were frustrated with the control of existing institutions over productive industry, both sought to apply engineering methodology and principles to socio-economic problems, and both believed in the capacity of technology to support a better world. Indeed, an article published in the *National Post* in September 2006 went so far as to draw a close link between Douglas and technocracy (a descendent of the progressive engineering movement) (Owen 2006). This paper argues that while Douglas and the American engineers were stimulated by similar observations and built their platforms with comparable engineering methods, their ideologies were in fact in conflict with each other.

This paper comprises two sections: in *Part I*, Douglas' socio-economic philosophy is examined in the context of his engineering background, and it is argued that his experience as an engineer shaped the methodology he brought to bear on economic questions. In *Part II*, the relationship between Douglas and the American progressive engineers is studied, and it is argued that the two movements differed fundamentally in terms of ideological impetus, community circumstances, and proposed reform solutions. Finally, Douglas' work is considered within the tradition of human utopian thought. As this paper is principally an analysis of Douglas' thinking, primary-source work has been concentrated on Douglas' books and speeches. For the American intellectual engineering movements, secondary works by William Akin and Edwin Layton were particularly useful (Akin 1977, Layton 1973, Layton 1986).

Part I

The reform system developed by C.H. Douglas during the First World War would, in later years, grow into the Social Credit political agenda, which was applied most notably in Canada during the Depression and in New Zealand in the third quarter of the twentieth century. The label *Social Credit* itself was first used in print in 1920 by Alfred Richard Orage (then the editor of *The New Age*), and was not used in writing by Douglas until 1922 (Oxford English Dictionary (2nd Ed.) 1989). Douglas' early ideology—developed from 1916 to 1920, and expounded in his books *Economic Democracy* and *Credit-Power and Democracy* (both 1920)—was firmly rooted in socio-economics and monetary theory. It is this socio-economic system, rather than later political manifestations of Douglas' work, which is the focus of this paper.

While Douglas devoted over half of his life—from 1916 until his death in 1952—to the advancement of his monetary reforms, he had no experience in economics or social theories prior to World War I. By his own admission, Douglas was until his late thirties a working engineer with neither an interest in nor an understanding of banking institutions (*The Ottawa Citizen*, April 25, 1925). Born

in 1879, either in Edgeley (Cheshire) or Manchester—the uncertainty about his birthplace is only the first in a long series of unknowns about his life—Douglas presumably received his engineering training through an apprenticeship, as was the norm in Britain at the time. As historian John Finlay remarks on his frustrating effort to trace Douglas' private life, Douglas was remarkably reticent (and occasionally deliberately misleading) about himself, and there are no sources to substantiate his training as an engineer.[4] Nonetheless, Douglas built a remarkable engineering career, travelling throughout the British Empire and practicing on at least four continents. Prior to the First World War, he worked at the Canadian General Electric Company (Peterborough, Canada), as Assistant Engineer at Lachine Rapids Hydraulic Construction (Quebec, Canada), as Chief Construction Engineer at the British Westinghouse Company, as Chief Engineer and Manager at the India Westinghouse Company, as Deputy Chief Engineer of Electrification Schemes at the Buenos Aires Pacific Railway Company (Argentina), and as a Railway Engineer at the London Post Office (Finlay 1972). He was also a member of the British Institution of Mechanical Engineers and Institute of Electrical Engineers (*Ibid*). As war broke out in Europe in 1914, Douglas was assigned as Assistant Superintendent to the Farnborough Royal Aircraft Establishment in England (*The Ottawa Citizen*, April 25, 1925).

By the time Douglas arrived at Farnborough, his engineering experience had fostered in him a strong belief in the engineering method—the clear statement and rational analysis of a problem, the precise delineation of objectives, and the elimination of "emotional irrelevances"—and in the superiority of this method for tackling technical problems.[5] During the First World War, he would begin to apply this methodology to non-technical problems. He came to believe that the "engineering method [can] with advantage be extended to cover forces of a more metaphysical and psychological character"; that is, that engineering principles could, and should, be applied to areas such as society, economics and politics (Douglas 1929). For Douglas, only the engineer's mindset could strip economic problems of sentimentality and focus on the objective core of the issue at hand.

Douglas' engineering career had also cultivated in him an admiration and appreciation of the possibility of technology. His technical knowledge, confirmed by the massive increase in production which occurred in Britain during the War, led him to believe that "there is no production problem in the world at all" (*The Ottawa Citizen*, April 25, 1925). Scarcity and industrial inefficiency did not result from technical incompetence, but from poor human decisions. On the efficiency

[4] Finlay states that Douglas' desire for personal secrecy has been honoured by his only child, a daughter, who will not release any documents pertaining to Douglas' private life. Finlay's book *Social Credit: The English origins* (1972) contains a well-researched biographical section on Douglas which highlights inaccuracies in other works.

[5] For Douglas' discussion of this method, see Douglas 1929, Douglas 1931, Douglas 1934.

and value of machines, he wrote in 1920 "there is absolutely no virtue in taking ten hours to produce by hand a necessary which a machine will produce in ten seconds **[sic]**" (Douglas 1920). He firmly believed in the ability of existing technology (be it hydro-electric power in India, railways in London, or the "tabulating machines" at Farnborough), coupled with efficient management, to improve material lifestyle and to fulfill human needs and wants (*The Ottawa Citizen*, April 25, 1925).

It was with this background—years of work guided by the engineering method and confidence in the potential of technology—that Douglas arrived at Farnborough in 1916. His experiences there would launch him from "an unknown engineer [to] a world figure," an author and agitator whose theories would be debated in economic and political circles as far away as New Zealand and Japan (Finlay 1972). At Farnborough, Douglas was tasked with systematizing costing and accounting books "in connection with a certain amount of muddle into which that institution had got" (*The Ottawa Citizen*, April 25, 1925). This undertaking led him to the realization that would guide his monetary theories: "wages and salaries did not represent at the week-end the value or price of those goods produced" (*The Ottawa Citizen*, April 25, 1925). Having never before given thought to economics, Douglas was troubled by his newfound conception of the flow of money, and was incited to examine the books of other factories. He concluded that the purchasing power paid to workers over a given period was never sufficient to buy back all the goods produced in that period (at the prices of that period).

With these insights, Douglas turned his energies from engineering to the development of economic reforms aimed at improving the situation of the consumer. The core problem, as Douglas saw it, was with the flow of money between productive industry and workers: under the existing arrangements, workers never had perfect purchasing power. This premise soon became the *A+B* theorem of Social Credit, which first appeared in Douglas' writings in 1920. If *A* represents all payments made to workers (including wages, salaries and dividends) and *B* represents the costs to producers over and above payments to their workers (such as overhead, rent, equipment and interest on loans), then the price charged by producers for their goods cannot be lower than *A+B*, but since the workers only have amount *A* available to them, they cannot possibly buy back all they have produced.[6]

Applying engineering methodology to this interpretation of monetary flow, Douglas broke down the operation of the existing economic and productive institutions to discover their basic parts, and deduced that the ultimate objective of the industrial system should be the "delivery of goods and services."[7] He then

[6] It is not the intention of this paper to provide a detailed explanation of Douglas' theories of credit and banking institutions, but rather to present a broad description of his system. The interested reader is directed to Douglas 1920 (1,2) for early treatments, and to Douglas 1929 for a later treatment.

[7] For Douglas' analyses of existing institutions, see Douglas 1920, Douglas 1929, Douglas 1934.

concluded that the optimization of this delivery was being impeded by an oligarchic financial system which aimed to maintain power and maximize profits by imposing scarcity on society.[8] Douglas believed that people were suffering not because of a lack of technical knowledge, but because of a calculated conspiracy by the financial system to control productive industry, sabotage technological potential, and suppress individual freedoms. The material foundations for a better life—a life devoid of poverty and rich in leisure and freedom—already existed, and this better life would be realized when society was liberated from the stranglehold of the financial system.

The emancipation of the individual was key to Douglas' social outlook, and his plans centered on maximizing the independence of the individual worker by freeing him from the control of the financial system. Any discussion of individual freedom in a context other than economics was, to Douglas, hypocritical: the freedom he envisioned could only be achieved through the elimination of scarcity and maximization of the economic capacity of the lower classes. Accordingly, Douglas had an intense dislike of all manifestations of concentrated power, including centralized government, large enterprise, and any control mechanisms which infringed on the ability of citizens to lead individualistic lives. In particular, Douglas opposed big business on the basis that it was harmful to small entrepreneurs and individual efforts. Douglas' single, focused aim was to develop a system of reforms which would retain the benefits of modern production while also securing a fair redistribution of wealth in order to increase the purchasing power (and, consequently, the freedom) of individual workers. To this end, Douglas proposed a two-fold platform of monetary reform. While the details of this platform changed over the years, the basic early proposal comprised a National Dividend and a price adjustment mechanism.

As a payment from the government to the population, the National Dividend was designed to provide a guaranteed income to all citizens regardless of their employment situation. Douglas saw this dividend as "the logical successor to the wage," and upheld it as an immutable right for all citizens (Douglas 1920). The National Dividend was key to ensuring the abolishment of scarcity: by re-distributing wealth to the lower classes in the form of direct handouts, no citizen would lack the financial means to purchase goods. The National Dividend would also lead to the decentralization of power, since the elimination of scarcity would render it difficult, if not impossible, for a select group (such as the existing financial elite) to regain control over society.

The second aspect of Douglas' monetary reforms—the price adjustment mechanism—underwent several transformations in his work. In essence, the price adjustment mechanism was intended to increase the purchasing power of consumers by lowering the existing prices of goods and services. Producers would continue to receive cost plus profit, but consumers would only pay the

[8] For Douglas' view of the financial system, see Douglas 1920.

"true price" for their purchases—with the difference to be calculated and supplied by a state treasury or credit office (Douglas 1929). One version of this adjustment envisioned consumers bringing receipts from their purchases to the bank, and being reimbursed by the bank for a set percentage of their expenditures (Douglas 1934). The bank would then, at fixed intervals, receive an equivalent compensatory payment from the state treasury. Another version saw retailers receiving reimbursements directly from the bank or from the treasury, and presenting goods to customers at lowered prices (Douglas 1929). In both cases, the cost of goods and services was subsidized by the state in order to enforce an equilibrium between the prices paid by consumers and the money available to consumers, thus establishing perfect purchasing power.[9]

Douglas believed that the consequences of his reforms would not be restricted to the economic sector, but would lead to a decentralized and egalitarian society (*cf*. pp. 13-14). These reforms would, he advocated, bring freedom and autonomy to the lower classes. No longer dependent on wages or hampered by imperfect purchasing power, the worker would be "under no necessity to suppress his individuality, with a result that his capacities are likely to take new forms of which we have so far little conception" (Douglas 1931).

Douglas retired from his engineering career at the end of the First World War in 1918 in order to devote himself to promoting his monetary theories in England and abroad. In the post-War years, he formed working groups in Britain for the study of his reform system and travelled the world to advance the Social Credit cause, delivering lectures in Canada (1923), Japan (1929), New Zealand (1934) and Norway (1935).[10] By his death in 1952, Douglas had travelled as widely for the Social Credit movement after the First World War as he had working as an engineer before the War.

The influence of Douglas' engineering mentality on the development of his socio-economic ideas was made clear in a speech he delivered to the Canadian Club of Ottawa in April 1925, in which he described his reforms as "an engineer's solution to the industrial problem" (*The Ottawa Citizen*, April 25, 1925). The problem of monetary flow, Douglas told his audience, needed to be viewed "along the lines [of] the movement of trains or the running of a factory" (*Ibid*). It was a problem only an engineer could solve, since engineers had the unique ability to understand industrial production, to analyze this production in a rational manner, and to banish emotional involvement. Douglas' engineering mindset also engendered in him the belief that every problem had one, and only one, optimal solution, and hence he promoted his monetary reforms as the only

[9] At first glance, the National Dividend and the price adjustment mechanism both seem to lead inescapably to rampant inflation. Indeed, inflation has traditionally been the most common ground for attack on Social Credit. However, it should be noted that Douglas did address this criticism, arguing that his system was designed so as to not create inflation (see Douglas 1929). While the question of inflation is not important for the purposes of this paper, the interested reader is directed to Finlay 1972 work for a critique of inflation in the Social Credit context.

[10] For Douglas' speech in Canada, see *The Ottawa Citizen*, April 25, 1925; for Japan, see Douglas 1929; for New Zealand, see Douglas 1934; for Norway, see Douglas 1935.

rational method of fostering a society with the values he saw to be missing from existing British society—that is, the economic and social freedom of the individual. Confronted with problems in the industrial and monetary sectors, Douglas consciously employed engineering methodology to define and characterize these problems, to strip them of emotional baggage, and to discover the single best solution. Douglas' engineering background, including his espousal of the inherent goodness of technology, greatly influenced his early socio-economic thinking and created in him a belief in the unique ability of the engineer to understand and resolve economic problems. In the next section it is argued that Douglas' interest in engineering ended with the application of its methodology, and that the engineering profession did not occupy a broader role in his reform philosophy.

Part II

At the same time as Douglas was developing his monetary reform system in Britain, engineers on the opposite side of the Atlantic were leading another reform movement: from 1915 to 1920, American engineers were immersed in an important phase of reform ideology, including Morris Cooke's (1872-1960) uprising against the American Society of Mechanical Engineers and utility companies, and the work of Henry Gantt (1861-1919), a former protégé of Frederick Taylor. This group of American engineers will, in the spirit of Layton (whose work informs the present analysis of this movement), be referred to as the *progressive engineers*.[11] The second part of this paper investigates Douglas in light of the progressive engineers during the nascent years of the two movements; that is, from 1915 to 1920.

Given that both movements were spearheaded by engineers who were dissatisfied with existing business and financial practices, that both brought engineering principles to bear on socio-economic and industrial problems, and that they were developed contemporaneously, the basis for comparison is clear. It will be argued that while there are surface parallels between the two movements, the reform solutions envisioned by Douglas and by the progressive engineers were fundamentally different, as were their ideological incentives, their perceptions of the engineers as a class, and their desire for personal gain.

Douglas and the progressive engineers certainly shared some basic ground. Firstly, both were frustrated by the control existing institutions (for Douglas, the financial system; for the progressive engineers, business management) wielded over productive industry and by the inefficient practices used to maintain that control.[12] For the progressive engineers, this frustration resulted from the domination of managers (who themselves had no engineering training) over

[11] Layton's foremost work on the subject is Layton 1986.

[12] For the rest of this section, the term *business* will be used to refer to the institutions which the two movements saw to have control over productive industry.

engineers in early twentieth century American corporate culture (Layton 1973, Layton 1986). Secondly, both Douglas and the progressive engineers believed that modern technology had the potential to support a better society, but that business was purposefully operating the productive sectors at a low efficiency in order to maximize profits (Layton 1973). A driving force behind the two reform movements was the belief—formed and shaped by practical engineering experience—that the rational use of existing technologies would lead to a more just and efficient society.

The third clear parallel between Douglas and the progressive engineers is their adoption of engineering methods as the vehicle for liberating productive industry and ameliorating society. Akin to Douglas, the progressive engineers believed that engineering methodology (with its natural advantages over other methods of reasoning) should be applied not only to technical problems, but to society as a whole (Akin 1977, Layton 1973, Layton 1986). Sure of the unique ability of engineers to think rationally and to take unbiased decisions, the progressive engineers displayed "a boundless confidence in the engineering method" to carry society "far into the promised land of economic efficiency and social justice" (Layton 1973). For Gantt, who accused business of operating on principles of self-interest and politicians of basing their decisions on vote-winning, the rational and objective qualities of engineers made them most suitable for leading society.

Despite these similarities, deeper differences between the two movements are visible. It is impossible to discuss the progressive engineers without referring to societal leadership by engineers but, as will be shown, Douglas' ideology had no place for the engineers as a class. More broadly, while the ideas of the progressive engineers were debated and cultivated in American engineering societies and through engineering journals, Douglas worked outside the British engineering community: his collaborators and confidants were British intellectuals and activists, including English reformer A.R. Orage. While the progressive engineers followed in a tradition of discontent dating back to 1895, when Herbert Spencer's Social Darwinism caught the attention of the American engineering profession, Douglas' work had no such historical antecedent. Douglas was motivated not by any long-standing discontent in the British engineering profession, but by his personal understanding of monetary flow, formed during his time at Farnborough. The two movements thus developed in different milieu, one fed by the desire of the American engineering community for change, and the other by British social reform philosophies.

Finlay's work on the history of Social Credit draws an important distinction between the reform solutions proposed by the two movements. Finlay states that Douglas' aversion to centralized power and regulation caused him to oppose the "*planned* approach to the routine of work at all levels" which was advocated by the American intellectual engineering reformists (Finlay 1972, emphasis original). The organization of the national economy through public service corporations, managed by engineers and with the aim of improving the

efficiency of industrial production, was fundamental to the progressive engineers' platform, but such planning conflicted with Douglas' desire for decentralization and increased individual autonomy (Layton 1973). This distinction also accounts for Douglas' opposition to socialism. The central planning advocated by socialists would, in Douglas' view, result in individuals having "no financial control whatsoever over the capital [they] had helped to produce," and would ultimately make workers cogs in the wheels of societal social institutions (Douglas 1920). In particular, Douglas did not find capitalism entirely abhorrent. He saw the existence of private property, the encouragement of invention, entrepreneurship and competition, and the private ownership of the means of production as integral to individual freedom. Douglas' reforms aimed to retain these advantageous aspects of capitalism, but to remove the one polluting element: the abuse of power by the financial system. While Finlay's observation about Douglas' view of state planning is entirely correct, it will be shown that a consideration of reform solutions is not sufficient for a full understanding of the differences between Douglas and the progressive engineers.

There are three further differences between the two movements, which will be discussed in turn: the importance of status, the engineers as a natural leadership class, and the reformers' relationship to the broader engineering community. Firstly, as described by Layton, the chief goal of the progressive engineers in the years between 1915 and 1920 was to raise the status of the engineering profession in the United States by "end[ing] the engineers' subordination" to business (Akin 1977, Layton 1973, Layton 1986). American engineers believed that they—as the birthmothers of technology—had a "right to a respected status," and that their existing position as employees was preventing them from realizing that right (Layton 1973). While the progressive engineers promoted a platform which included increasing the efficiency of productive industry and applying engineering principles to the betterment of society, the prestige of the engineering profession was essential to their vision. The progressive engineers were interested in public service not for its own sake, but because it was considered "key to the engineer's status" (Layton 1986) It is critical to recognize that the full implementation of the progressive engineers' reforms would necessarily have led to a rise in the prestige and standing of engineers in American society.

In contrast to the American engineers' "obsess[ion] with status" (*Ibid*), Douglas was interested not in improving his own position, but in restoring "personal initiative [and] independence of character" to the working classes (Douglas 1920). Nowhere in Douglas' writing does the desire to raise his personal status or improve the prestige of the British engineering profession appear: his reforms focused on the alleviation of scarcity and the elevation of the lower classes. Importantly, the implementation of Douglas' reforms would not have led

to any gains in wealth, influence or social standing for Douglas himself. Douglas was financially well-off under the existing British system and, as Finlay notes, "in [Douglas'] own estimation his scheme was not one designed to benefit him at all" (Finlay 1972). Indeed, in Finlay's assessment, had Social Credit become fully operational in Britain in Douglas' time, Douglas would have suffered a reduction in his personal position (*Ibid*).

Secondly, it is necessary to distinguish the American view of engineers as the "ideal progressive leadership class" from Douglas' belief in the superiority of the engineering mindset (Akin 1977). While the progressive engineers envisioned an important societal social leadership role for the American engineering profession, Douglas did not consider the fate of engineers as a group. Douglas' interest in the engineering profession was restricted to the application of engineering methodology to the characterization of a problem (the inadequacy of monetary flow) and to the determination of the single optimal solution to that problem.

Thirdly, unlike the progressive engineers, who were intimately involved with American engineering societies, Douglas (despite his membership in the British Institution of Mechanical Engineers and Institute of Electrical Engineers) was far removed from the British engineering community. While the ideas of the progressive engineers were debated and cultivated in American engineering societies and through engineering journals, Douglas' collaborators and confidants were British intellectuals and activists, including English reformer Alfred R. Orage. Indeed, neither Douglas nor Social Credit gain a mention in histories of British engineering or engineering societies. R. Angus Buchanan's work on the history of engineering in Britain confirms Douglas' distance from the British engineering context. Buchanan argues that late nineteenth and early twentieth century British engineers were "ideological conformists" who held conservative views of politics, religion and economics, and who practically never expressed radical social outlooks (Buchanan 1989). As the engineering equivalent of London's gentlemen's clubs, British engineering institutes (including the two which counted Douglas as a member) were not fertile ground for social criticism or political radicalism. Douglas is a figure entirely at odds with Buchanan's description of early twentieth century British engineers, indicating that Douglas' emergence as a social critic and economic reformer was rare within British engineering at the time, and clarifying why Douglas did not develop his work with other engineers or within engineering institutes. Finally, it should be noted that while the progressive engineers followed in a tradition of discontent in the American engineering profession dating from the rise of Social Darwinism in the late nineteenth century, Douglas' work had no comparable historical antecedent. Douglas was motivated not by any long-standing discontent in the British engineering profession, but by his personal understanding of monetary flow, formed during his time at Farnborough.

In pursuing these questions, it is necessary to ask to what extent Douglas (working in England) was aware of the writings and work of the American

progressive engineers. Douglas had certainly read the works of Gantt and Walter Polakov by 1922, and noted them in his book *The Control and Distribution of Production* (Douglas 1922).[13] Gantt's work is also referenced in Douglas' *Credit-Power and Democracy*, which includes a short section entitled "H.L. Gantt on Industrial Efficiency" (Douglas 1920). In these cases, Douglas used Gantt's statistical and quantitative data (such as the statement that, in 1919, American industry was operating at only five percent efficiency) to support his own arguments. He did not comment on the reforms proposed by the progressive engineers, indicating that while he was willing to use the American engineers' data, he had no time for their broader plans.

Douglas was also familiar with the work of American political economist Thorstein Veblen (1857-1929), whose views of industry and productivity were greatly influenced by the progressive engineers. Douglas read Veblen's *The Engineers and the Price System* soon after it was published in 1921, and appreciated Veblen's criticisms of existing institutions (and especially of big business) for placing pecuniary gain before industrial efficiency (Douglas 1922, Douglas 1924). However, Douglas scorned Veblen's understanding of the financial system, writing that Veblen "does not appear to have grasped its full implication" (Douglas 1924). Douglas was more sympathetic to Veblen's treatment of industrial sabotage, which he recommended to readers of his book *The Control and Distribution of Production* (Douglas 1922). Akin to Veblen's belief that businessmen sabotaged industrial output to keep prices "at a reasonably profitable level" (Veblen 1921), Douglas wrote that "the present pre-occupation of the financial system is to hide the enormous capacity for output which modern methods have placed at our disposal" (Douglas 1922).

However, Veblen's proposed reforms (like those of his influencers the progressive engineers) were at odds with Douglas' ideology. Veblen called for engineers to revolt, take control of industry, and institute a machine-like planning system free of waste and excess (Veblen 1921). For Veblen, engineers—unlike businessmen—would aspire to improve the productive system and to maximize industrial efficiency, and were hence the ideal leaders for society. These views were inconsistent with Douglas' abhorrence of national planning and centralized power, and with his lack of interest in the engineers as a group. Douglas certainly had some admiration for Veblen's work, but this was limited to the identification of problems with existing institutions, and did not extend to the proper solutions to those problems.

[13] Polakov (b. 1879) was a mechanical engineer before emigrating to the United States in the aftermath of the 1905 Revolution. In America, he espoused Gantt's philosophies and became active in American intellectual engineering movements. From 1929 to 1931, Polakov returned to the Soviet Union under contract by the Supreme Council of the National Economy to introduce scientific management and Western managerial techniques into Stalin's first Five-Year Plan. (Wren 1980.)

It has been shown that while the philosophies of Douglas and of the progressive engineers had some basic parallels, they differed fundamentally in terms of underlying incentives, community and historical context, and desire for personal gain. Whereas the progressive engineers were acting on a nascent class consciousness which impelled them to improve their status, Douglas was concerned neither with the fate of engineers as a class nor with his own position. Distinguishing Douglas from the American engineering reformists only in terms of attitudes towards national planning fails to discern the essential differences of their beliefs and platforms. The arguments expounded in the second part of this paper extend Finlay's observation and show that Douglas' ideological basis was incompatible with that of the progressive engineers.

In his study of the Social Credit political agenda, Crawford Macpherson argues that Douglas' work forms part of the "long procession of utopian systems whose authors have denounced… the evils of business civilization" (1949). Macpherson identifies Douglas as an intellectual descendent of the utopian socialists, and sees Douglas' reform ideology as a "revival" of Pierre-Joseph Proudhon's ideas.[14] The utopian tradition provides a useful mechanism for understanding Douglas and, for the purposes of this paper, it is instructive to consider Douglas' thinking in the context of a human utopian framework.

Douglas' emphasis on the emancipation of the individual, the elimination of poverty, and the inalienable right of all citizens to receive the National Dividend presents a social agenda centered on a classless and egalitarian philosophy. While Douglas' proposed reforms (that is, the National Dividend and the price adjustment mechanism) were economic in nature, the results of these reforms would not (in his view) be restricted to the financial arena. Rather, he believed his platform would lead to vast improvements in all areas of society. Once the existing economic binds were cut, all citizens would gain perfect purchasing power, and poverty and suffering would end. The lower classes would rise and the existing financial and industrial authorities would fall, leading to economic equality and individual freedom. Other undesirable aspects of existing society, such as the "prostitution of the Press and of similar organs of publicity," would also disappear (Douglas 1920). This broad conception of societal improvement which pervades Douglas' vision allows his work to reasonably be considered in utopian terms, and not simply as a set of economic statements.

Douglas' desires to build a society free of scarcity and hardship by re-organizing economic norms, and to remedy the British social system by improving the state of the lower classes, place his thinking well inside the "human utopian" pattern identified by Lyman Tower Sargent (2000) and Roland Schaer (2000). In this pattern, humans are seen to be capable of building an ideal society, on earth and within a reasonable timeframe, through the re-organization of existing institutions and the introduction of measures to preserve

[14] It should be noted that Macpherson states that it is difficult to determine to what extent Douglas read the works of Saint-Simon, Fourier and Proudhon (1949).

the reformed society. The pattern described by Sargent and Schaer also includes the belief that social problems are neither inherent in human nature nor imposed by God, but are the result of poor political and economic organization.

Douglas' thinking clearly contained a belief in the possibility of creating and maintaining a better life through institutional restructuring. In particular, Douglas realized the necessity of preventing the re-emergence of an oppressive financial authority. He addressed this need through the National Dividend, which was designed to counteract the concentration of power. Further, whereas the progressive engineers subscribed to the American ideology of the "self-made man" and the belief that those who worked the hardest should gain the most (that is, that the engineers could, and should, build themselves into an elite leading class), Douglas saw the poverty of the lower classes not as a self-inflicted state, but as the unfortunate result of existing economic organization. As such, Douglas believed that poverty and unemployment were solvable through prescribed monetary reforms, and that all citizens (regardless of effort and moral attitude) deserved to benefit from those reforms. For Douglas, "power over food, clothes, and housing [was] ultimately power over life," and an ideal society—one free of hardship and rich in individual freedom—was achievable through the decentralization of the financial system and the re-distribution of wealth (Douglas 1920). The characterization of Douglas' ideas within a human utopian framework accentuates his desire for economic parity, and emphasizes the separation between Douglas' and the progressive engineers' views of class structure.

The set of reforms proposed by Douglas in the final years of the First World War—the system which would grow in the following decades into the Social Credit political philosophy—was an engineer's view of the economic re-organization necessary for the betterment of the lower classes, the alleviation of scarcity, and the loosening of the noose which the existing financial system held around the neck of productive industry. Developed contemporaneously with, but ideologically independent from, the American intellectual engineering reform movements, Douglas' proposal represents a technical response to the ills of World War I British society. Douglas' work between 1916 and 1920, as analyzed in this paper through his speeches and books, provides insight into the application of engineering principles and reasoning techniques to socio-economic problems.

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