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Perceptions of Taylorism and a Marxist scientific manager

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Perceptions of Taylorism and a Marxist scientific manager

Abstract

Purpose - This paper aims to provide evidence of pro-worker orientation and acceptance of socialist idealism in scientific management, with particular focus on Walter Polakov. **Design/methodology/ approach** - A range of original texts have been examined to identify the ideas expressed or accepted by the early scientific managers. These include Bulletin of the Taylor Society and the early publications of the socialist engineer and scientific manager Walter Polakov. **Findings** - This paper shows how an avowed socialist is outspoken but unremarkable for the members of the Taylor Society in the 1910s and 1920s, contrary to the views expressed in textbooks and other histories which assert a deep antiworker bias in scientific management. **Research limitations/implications** - This is limited to a historical analysis of the role and extent of involvement of the Marxist engineer Walter Polakov in the US scientific management movement in the 1910s and 1920s. **Originality/value** - This paper offers insights into the workings of the Taylor Society using a biographical approach. In so doing, it demonstrates, in a new way, the verity of claims that the original proponents of scientific management were not authoritarian or anti-worker in their views or ideals, but, rather, open to progressive and socialist ideals.

Keywords

marxist, scientific, manager, taylorism, perceptions

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Perceptions of Taylorism and a Marxist scientific manager

INTRODUCTION

Over the last quarter century or more, a strong evidence-based assault has been made on the negative portrayals of Taylorism or scientific management by scholars. Nevertheless, many modern writers and scholars continue to assume many of the old assumptions of an antiworker, control-oriented scientific management. Even within the scholarly discipline of management history, there are varied and competing perspectives about what Taylorism is and was, as is evident from articles in the *Journal of Management History*. Yet, far from being a haven for exploitative, managerialist activists, there is evidence that the Taylor Society, those who formed the foundation organisation of early scientific managers, were rather more plural in their perspectives, and, concomitantly, thoughtful and questioning of their discipline and craft. Many of those early Taylorists who knew or had worked with, Frederick Winslow Taylor, were engineers and academics who eschewed pro-business ideologies for a commitment, not only to the philosophies of Taylorism and to improving total factor productivity, but also to the rights and needs of employees. Indeed, the Taylor Society in the 1910s and 1920s appears to have been a haven for idealists and pro-employee practitioners. (van Kleeck, 1936, pp.287-311; Trombley, 1954, pp.6-14; Nyland, 1998; Schachter, 1989) Frederick Winslow Taylor's close long term associates participated in the Taylor Society, many well into the 1920s, including Carl Barth, Morris Llewellyn Cooke, and Henry Laurence Gantt (Manning, 1943; Trombley, 1954; Alford, 1934, Copley, 1969). For these early twentieth century Taylorists, it was unremarkable that one of their fellow scientific managers, Walter Polakov, was a staunch Marxist. It is thus worth exploring the extent to which the Taylor Society recognised and accepted Polakov, and the extent to which he adhered to his Marxism while being committed to the principles of Taylorism. These findings will throw further light on the nature of Taylorism in the early decades of the twentieth century.

The paper begins with a brief overview of perceptions of Taylorism as depicted in some famous works and in management textbooks, followed by an overview of interpretations of Taylorism within this *Journal* in the last decade. It then considers the attributes and perspectives of the early Taylorists, those consulting engineers and managers who knew or in some cases had worked with Taylor, and respected the ideas behind Taylor's philosophy. It will then explore the ideas, writings and life of Walter Polakov, Marxist Taylorist, and his twin commitments to scientific management and Marxism. In so doing, the paper seeks to demonstrate that the scientific management of Walter Polakov is to be acknowledged as an accepted normal part of Taylorism, at least before the 1940s. If that were the case, then ideas that early Taylorism was anti-worker and management control-oriented would also need reconsideration. Finally the paper begins to consider the implications of the ease with which Polakov aligned his Taylorism and his Marxism.

SCIENTIFIC MANAGEMENT: Definition and Context¹

Many textbooks and scholarly research publications in management and sociology assume that scientific management or Taylorism was deeply flawed, or indeed the quintessential fount of anti-workerism. In such publications, Taylorism is portrayed as simply being, or depending on, forms of job fragmentation and time and motion study. In turn such techniques are shown to enable employers and their management to increase their control over work and workers, especially through deskilling and degrading work.² It is through such 'black-box' reductionism that the assumptions of anti-worker motivation and managerial exploitation are upheld.

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The origins of these assumptions go back to the earliest days of scientific management, especially in the early twentieth century as will be shown below. By scientific management or Taylorism, we mean the philosophy and practice which was initially devised and promulgated by Frederick Winslow Taylor in the late nineteenth and early twentieth century. In cognisance of their respect for their founder and as a means of promoting their craft, Taylor's disciples established a Society to Promote the Science of Management, as one means of broadening understanding of the movement of scientific management. The Society was renamed the Taylor Society after the founder's death in 1915.

The tenets of scientific management included:

- the notion of planning rather than markets or 'rule of thumb',
- of making production and management decisions based on empirical observation and measurement rather than tradition or whimsy or bargaining power, and
- the belief that management was a reflective, evidence-based profession.

In the late nineteenth and early twentieth century, these were radical ideas, and it was not surprising that the labour movement in the USA felt threatened by the philosophy and canons of scientific management. (Goldstein, 1977; Lasch, 1966). Moreover, this was also an era of broad public disquiet and considerable industrial unrest. As Goldstein (1978) has asserted scholars sometimes paint the early decades of the twentieth century as one of optimism and hopefulness but it is "impossible to understand the repeated episodes of panic and terror which swept the middle and upper classes during the period unless it is realised underneath the surface optimismthe same old fears were churning away (Goldstein, 1978, p.64). Paradoxes abounded. As many unions and the peak body, the American Federation of Labor, (AFL), sought to find a legitimate space in the American polity, radical organisations such as the International Workers of the World (IWW) sought rather more fundamental change in the United States. Emergent business unionism was in the same picture as violent employer repression and militant labour tactics (Roediger, 2004; Goldstein, 1977; Sexton, 1991)). The fear of such 'radicalism' then led to bouts of government and employer repression which in turn meant leading unionists mistrusted employer initiatives, especially such seemingly unusual initiatives as scientific management. As a Taylorist critic has noted of the impact of Frederick Winslow Taylor's scientific management, legions of opponents in the labor movement responded in kind, depicting him as a destroyer of souls, a dark satanic stain on modern life. Taylor's methods, wrote labor leader Samuel Gompers, were designed to "get the most out of you before you are sent to the junk pile." (Gompers, 1911 cited in Kanigel, 2007; see also Kanigel, 2005) Samuel Gompers was President of the AFL from the 1880s until his death in 1924 and such quotes reflect the early dismay of unions, which at least initially, found employer initiatives such as scientific management, daunting, although they later altered their views significantly.³ Moreover, in the climate of unrest with doubts being broadly expressed about the worth of

scientific management, it is perhaps not surprising a U.S. Commission on Industrial Relations was appointed to explore the bases for that unrest in 1912. Shortly after that, Wisconsin economics professor, John Commons, was appointed to the Commission as well. An ardent detractor of scientific management, Commons then directed a special investigation into "scientific management in its relations to labour" to be overseen by Robert Franklin Hoxie and others in 1914-15. As has

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been shown elsewhere (Nyland 1996), the investigation was fraught from the start, and curiously unscientific. For example, it contained research questions such as

“... Does scientific management force individuals to become "rushers" and "speeders"?... Does scientific management tend to deprive the worker of all opportunity for rest, recreation and sociability during the time of work? ... Is scientific management, so far as the workers are concerned, a speeding-up system; does it, by its methods, stimulate and drive the workers up to and beyond the point of nervous and physical endurance and exhaustion? ... Are time and motion study, as employed by scientific management, evidence of unjust suspicion of the honesty and fairness of the workers? ... Are time and motion study, as employed by scientific management, a direct attack upon the honesty, fairness and dignity of the workers?” (Hoxie, 1915 p.188.) Given the direction and bias of such questioning, it is perhaps not surprising that Hoxie’s final report presented negative findings about scientific management. Moreover, despite significant evidence of the considerable weaknesses in Hoxie’s report (see Nyland, 1996; Mixer, 1916), it has remained one of the foundations for those promoting a negative image of scientific management. The later major foundation source for the modern negative portrayals of scientific management was the landmark 1974 publication, *Labor and Monopoly Capital* by Harry Braverman, a widely admired socialist and editor of the *Monthly Review Press*. While Braverman (1974,) sought to expose the lengths to which capitalism would go to diminish, demean and cheapen workers, a major engine for his critique was scientific management. It was “an answer to the specific problem of how best to control alienated labour ... where Taylor raised the concept of control to an entirely new plane (Braverman, 1974, p.90). “It was to ensure thatthe worker would sink to the level of general undifferentiated labour power adaptable to a large range of simple tasks [while power] would be concentrated in the hands of management” (Braverman, 1974, p.121).

It was these three sources - the early union response, the Hoxie report and Braverman’s *Labor and Monopoly Capital* – that appear to have provided the primary bases for the continuing negative perceptions and portrayals of scientific management which have been used to designate the movement as a firmly anti-worker project. For example Lawrence offered a paper in 2010 in which he asserted that [on] our theme of Taylorism. There can be no question that Taylor recommended designing jobs to be (1) as simple as possible (Think of low Variety and Learning Time.), (2) as “no talking” assignments (Talking was wasteful of time and energy. Think of no Interactions.), (3) as “no discretion” assignments (Think of no Autonomy or Responsibility. (Lawrence 2010 p. 4. 19)

Lawrence’s paper draws on his very long experience as a management academic and trainer, but his interpretation of Taylorism began from that clear negative stance. Smith goes further in Holland and De Cieri (2006) Taylor’s concern was that in large enterprises that developed under nineteenth century capitalism in the US, managers were beginning to lose control of the production process on the shopfloor Scientific management comprises a group of simple techniques that place control of the production process firmly in the hands of managers and enabled them to extract the maximum effort from employees in return for higher wage levels. (Smith 2006, p. 134) That is, Smith perceives scientific management / Taylorism as being the outcome of a purposive play for increased workplace control and work intensification all based on the assumption that economic drivers were the primary motivation for workers. These are contentious assumptions. Brewster et al. (2011 pp. 116-7) are also explicit. They provide a figure of eight boxes with a short description in each box of the apparent attributes of Taylorism. The list emphasises the separation of ‘think work from ‘front line employees charged with the execution of management orders’, and the ‘control over non-managerial employees who are tied to simple scripted and repetitive tasks’. Indeed, conclude

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Brewster et al., Fordism is simply Taylorism plus a moving assembly line. (Brewster et al., p. 117; see also Kanigel, pp. 495ff).

These are not isolated accounts from scholarly material or textbooks, merely examples of the commonly expressed repetition of a hegemonic notion around which was built the story that Taylorism was managerialist and exploitative. Payne et al (2006) in this journal offered similar findings after identifying ninety-three management and industrial psychology texts and finding references to scientific management in twenty-eight of them. They also showed how the description and discussion of Taylor and scientific management were biased –in some cases exaggerated - and more often, omitting major elements of scientific management. (Payne et al 2006 see also Simha and Lemak, 2010). It is perhaps not surprising in the face of such widespread inaccuracy in textbooks that scholars continued to assume the negative projections from their first textbooks.

In other articles within this publication, considerable controversy about scientific management remains. A word search on the JMH website for terms like “scientific management” and “Taylorism” in the last decade between 2006 and 2015, revealed forty to fifty items. When explored more deeply it was apparent that about 22 articles sought to evaluate Taylorism or draw on their interpretation of Taylorism and its place in the history of management ideas to some extent. Nearly half of these acknowledged the complexity of the concepts and attributes of early scientific management / Taylorism (see e.g. Bruce, 2015). However, while the approach of JMH scholars was not as simplistic as the textbooks, there is still evidence that many scholars prefer to retain a narrow perception of Taylor as elitist and anti-worker. As Schachter (2010) has noted, “What’s of interest in the contemporary debate is that Taylor still incites contention so many years after his death...”. Even more recently Debicki (2015) commented that “Taylor’s methods ... are usually depicted as authoritarian, inconsiderate of the human factor...”. In the same vein, Wagner-Tsukamoto (2008) develops an argument about the humanism of scientific management, in contrast with his recognition of the “longstanding accusations of a negative image of human nature... [with] the key accusation that Taylor fell for a mechanistic, too inhumane image of human nature.”. These scholars reflect on the possible misinterpretations of Taylorism and seek to use their research to offer more complex insights. (see also Weisbord, 2011; Morgan, 2006) Others however, point to the likely capacity of scientific management to be poorly implied by charlatans, as F W Taylor had often bewailed, or for assuming all shopfloor workers were motivated primarily by monetary rewards (Parker and Ritson, 2011; Hartley, 2006; Buckley et al., 2015), or as a means of eroding worker control and degrading work “by fragmenting skilled jobs and separating the conception and execution of tasks” (Colley 2011). In other cases, scholars seek to differentiate Frederick Winslow Taylor from the members of the Taylor Society after Taylor’s death and into the 1920s and 1930s, or to present scientific management as evolving away from its foundation principles (Wren et al., 2015; Hoffman 2007; Kanigel, 2005, pp. 488, 554ff). Yet any exploration of the Bulletin of the Taylor Society reveals that those who had been closest to Taylor in the first years of the twentieth century remained publicly committed to Taylor and his ideas in the decades that followed, except for Henry Laurence Gantt who had worked closely with Taylor since the 1890s, but who died in 1919, and of whom more anon. Perhaps the final word should go to Payne et al. (2006) who found there was a high degree of over-simplification and resultant inaccuracy in discussions of scientific management. “Our analyses revealed historical accounts about Taylor vary considerably and the positive and negative spin taken by textbook authors is particularly noteworthy professors and students are cautioned about taking textbook

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information about Taylor and other historical figures at face value."

Neither is such negativity confined to management scholars either. In his *A People's History of the United States*, historian Howard Zinn (2003) asserted his agreement with Harry Braverman that, ... the purpose of Taylorism was to make workers interchangeable, able to do the simple tasks that the new division of labour required – like standard parts divested of individuality and humanity, bought and sold For Zinn, just as for others, Taylor and his philosophy were the anti-heroes in the management of work in the USA.

BEHIND THE NEGATIVE PERCEPTIONS

Yet, such assumptions or ideologies were scarcely the case with the Taylor Society members of the 1910s and 1920s. Rather, the negative unquestioning approaches to the philosophies of scientific management noted above, have been re-evaluated in recent decades as Taylorism has been revisited by numerous scholars who have investigated scientific management unencumbered by these kinds of value laden a priori assumptions. (see e.g. Schachter, 1989; Nelson, 1992; Nyland, 1989, 1996; 1998; Nyland and Bruce, 2012; Bruce, 2015;) Drawing most notably on the original material of the scientific managers in the Taylor Society,⁴ these later scholars have shown that the Taylorists can be marked off from what they called the 'stunt peddlers', those who invoked scientific management without any commitment to the Taylorist philosophy. Moreover, close analysis of Taylor Society records, including the *Bulletin of the Taylor Society (BTS)* and the writings of Taylorists such as Morris Cooke, and Harlow Person, highlights just pluralistic was the Taylor Society of the 1910s and 1920s, and how very different those committed Taylorists were from the kinds of capitalists particularly favoured by the movement's detractors and the textbook writers in business, history, and social sciences.

It is undoubtedly true there were charlatans and pretenders to the field of scientific management, those who designated themselves 'scientific managers', but then invoked only a few 'shortcuts', such as time and motion study, rather than the whole philosophy, those for whom the philosophy could be distorted and twisted into the shape of a stopwatch and crude authoritarianism. Such pretenders outraged the Taylor Society members. The usually controlled Harlow Person, founding president and later managing director of the Taylor Society, for example, expressed the general view when he argued that: Just as there were fake physicians and shyster lawyers when medicine and law were young professions, so we have at present, fake organizing engineers. They do as much damage in the plants by which they are engaged as the fake physician did to the health of the patient. (Person, 1916, p. 21; See also Person, 1917).

Yet while Person was definite in his contempt for the pretenders, he also knew that the definitions of scientific management held by the Taylor Society members were not absolute, but rather plural and nuanced, even among the purist Taylorists. Not surprisingly, the members of the Taylor Society were products of their time, when ideas of progress prevailed over static norms. Thus while their normative assumptions did indeed cover a variety of perspectives, the scientific managers of the Taylor Society tended to be activist or progressives in an era dominated by widespread commitment to a passion for social progress ... [and the need to] make politics more democratic, business more responsible and society more moral and more just. (Hofstadter et al., 1959; see also Pastorello, 2014).

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These ideas came under the banner of Progressivism, generally described as a "pervasive but diffuse political movement" which had developed in the face of massive inequalities in the United States in the late nineteenth and early twentieth century. The Progressives did not seek to change the economy or society, but rather to question who had undue power and on what grounds. They targeted corrupt big business and the politico-economic system which worked for the rich and against the poor. To remedy this, Schachter (1989), one of the revisionist scholars, has argued that the Progressives typically promoted "planned progress towards a better system".

Just what these ideals meant in practice, and how to achieve them was a source of major debate in the first quarter of twentieth century America, and as noted above, these were years of significant unrest and paradoxes. That swirl of debate and questioning was played out in microcosm in organisations such as the Taylor Society where there was as much intellectual ferment over Progressive ideals as in the wider society (Schachter, 1989, p. 51ff ; see also Pastorello, pp. 96-98; Goldstein, 1977; Lasch, 1966; Rogers, 2015; Rorty, 1928; Nugent, 2010).

Despite the shared commitment to scientific management as an holistic system within the Taylor Society, there was nevertheless a considerable array of perspectives. Where views differed among the scientific managers, these were on the level of emphasis as to which tools of measurement were most effective and how scientific management could be implemented beyond the workplace and organisation to enhance economy and society. Taylorists' views on trade unions for example ranged from a belief that the development of an effective national trade union movement was essential, to the view that shop committees were a more potent means of ensuring fairness and efficiency for workers at the workplace (Bulletin of the Taylor Society (BTS) 1916-1919; See also Taylor, 1914).

There was also debate among the Taylor Society members on how far Frederick Taylor's principles were inviolate. This was a particularly contentious area, because it brought the Society's commitment to critical analysis and progress into conflict with members' beliefs that what distinguished the 'real' Taylorists from the 'short-cut' antiworker opportunists was unequivocal support of the principles of Frederick Taylor (BTS, 1916-1919; Cooke, Gompers and Millar, 1920 and Discussions following; Valentine, 1916 and Discussions following Drury, 1917; Schachter, 1989; Taylor, 1914). Moreover, any examination of the Bulletin of the Taylor Society, the professional record of those who had been closest to Frederick Winslow Taylor, shows that the early Taylorists were genuine in their concerns for making work reasonable, feasible and better for workers. Far from being focussed on stopwatches and managerialist approaches to individual workers or groups many promoted the potential of Taylorism for wider application well beyond the workplace to organisations, industries and national economies. In essence, the Taylorists' views were characterised by the assumptions that management by whim or personal power was vastly inferior to evidence-based management and objective criteria promoted by those early Taylorists from the 1910s to the 1940s.(Nyland, 1995, 1998) One of the clearest examples of the capacity of the 1910s and 1920s scientific management to contain pro-worker ideologues from both Progressive and left-wing ideologies is to be found in the accepted place accorded by Taylorists to Walter Polakov. Polakov was a member of the Taylor Society from 1915, and remained committed to scientific management all his life, not only when he was a consulting engineer, but also as an expert advisor in Russia, a public servant in New Deal organisations and a senior trade union official with the United Mineworkers of America (UMWA) (Kelly, 2016).

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WALTER POLAKOV: TAYLORIST

Walter Nicholas Polakov, a Russian immigrant to the USA, was educated around the turn of the twentieth century in Dresden, at the same time as Rosa Luxemburg was editing the SPD journal *Sachsische Arbeiterzeitung* amidst the Revisionist controversy (Nettl, 1969; Ettinger, 1987). Polakov's personal papers are untraceable, but given that he often quoted Luxemburg and like-minded fellow revolutionist, August Bebel, it seems possible that Polakov was aware of Luxemburg when he was an engineering student in Dresden. After graduation, Polakov returned to Russia and possibly undertook some postgraduate study in industrial hygiene in Moscow. He was working at Tula Locomotive Works around the time of the 1905 Revolution. He arrived in the USA in December 1906 with his wife, Anna and set about learning English, a language over which he had considerable command within five years.

Even by 1908 or 1909 he had published his first engineering article and was employed as an engineer by Harrington Emerson, a well-known efficiency engineer with whom Polakov maintained close contact until Emerson's unexpected death in 1931. (Polakov, 1909; Emerson to Polakov, 20 January, 1931) By 1911, Polakov was able to publish a significant series of articles on power plant management in a major engineering journal. These reveal considerable facility with written English as well as a deep commitment to scientific management.

At the same time, Polakov obtained work as an engineer with the American Locomotive Company, where he met Henry Laurence Gantt, whose devoted follower he remained for the rest of his life. (Alford, 1934; Elsner, 1967; Polakov, 1921, 1931, 1933; Wren, 1976a, 1976b; Kodish, 2011, pp.148-52 ff)

Evidence that Polakov was a scientific manager is apparent in three ways. First, he achieved full membership of the Taylor Society from October 1915, joining in the same month as later luminaries in the Society, John Otterson and Keppeler Hall. (Bulletin of Society to Promote the Science of Management, 1915, p. 1) To gain membership of the Taylor Society was a demanding process, requiring evidence of both university qualifications and technical experience. A successful applicant to the Taylor Society had to be at least 30 years old and to demonstrate involvement in, and commitment to, scientific management. Polakov's engineering degree from Dresden and his postgraduate study and engineering work prior to immigrating to the USA, together with his work with Harrington Emerson and Henry Laurence Gantt, and as a private consulting engineer, provided fitting and accepted qualifications for membership.

As a respected management consultant and engineer (Wren, 1976a, 1976b), Polakov worked on increasing power plant efficiency at a time when there was a proliferation of small power stations for manufacturing plants, as well as the many privately owned power stations for domestic and commercial consumption (Polakov, 1917, 1922). His commitment to science in industry included technological improvements, so that in years to come Polakov would be seen by some as "an internationally known electrical engineer who had pioneered the development of remote control instrument boards" (Elsner, 1967 p. 60). In this respect it was fortunate for Polakov that the years when he started out as a scientific management consulting engineer coincided with the emergence and burgeoning growth of management consulting (McKenna 2006, pp.26-59).

Secondly, Polakov was an active participant in the Taylor Society especially until the early 1920s, and again in the 1930s, when the Society had merged with the Industrial Management Society. While

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membership records of Taylor Society are quite incomplete, there is a gap of about ten or so years from the early nineteen-twenties, during which Polakov was neither reported in debates and nor cited as having presented any papers to the Society. He is certainly not in the list of members in 1929.

This gap of ten years ties in with an apparent break between Polakov and some of the executive members of the Society around 1923 which appeared to centre round around Polakov's belief that Henry L Gantt was superior to Frederick Taylor. (H Person to M.L Cooke, Cooke correspondence, 1931) While Polakov always paid homage to Taylor, his tribute was always muted or qualified by comparison with his views on Gantt. (See e.g. Polakov, 1922, p.164; see also Bruce, 2015; Alford, 1934, pp.126-35). Polakov was also personally devoted to Gantt. Polakov first came to Gantt's attention when the former joined Gantt's consulting firm in 1910, although he left two years later to join the consulting firm of Charles Day who was later to become Vice- President of the Taylor Society. Remaining firm friends with Gantt and Day, Polakov formed his own consulting business in 1915, and later claimed that by 1918 he could earn \$12000, annually more than five times average earnings in New York. Late in World War I, like many of the Taylor Society members, and at the behest of Morris L Cooke and Henry L Gantt., Polakov worked briefly for the Emergency Fleet Corporation. (Polakov, Personnel Records, NPRC 1918) Gantt had been an active mentor of young consultants and engineers. The biographer, Alford (1934), cites one of those who gave a eulogy at Gantt's funeral, and who remembered that "To work with Gantt was a great deal more than working for him, and in this relation he placed a confidence in his men which called for the best that could be given"(W. E. Pulis, cited in Alford, 1934, p. 242; see also pp.156-7). That Gantt and Polakov were also joint signatories in the breakaway group in American Society of Mechanical Engineers (ASME) which called itself The New Machine, as well as working together on US Navy projects attests to a close working relationship until the Gantt's death in 1919 (Alford, 1934, pp. 251-99; Wren, 1976a). It is evident that the ASME was awash with political ideas in the middle of the 1910s, (Trombley, 1954, pp.62-9) and the New Machine was only one of the groups seemingly seeking political roles for engineers. What the New Machine was seeking from their first meeting in December 1916 was to ...put our technical knowledge and experience behind the proposition that the business system ... is ineffectual simply because it fails to stimulate the creative forces. We have enough technology but not enough liberty (Alford, 1934, p.269)

The New Machine also reveals the extent to which scientific management and socialist ideals shared similar wellsprings. It sought to build new society and new economy for the public good. In February, 1917, Gantt and others including Walter Polakov, wrote to the President of the United States offering their skills and services to help the US on the brink of war. In their letter they asserted We think that people who earn their incomes ought to concert their political forces to free the shoulders of enterprise from the yoke of incomes that are unearned. [If we don't, the USA].... will run the risk of utterly missing its destiny if we do not find a way to take control of the huge and delicate apparatus of industry out of the hands of idlers and wastrels and to deliver it over to those who understood its operation. (New Machine to President Wilson, February 17, 1917 cited in Alford,1934, p.273)

While the New Machine withered away in a few months it was an important marker of the ways in which scientific management affirmed democratization in industry – at work and well beyond. Thus Polakov's commitment to, and conception of, scientific management was similar to many other members of the Taylor Society. It is notable too, that while writing of the need for production for the

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common good and democracy in industry, Polakov was to say that in later life that the 1920s were his most successful years— his scientific management consulting business continued to thrive and he was able to give guest lectures at universities and a number of conferences. (Polakov, n.d (1925; Polakov, FBI Interview March 1947) Polakov's writings contained the same emphases on evidence-based management as was to be found in all the early Taylorists, who always insisted on thorough investigation, measurable outcomes, and efficiency in effort and resources at plant level and beyond. Polakov also expressed the same horror of what he called the 'stunt peddlers', as other scientific managers such as Harlow Person, and the same commitment to scientific management as an holistic practice.

What we mean here [by scientific management] ... is of course not an agglomeration of short cuts, stunts and universal remedies for this and that industrial ills and waste, but an organically whole philosophy of industrial cooperation carried out for a common good. (Polakov 1922, p. 42)

The third basis for identifying Polakov as having the same commitments to scientific management as those Progressive Taylorists noted above, is found in the fact that Polakov was an earnest practising scientific manager who also wrote extensively on scientific management, in general and also specifically on power production. He had begun publishing prolifically on scientific management from five years after immigrating to the USA, an impressive feat for someone who had probably arrived with little or no English. His commitment was clearly apparent in his books *Mastering Power Production: The industrial, economic and social problems involved and their solution* (1922) and *Man and His Affairs from an Engineering Point of View* (1925) and articles such as his widely discussed "Making Work Fascinating" and "An industrial Rip Van Winkle" also in the mid-1920s (Polakov 1925, 1928). The publications were significant treatises and offered a practitioner's interpretation of scientific management philosophies. That Polakov was held in esteem is evident in the addresses to universities and public organisations he gave frequently and which were reported in major newspapers.

In his published writings, as well his many magazine and journal publications on aspects of fuel conservation and technocracy, Polakov's arguments were embedded in his beliefs in both Marxism and scientific management. His paper before the Taylor Society "Planning Power Plant Work" is unreconstructed workplace Taylorism. It uses twenty-seven charts and figures to describe production and work redesign in meticulous detail (Polakov, 1917). While many of his later writings, frequently took a broader societal focus, Polakov's central interests remained in the areas of industrial management based on scientific management principles. Although his ideological beliefs meant that Polakov always held techno-economic determinist view of society, the experience of the effectiveness of scientific management during the war, heightened Polakov's awareness of the potential for scientific management well beyond the plant and workplace. This is apparent in Polakov's writings, which prior to World War I had been almost exclusively on aspects of workplace scientific management in power plants, albeit almost always with the expressed view that the capitalist employment relationship was essentially exploitative.

Polakov always emphasised the impact and importance of electricity as a technical and social benefit to society, but for him these benefits were greatly mitigated by the wastage that occurred as a consequence of sloppy production and the anarchic effects of the market and the capitalist imperative. While waste in industry had become an issue of national concern, in the 1910s (Taylor Society, 1929, pp.35-9), it was anathema to Polakov, offending his vocation as a meticulous engineer

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and his ideology as a Marxist. While much of his writing centred on the methods and benefits of scientific management for power production, they were as much a vehicle for his economics and his political beliefs, as for his passions for scientific management and engineering.

This is encapsulated in the first sentence of the Preface to his first book, *Mastering Power Production*:

Efficiency in mastering the production of power received little attention under a regime aiming merely at the accumulation of profits rather than at rendering essential service, for it was comparatively simple to transfer the cost of inefficiency and waste to the consumers through price increases. (Polakov, 1922 p.ix.)

POLAKOV AS A SOCIALIST SCIENTIFIC MANAGER

It was the same with Polakov's participation in Taylor Society debates. It was in these rich and lively discussions that Polakov offered his first recorded comments to the Society in December 1916. These are worth quoting since they demonstrate the inextricability for Polakov of his commitments to both scientific management and socialism, albeit in a somewhat primitive form. In it, Polakov was responding to Robert Valentine's 1916 paper on collective bargaining, "The Progressive Relation Between Efficiency and Consent" to the Taylor Society, In his attempt to reconcile the methods of increasing productive efficiency with the consent of the workmen, Mr Valentine ignores the very basis of the economic form of our society. It is not the opinion of the individual workman or of workmen's societies, but of the class of wage earners, of the proletariat that we have to take into account. Modern society economically is composed of two classes, those who produce and those who give them the facilities to produce, of owners of physical energy to be sold for a living and owners of means of production such as natural resources, machinery and capital. ... The employers want to sell the commodities produced by workmen for as high a price as they can get. Consumers as an economic class do not exist. They belong to both classes. The working class through their world-famous spokesmen scientifically analysed these aims of the working class and little, if anything remains to be said after the works of Carl (sic) Marx, Friedrich Engels, August Bebel and others were published. (Discussion, Valentine, 1916, pp.11-13)

These words and quotes of Polakov's are not stray ideas - Polakov repeated them in different forms and using different quotes for much of his life. It was a primitive but committed Marxism which demonstrated evident familiarity with Marx's *Das Kapital* (Marx, 1977). Nor were Polakov's ideals merely rhetoric well-removed from practice.

At the same time as Polakov was quoting Bebel to the Taylor Society, he and Gantt were establishing *The New Machine*. While it faded from existence even before Gantt's death in 1919, Polakov remained a technocrat, and indeed was wooed by the ill-fated Technocratic movement after his return from Russia in 1931.⁵ Beyond its basic Marxism, Polakov's socialism is difficult to categorise. He was committed to the labour theory of value, and to the end of capitalism and rise of socialism as an inevitable outcome of the contradictions of capitalism, including the falling rate of profit. His books in particular demonstrated a thorough working knowledge of Marx's ideas, especially *Capital*. It is notable that rather than quoting *Capital* directly, Polakov would often convey Marx's ideas by citing American heroes like Benjamin Franklin or Abraham Lincoln, or the British idealist Tory, Lord

Leverhulme. At times too, Polakov also promoted the concept of a cooperative commonwealth, and evolutionary socialism through government ownership especially of utilities. (Polakov, 1922, pp.1-

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20) Scholars such as Stabile (1984) would argue these views reflected the right-wing socialism of early twentieth century America, which had its source in the ideas of the Marxist revisionist Bernstein. The evidence is greater however, that Polakov was not a revisionist but rather a fundamental Marxist who was cautious about where he proclaimed his beliefs, perhaps because he was a Russian immigrant. It is noteworthy that the years around and after World War I reflected increasing disapproval of immigrants broadly, and after the Bolshevik revolution, Russian immigrants in particular (Portes and Rumbaut, 2014, pp.1-18).

Certainly many of his colleagues saw Polakov as a Marxist. Harold Loeb, an activist and analyst who had had a close working relationship with Polakov, is reported as having stated in an interview in the 1950s that Polakov had 'read only one book in his life, Marx's Capital' (Elsner, 1967). Polakov consistently identified his debt as a Marxist scholar in his research and writings. All his major works began with historical analysis of the ideas and events which he was seeking to elucidate, and he continually emphasised the debt to generations before. As a necessary corollary, Polakov always gave credence to the labour theory of value. Thus:- The foundation of our economic, industrial and business system lays in the service rendered by all the preceding generations. A sewing machine is capable of increasing the productivity of its operator, not only by the amount of labour worked into it by the mechanic but the integrated services of all the scientists philosophers, artisans etc. and of all those who directly served to make their life and work possible back from the ages of primitive man. ... No man can today further develop the technique of production unless he is helped by this vast amount of knowledge which was accumulated in all countries and in all ages.... (Polakov, 1921a, pp. 173-4). These techniques of modern production have labour embodied in them, asserted Polakov, and the quantity of labour time is what gives the product, be it a pair of shoes or a kilowatt of electricity, its value. It is not because labour has a choice but because "we work to live". That work is essential in any society is, of itself, not a problem for Polakov, nor indeed was it for Marx, but two further points need to be made. The first is that under capitalism, capital takes part of the value of labour for itself. As long as the means of production is privately owned and production is carried out for profit, rather than need or service, then the relations of production are unjust and class struggle is inevitable. Moreover, argues Polakov, what capital has done has been to encourage enormous wastage of human effort and natural resources.

As long as profit and not production for the 'common weal' is the focus of economic activity, then capital will be uncaring of what is wasted. (Polakov, 1921a) Given that differential pay rates were central to the scientific managers, it is useful to note how Polakov, the socialist scientific manager dealt with this issue. He began from the premise that the value of the commodities is contained in the labour provided by the worker. He then raised the question of whether the inequality of labour values through differential efficiency "must fetch different labor-price (wages) and if so, whether this inequality of earnings endangers social equality and democratic principle" (Polakov 1922, p. 212). Following from Marx, Polakov found no problem with skill differentials, since for both of them, different degrees of skill produce different value, and therefore the wage of skilled or efficient labour is simply the value of the socially necessary labour-time required to produce a commodity multiplied by the level of skill or efficiency. Consideration of both skill and efficiency are well within the confines of the labour theory of value for Polakov, who draws on his distaste for wastefulness in justifying differential wages for the more 'efficient' worker. He offers the example of two firemen shovelling coal into the furnace, in order to produce electricity. The first one shovels sixty dollars' worth of coal for an output of x watts, while the second one shovels forty dollars' worth for the same output. A simplistic target measurement of more coal would provide a bonus based

on amount shovelled. However, Polakov argues that not only is the labour-power of the inefficient worker worth less than that of his efficient work mate, but he also ... destroys the results of the work of miners who dug out the coal, of railroad men who that brought it in, of mechanics that built and repaired the machinery used in mining and transportation and scores of other men and women whose work was directly and indirectly needed to get to the boilerroom the coal which ... he sent up the chimney (Polakov 1922, cf Marx, 1954 pp. 567-9).

The labour of the more efficient worker thus has greater value, of its own account, and on account of all the past labour-time. Consequently "different values of labouring power must fetch different wages ...". It is important to note here that Polakov was most scathing of terms like 'bonus plans', since for him they implied a gift or something that was given, rather than what was earned.

In responding to the question of equality from what Polakov calls the 'pseudodemocrats', he was similarly unequivocal, but here he called his scientific management into play. He argued that not only is it true that "the right of the producers [earnings] is proportional to the amount of work they furnish ...", but also that "the equality consists in that the labour is measured by an equal standard" (*italics in original*). Thus, argues Polakov, scientific management provides a method and a principle for the application of the labour theory of value (Polakov 1922, pp. 211-3). From the same traditions of analysis Polakov drew his belief in the inevitability of socialism, since the stage of capitalism would give way to 'a higher' stage which he argued was already revealing frailty, just as feudalism had given way to capitalism. This was evident, *inter alia*, in the tendency for the average rate of profit to fall, which, Polakov asserted, came from the demands of competition. Such demands led to a need to invest capital in better machinery and equipment, which in turn developed the tendency of the rate of profit to fall unless production were intensified and output of commodities grew. However, as Polakov, insisted, the necessity for higher investment contradicted the tendency: to limit the supply in order to maintain high prices and consequently:- such a policy causes a large proportion of expensive machinery to stay idle and accumulate burden, which being shifted on the shoulders of consumers in the form of price added to the goods manufactured with the balance of equipment works again toward the unbalancing the whole structure limiting the buying power of society (Polakov, 1925 pp. 9-11).

But as Polakov noted, this meant that the intensification of labour must be increased as a means of confronting the tendency of the average rate of profit to fall. (Marx, 1959 Vol III pp.211-31) However, while he saw the potential for scientific management as enhancing this intensification of labour, this was not in the ordinary way of making workers more for less. Rather, Polakov asserted all attempts should be to reduce waste, time and effort, and increase the creativity and enjoyment of work by making work fascinating. He asserted that work should ensure: ...the elevation of man to his true dignity as an intelligent creative agent. We make his job ... fascinating. ...we liberate his creative capacity ... and then we are able to reduce that waste which constitutes our sad national characteristic. (Polakov, 1925, p.224) These are not simply idealised assertions and Polakov continues his explanation To be specific the monotonous physical labour of a fireman is readily transfigured by special training into a fascinating game based on the exact sciences of physics and chemistry, requiring an exercise of mental capacities (Polakov 1925, p.224).

Moreover, scientific management, as Polakov portrays it, is a necessary means of paving the way for socialism. It has the potential to do this in several ways. It focuses on production, rather than profit. It develops the practices of planning and recording efficient production for workers at all levels, and it provides a working environment and working conditions which are based on fairness through scientifically defined goals jointly set with the workers. These attributes of scientific management become clearer if they are seen in the context of the inevitability of socialism. For in the new order of things to come, The principal thing to ascertain is the number of and the nature of the forces

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that are available, the quantity and the matter of the means of production.

The next thing to ascertain is the quantity of supplies that are on hand ... If for instance the demand is statistically established for bread, meat, shoes etc. and the productivity of the respective plants is equally known, the average daily amount of socially necessary labour is thereby ascertained and ... point out where more plants for the production of a certain article may be needed or where such may be discontinued ... or turned to other purpose (Bebel, 1904 cited in Polakov, 1922, p19; italics in original).

For Polakov, who saw scientific management as fulfilling these requirements, the new order was imminent. Not only had the Bolshevik revolution occurred, (an event he was generally careful to couch in the broadest terms), but also wartime exigencies had demonstrated the necessity of organising production for the sake of national need, rather than profit. This was a notion that for Polakov and others, a self-evident lesson in giving highest priority to national need as the basis for production.

However, even if the new economic order was not immediately at hand, Polakov believed that scientific management, (as practised properly), offered an inevitable and necessary set of principles in order to ensure efficiency and improvement of society, production and the working environment. The economic evolution of society goes in a definite direction and it is not within anyone's power to divert or retard its progress. ...(Polakov, 1922, p. 12).

As well as being a staunch scientific manager and a Marxist, there is no doubt that Polakov was also unremittingly an engineer. His journal articles and books, reveal the thinking of one who is trained and committed to making the machines work better. He goes into immense detail about engineering matters in many of his publications, and as noted previously, in some circles his fame rested on his role as a significant developer of instrument control systems. He was also undoubtedly a Technocrat, who believed that the engineers, above any other profession could superintend the social, economic and physical aspects of production, and not only at plant level. All of his ideals, as scientific manager, engineer, and Marxist were focussed on waste. Polakov abhorred waste, whether it was wasted human effort, wasted natural resources, or unnecessary labour, in the form of advertising agents and salespersons. To his mind, such dissipation had its foundation in capitalism and competition for profit, albeit sometimes couched quite cautiously, just as his references to Marx were nearly always concealed.

Despite his public caution, Polakov never concealed his Marxism within the Taylor Society debates or in his monographs. What makes Polakov's open expressions of his beliefs in his books and in his recorded comments at Taylor Society meetings up to 1921 more piquant, was that these were said or written at a time when the 'red scares' were at a peak, and a young J. Edgar Hoover was honing his skills (Gentry, 1991, pp.60-103). For example, Polakov was writing his book *Mastering Power Production*, at the time of the Palmer Raids. They included the famous night of January 2, 1920 when 10,000 people were arrested for being 'liberal' or socialist or Bolshevik, and when a common tactic was to 'redball' every 'liberal' who believed in municipal or government ownership (Sexton, 1991; Foner, 1967; Gentry, 1991; Goldstein, 1977 See also Popkova, 2010). Further evidence of the widespread violent dislike that many held for socialism can be found in the remarks of the Federal Commissioner of Education. He felt that he was speaking for many in high places when he said that,

there was altogether too much preaching these damnable doctrines of Bolshevism, anarchy,

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communism, and socialism, ... if I had my way, I would not only imprison but would expatriate all advocates of these dangerous un-American doctrines. I would even execute every one of them - and do it joyfully. (cited in Sexton, 1991, p.135)

Ignoring the difficulties inherent in simultaneously imprisoning, and executing such perpetrators, the sentiments expressed by the Commissioner and others were widely disseminated through the newspapers. The history of the USA, especially after the Bolshevik revolution, is replete with examples of the concerted and extensive efforts to rid the nation of socialism. That Polakov felt safe in proclaiming these 'damnable doctrines' in Taylor Society meetings and quoting Marx, Bebel and Luxemburg, is not merely evidence of the breadth of views apparent and tolerated in the Taylor Society.

It is also confirmation of the ways in which true scientific management was eminently compatible with ideologies around and beyond Progressivism, and self-evidently incompatible with the dogmatic exploitative managerialism ascribed to scientific management by the movement's detractors. Rather the movement could offer an intellectual base to the Russian immigrant who was deeply committed to his socialism and his scientific management and others like him (see e.g. Nyland and Heenan, 2005; Weigand, 2001).

Finally it is worth noting that Polakov's political beliefs were not significantly different from at least several of the well-known early Taylorists. Morris L Cooke, while firmly and overtly rejecting communism in the Cold War years (Trombley, 1954, pp.133-5), had a long correspondence with Polakov expressing many shared views until the abrupt end to their correspondence in the 1930s (Cooke Papers). They also wrote joint papers such as their one on rural electrification and shared ideas for publications. When Polakov was particularly penurious on his return from Russia in the early 1930s, Cooke regularly lent Polakov money, as well as assisting him in looking for jobs. Other long time scientific managers such as Harlow Person and Carl Barth, expressed socialistic or progressive ideals for the potential for scientific management to achieve a better more inclusive economic order. Similarly, the writings of Henry Laurence Gantt were clearly in the mode of a socialist technocracy.

Finally, it is worth noting that the keepers of anti-communist dossiers, such as Myers G Lowman, not only kept records on Polakov in the 1930s but also deemed longtime adherent to scientific management and Director of the Russell Sage Foundation, Mary Van Kleeck as a 'communistic' risk. While they held very similar views and supported similar causes, there is no evidence so far that van Kleeck and Polakov knew each other well. (see also Walter-Busch, 2006). In other words, Polakov the Marxist was not a stray outlier in the Taylor Society in the first quarter of the twentieth century, but rather another member who shared ideas, and whose ideas were considered and debated as normal. If that is so, then interpretations of the early Taylor Society and scientific management need to take account of this ideological richness.

CONCLUSION

This paper has sought to demonstrate that the marriage of scientific management and socialism such as that expressed and practised by Walter Polakov can be acknowledged as an accepted normal part of Taylorism, at least before the 1940s. Given that is the case, then ideas that early Taylorism was anti-worker and management control-oriented also need reconsideration. The paper began by evaluating the assertions and arguments of scholars and analysts who have continued to uphold that

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'scientific management is in essence authoritarian, anti-worker, controlling and demeaning of workers. The paper began with a brief overview of the negative elements underpinning those perceptions and portrayals and then considered the more mixed but still contesting interpretations for be found in the Journal of Management History in the last decade. This was followed by exploration of the evident attributes and perspectives of the early Taylorists, those consulting engineers and managers who often knew or had worked with Taylor, or had respected the ideas behind Taylor's philosophy. The paper then surveyed the ideas and work of Walter Polakov as a Taylorist and as a Marxist.

It has shown that inherent in the Taylorist philosophy were teamwork and planning. Evidence based management was central tenet for these scholars and practitioners, rather than the "because I can", capricious, 'rule-of-thumb' management that had previously predominated. Although numbers of those early Taylorists were Progressivist, it appears that ideology took a much lesser place in the scheme of things. What counted were the ideals of Taylorism. As any reading of the debates of the Taylor Society reveals, the Society was avowedly plural in its membership and in the openness of its debates, even to the extent that socialist idealism could be expressed and recorded in the journal of the Society at a time when media and governments were attempting to outlaw such idealism in any way possible.

Polakov's contributions in the Taylor Society and beyond, always promoted the significance and worth of scientific management but from a socialist perspective. He was not a great luminary like Morris Cooke, for example, yet Polakov's research and accounts of practice were of sufficient standard to be published in major journals. In this respect, it is worth noting that to gain understanding of a philosophical movement or indeed, an academic discipline, it is important not only to examine the work of the 'stars' but also those who are the foot-soldiers, the less stellar, but core scholars. This is particularly important in the history of business ideas, where there are multiple and often competing personal and ideological perspectives. An important role of the historian is to explicate and amplify the voices less heard, for then we are practising rigorous scholarship to which we all aspire. Given the evidence in this paper through the analysis of the life and work of Walter Polakov, continuing re-evaluation of Taylorism seems to be justified.

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ENDNOTES

1 This section is an abbreviated discussion of a much more extensive analysis of Taylor Society debates

2 In the textbooks, the legends of 'human relations' as a panacea often follow the denigration of Taylorism, but that is beyond this paper.

3

It is important to note that while Gompers and other unions officials had come to understand some of the potential of Taylorism for workers, and begun cooperating with scientific management exponents within a very few years, it is the early quotes from Gompers that are frequently noted, not, e.g. the book he jointly edited with scientific management Morris L Cooke (Cooke et al., 1920; see also Walter Busch, 2006; Nyland, 1989; Nyland, 1998).

4 Originally called Society to Promote the Science of Management. In the 1930s, after mergers, the Taylor Society was called the Society for the Advancement of Management (S.A.M.), which organisation is still active, albeit philosophically distant from the early Taylorists.

5. Polakov's links with technocracy are also evident from a long acquaintanceship with Howard Scott, the leading technocrat. It was apparent from Polakov's contribution to the discussion of Hugh Archbald's presentation on mine management at the December 1919 Taylor Society meeting that he and Scott had discussed their respective comments prior to the meeting. It was perhaps no coincidence that Scott and Polakov attended this meeting together. Both of them had deeply admired Gantt who had died quite unexpectedly less than a month previously. Polakov also had links with the technocrat, Walter Rautenstrauch, of Columbia University