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THE GEOGRAPHY AND IDEOLOGY OF ACCOUNTING: A CASE STUDY OF DOMINATION AND ACCOUNTING IN A SUGAR REFINERY IN AUSTRALASIA, 1900-1920

Abstract: This historical case study examines accounting in a sugar refinery from 1900 to 1920 in two arenas of operation. The geography of accounting enabled the workers at Chelsea to have their working experience sequestered by the company. Accounting routinized their work at the refinery, enabling their labor to become monitored, empty of meaning, and, at times, overwhelming. The ideology of accounting provided the company with an instrument of evasion to silence the voice of labor and an instrument of self-deception designed to justify and insulate the authoritarian hierarchy of the company and the power of its Australian general manager, Edward Knox. Accounting became an ideology that sought to legitimate the exploitation of the workforce and the generous return to shareholders.

INTRODUCTION

This case study describes and interprets accounting practices situated in the New Zealand branch of an Australian company, the Colonial Sugar Refinery (CSR). Known as Chelsea sugar refinery and located in the Auckland suburb of Birkenhead, the New Zealand company was started by Australian and New Zealand investors in 1883. This historical study examines ac-

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counting in the company from 1900 to 1920, particularly the use of accounting as a tool of domination. We examine this domination in two dimensions – the geography and the ideology of accounting. We explore the geography or locale of accounting in terms of the physical distance between the head office (Sydney) and Auckland and at the level of production locally at the Chelsea refinery. The accounting records enabled an autocratic and authoritarian leader to control the branch with vigorous surveillance from Australia. The Australian head office was unwilling to delegate any significant influence to the managers of the branch company. Decision authority was, therefore, effectively based in Australia, and any semblance of delegated authority was in form rather than substance. The geography/locale of accounting at Chelsea enabled the workers to have their working experience sequestered by the company [Giddens, 1991, p 149]. Accounting routinized their work at the refinery, enabling their labor to become monitored, empty of meaning, and, at times, overwhelming. It was only when crises or fateful moments [Giddens, 1991, p. 202], such as on-the-job accidents or union activity, introduced a moral reckoning that the accounting regime of truth [Foucault, 1980] created around the labor process was disrupted. Labor and production processes provided the location for accounting to control and monitor the labor force, known as “wage labour.” It also provided the opportunity for labor to collectively reappropriate its closely monitored existence.

The ideology of accounting provided the company with an instrument of evasion to silence the voice of labor and became an instrument of self-deception designed to justify and insulate the authoritarian hierarchy of the company and the power of its Australian general manager, Edward Knox (EK) [Volf, 1996]. Accounting became an ideology that sought to legitimate the exploitation of the workforce and the generous return to shareholders and played a key role in advancing the particular interests of Knox and facilitating domination.

Based on the two dimensions, this paper aims to examine the broader narratives in which the accounting numbers were placed. These accounting-based narratives enabled the autocratic control and surveillance of the labor force to be carried out with a semblance of objectivity which sought to diffuse its contested nature. The narratives created a regime of truth that not only justified the way the workforce was deployed and managed under the hubris of efficiency but also enabled the more powerful narrative of shareholder returns. In the end, the accounting-based narratives presented by the company assumed

it could melt the differing points of view of labor opposition into the common currency of a single truth [Volf, 1996, p. 241]. The accounting truth presented by the company served to legitimate the particular company interests of CSR and privilege the autocracy of Edward William Knox (EWK) and his fellow shareholders.

The study has benefited from a rich archive¹ of narrative material made up of letters and memoranda as well as accounting information. This information forms the basis of the paper which is organized as follows. First, the organizational context is described in terms of the company, the town, and the sugar process. The next section discusses the theoretical lenses informing the narrative of the paper. This is followed by a study of two dimensions of domination – the geography and the ideology of accounting. Findings are summarized in the conclusion.

ORGANIZATIONAL CONTEXT

Accounting research on the sugar industry has concentrated on the labor processes and relations in the agricultural sector. During 1850 to 1920, a wide variety of labor relations were used around the world in field production. Sugar refineries received raw material from agriculturalists ranging from the primitive to the sophisticated. Labor relations included tenant-farmers, sharecroppers, and peasant farmers as well as commercialized, agrarian entrepreneurs and seigniorial estates [Bosma and Knight, 2004, pp. 12-13]. Fleischman and Tyson [2000] examined how accounting was involved in the racial segmentation of the workforce on Hawaiian sugar plantations.² The sugar refinery, on the other hand, experienced considerable convergence in its production processes by the early 1900s. CSR itself exhibited this difference between field and factory. CSR had sugar plantations in Queensland and Fiji with differing labor characteristics; yet, their sugar refineries were similar in terms of the production processes.

¹The Chelsea sugar refinery archive is housed at the Takapuna Public Library, Auckland, New Zealand. Archival material is referenced by box number. The boxed archives of letters, memoranda, schedules, etc. are primary archives, separate and distinct from the "Research Notes on the Chelsea Sugar Works" of Watson [1979].

²For further discussion, see Burrows [2002] and Fleischman and Tyson [2002]. We did not identify any racial issues at Chelsea sugar refinery. Before the late 1930s, Chelsea was a totally masculine community of New Zealanders and a large British contingent [Luke, 1984].

The Company: EK and nine entrepreneurial shareholders founded the CSR on January 1, 1855, with a capital of £150,000. EK was experienced in the sugar industry having previously managed the Australasian Sugar Company until its dissolution in 1854. The company initially carried large amounts of debt but began to prosper in the 1870s after the establishment of its own sugar cane plantations and several mills on the northern rivers of New South Wales, Australia. EK's son, EWK, was involved with the company from the age of 17 and in 1880, when he was 35 years of age, the management of the business was passed to him. EK (chairman of the board) visited New Zealand in 1881 and purchased 160 acres of coastal land for the building of a sugar refinery. Two years later, CSR and the Victoria Sugar Company (an associated company of CSR) formed the New Zealand Sugar Company (commonly referred to as Chelsea sugar refinery), each entity holding one-third of the £300,000 authorized capital, with the remaining third held by high-profile New Zealand investors. Prior to the opening of the New Zealand refinery, the bulk of New Zealand's refined sugar was supplied by the Australian CSR refineries. From the beginning, the new refinery produced sufficient sugar for New Zealand's needs, so imports of refined sugar ceased. However, despite its monopoly position, the company failed to make profits for the first four years, and, by the end of 1887, the New Zealand Sugar Company was insolvent and was collapsed into CSR.

CSR was a single-product company. Sugar was increasingly being used in food processing, particularly in preservation and pickling. CSR's key strategy was to control the market and, by 1915, it controlled 90% of the refined sugar production in Australia and 100% in New Zealand. CSR dominated the market by underselling its competitors. At times it undersold competitors by 5 shillings per ton [Griggs, 2001, p. 368]. In 1893, CSR dismissed a suggestion from its competitor, the Australasia Sugar Refinery Company, to make a deal with CSR over New Zealand prices and market share. Under no circumstances was CSR going to give up its complete dominance of the New Zealand market. CSR also denied competitors outlets for their refined sugar. It had exclusive agreements with wholesalers and threatened them with the loss of their agency if they did not remain loyal. The underselling strategy even eliminated merchants who were importing overseas-produced, refined white sugar. By 1912, EWK admitted to controlling the price of sugar in Australia [Griggs, 2001, p. 372]. Griggs [2001, p. 373] comments that "this control enabled CSR to achieve handsome profits; it had paid

annual dividends (plus bonuses) in the order of 15% on subscribed capital during the 1900s.” This philosophy of domination of the sugar market spilled over into how the company was managed.

The Town: A sugar town soon developed around the hub of the refinery. The refinery was the only real employment in the area – “the sugar works was the biggest employer. ... There was no other place” [unknown interviewee, quoted in Luke, 1984]. The town initially consisted of roughly built shanties. In 1884, the company built a barracks for single men and a number of workers’ cottages. The cottages were cold and damp. Despite the cheap rent, most of them were unoccupied by 1890. They were condemned by health authorities in 1905, and four brick duplexes were built on the site of the old village. These were occupied by the managers while many of the single workers lived in a boarding house by the ferry wharf. The company refused to put in septic tanks to alleviate the sanitary problem in the town. Closets under the wharf used by workers would not be attended to “until pressure is brought to bear” on the company by the Department of Health [EWK to Auckland, 2/8/1905, box 151]. Young men progressed from school to the refinery at age 12. Often all the males in a family, father and sons, worked there. When the sons left home, they often married into another sugar family and merely shifted residence to another street in the sugar town [unknown interviewee, quoted in Luke, 1984]. Smoke from the refinery pervaded the town and discolored the washing.

The Sugar Process:

Oh in the Stonegut Sugar Works
The floors are black with grime
As I found out when I worked there
Among the dirt and slime;
I think they must have built it
In Queen Victoria’s time.

I had the job of hosing down
The hoick and sludge and grit
For the sweet grains of sugar dust
That had been lost in it
For the Company to boil again
And put it on your plate;

[Baxter, 1972]

These are two stanzas from a poem entitled *Ballad of the Stonegut Sugar Works* by James K. Baxter (1926-1972), one

of New Zealand's most famous poets. He worked at the sugar refinery in the 1960s and wrote this poem about his working experiences even though he only lasted three weeks at the refinery. Despite his reflections being about working conditions in the 1960s, the poem provides a poignant insight into the tough working conditions of the Chelsea sugar refinery.

In the early 1900s, raw sugar came to the New Zealand refinery by ship from Java, Cuba, and Peru. Each ship carried about 15,000 tons of bagged raw sugar. Gangs of wharf hands unloaded the ships and stacked the bags in the raw store after weighing. Even at this level of operation, there was a hierarchy of jobs starting with the workers who pushed the empty trucks out of the shed. The next level was the "hooking on" which involved attaching clips to the sugar bags so they could be hoisted up onto a stack. Stackers formed the third level in the hierarchy. This job was prestigious as it required specific attention to ensure that the stacks of sugar bags were straight and stable. The easiest job, driving the jiggers, was usually reserved for older, long-term employees who could no longer cope with the rigor of the other tasks [Frank Schorman, quoted in Watson, 1979, p. 8].

The first stage of the refining process involved slitting the throat of the bags and pouring the raw sugar down through gratings for transporting to hoppers. Large wooden mallets were used to break up rock-hard raw sugar. Raw sugar consists of about 98% sucrose surrounded by a film of syrup which contains most of the non-sucrose constituents. All non-sucrose constituents have to be removed in order to obtain quality white sugar granules. This is the primary task of a refinery. The raw sugar was "washed" in hot water in high-speed centrifugal machines to remove the syrup film from around the sucrose crystals. The wash house consisted of huge tanks, ten feet long and six feet wide, in which jelly bags were suspended. The liquor (syrup) was filtered through these bags. Four or five workers would stand in the tank to wash out the muck-filled filter bags. They wore only a piece of filter cloth tied around their waists [Stan Cross, quoted in Watson, 1979, p. 9]. Most sugar workers agreed that this was the worst job in the refinery [Watson, 1979, p. 10]. The clear, filtered liquor was then passed over bone charcoal to remove color impurities. Every so often the charcoal had to be re-burnt in ovens heated to 1100-1200°F to restore its filtering capabilities. The re-burnt char was dragged out with long, rake-like poles. The men worked in extreme heat among clouds of fine dust. Stan Luker thought that no human being should ever have been asked to do this sort of job [Watson, 1979, p.10].

The purified liquor then went to the vacuum pans. “Sugar boiling” was a specialized job producing pure refined sugar. The contents of the pans were dropped down into cooling vats, and then the crystals of refined sugar were separated from the liquor by spinning in centrifugal machines. The resulting refined sugar crystals were dried, graded, and bagged. Twenty to 30 men packed the 70 and 140-pound bags in what was described as an incredibly noisy environment, “. . . all day and every day the same thing. Rattling away, clang, clang, clang. . . It’d drive you round the bend. I reckon half them were insane that worked that job” [Curly Mayall, quoted in Watson, 1979, p. 11].

And though along those slippery floors
 A man might break a leg
 And the foul stink of Diesel fumes
 Flow through the packing shed
 And men in clouds of char dust move
 Like the animated dead,
 [Baxter, 1972]

Other workers operated sewing machines to stitch the top of filled bags, to make new bags, or repair old bags. Clerical duties included the tally clerk who counted up to 12,000 bags in an 8-hour day.

But the Clerk and the Slavedriver
 Are birds of another kind,
 For the clerk sits in his high glass cage
 With money on his mind,
 And the slavedriver down below
 Can’t call a slave a friend
 Instead they have (or nearly all)
 The Company for a wife,
 A strange kind of bedmate
 That sucks away their life
 On a little mad dirt track
 Of chiselling and strife
 [Baxter, 1972]

THEORETICAL LENSES

Domination is a form of exclusion [Volf, 1996, p. 75]. “Wage labour” at Chelsea was assigned by EWK and the management of CSR to a place of inferior status and was subjugated for the sake of shareholder wealth. Accounting helped EWK colonize Chelsea so he could dominate and control. This is where Michel Foucault’s work provides insight into accounting. Accounting

becomes what Foucault [1979] calls a disciplinary mechanism. Accounting's power is in its subtlety. EWK realized that CSR was "stretched over large tracts of time-space" and that his personalized, monarchic-like control depended on high "presence-availability" which he realized was diffused [Giddens, 1987, p. 164]. Accounting provided a solution. Disciplinary power works through surveillance mechanisms such as accounting as opposed to threats of "exemplary power" of violence characteristic of previous ages [Foucault, 1979]. Accounting creates visibilities within the organization and produces a "truth" about the organization. Foucault [1980, p. 118] insists that truth is produced rather than disclosed or discovered. He is interested in "seeing historically how the effects of truth are produced within discourses which in themselves are neither true nor false." Volf [1996, p. 245] comments, "the significant question is not so much *what* is the case, but *why* and *how* is something proclaimed and believed to be the case."

Foucault's "regime of truth" captures an additional insight which is the association of truth and power. To produce truth and sustain it, "multiple forms of constraint" are needed [Foucault, 1980, p. 131]. To have constraint, you need to have organizational power [Volf, p. 246]. EWK was a powerful, autocratic presence in CSR. Accounting extended and reinforced his power. Accounting became a "regime of truth" that gave even more power to the already powerful Knox. CSR's accounting narrative reinforced his monarchic power, operating at a distance and becoming an administrative power at the locale of the Chelsea branch.

Giddens provides some insightful ideas for understanding how organizations like the Chelsea refinery regionalize time and space. He suggests sequestration is the "most pronounced form of time-space zoning," and its effect is to "radically alter the nature of day to day experience" [Giddens, 1987, p. 151]. The Chelsea refinery became a place of concealment for the wage laborers. Once they stepped through the factory gate, their existence became closely monitored and controlled. The laborers' lives were sequestered from their existence outside of the refinery into a world of surveillance enabled by the administrative/disciplinary power of accounting. The refinery became an architecture of power not only in the sense of the physical setting/layout of the refinery but also in the way that setting and social conduct interact to generate administrative/disciplinary power [Giddens, 1987, p. 159]. The specific locale of the Chelsea refinery permitted a consolidation of accounting at the top of the

organizational hierarchy in Auckland, enabling EWK to exercise his patrimonial means of domination over CSR. The geography and ideology of accounting are heuristic descriptors that seek to convey the insights provided by these theoretical lenses.

ACCOUNTING FACILITATES DOMINATION

The First Dimension – the Geography of Accounting: Accounting facilitated the exercise of management's power and was an instrument for controlling workers from a distance [Riccaboni et al., 2006]. The physical distance between factory and decision maker (EWK), combined with EWK's autocratic characteristics, required large amounts of information be sent to the head office in order that he could control day-to-day operations from afar. Not only did accounting facilitate a general, administrative power but also the personal, monarchic power of EWK. The geography of accounting first examines this distance between the head office in Sydney and the branch in Auckland and, second, the locale of the sugar production at the Chelsea refinery.

EWK, the son of the founder, became general manager in 1880 and for 40 years controlled the company. According to Maynagh [1981, pp. 27-28], Knox was an austere, single-minded man apparently lacking in humor and having few outside interests. He demanded hard work and honesty and, above all, a dedication to the company. Loyalty was a distinctive feature of CSR with children of longtime workers given jobs and length of service seen as a principal quality for job advancement. This approach perpetuated a conservative and paternalistic approach in managerial appointments.

Birch and Blaxland [1956, p. 26] describe EWK as a "...somewhat impetuous and autocratic general manager. ... He was not disposed to let his officers assume they were his equals when it came to a decision." The Colonial Office in Fiji described Knox as "a peppery aristocrat" and "an irascible autocrat of 75, notorious for his methods of dealing with strikers and business opponents" [Maynagh, 1981, p. 104]. Knox, as a free-trade supporter, strongly opposed government involvement in commerce and industry [Lowndes, 1956].

Lyle [1957, p. 538] outlines the importance of analyzing the sugar production process and creating visibilities around that process. Lyle points out that the figures analyzing production give control and direction to the business so that "[the manager] will always be able to carry out the detailed economy or efficiency crusades which form an essential part in keeping a

factory...up to the mark.” Weekly production reports were sent from Chelsea to Sydney via the Auckland Office. These reports detailed the stocks of refined sugar packed, melted, and delivered on a per-ton basis and included fine detail of costs recorded on a day-to-day basis. The reports were standardized across CSR’s sugar refineries so as to facilitate comparisons. The weekly reports also monitored stocks of raw sugar received and melted as well as details of hessian cloth and bags, coke, coal, syrup, and molasses [Chelsea Refinery Production Schedule, 8/2/1896, box 159]. These reports were accompanied by a letter from the refinery manager, Mr. Miller, to the general manager in Sydney, EWK. The weekly letter outlined refinery issues (supplies of raw sugar and weekly production) as well as issues regarding the workforce and machinery.

Every six months, Sydney sent the half-yearly accounts of the New Zealand branch to Auckland. Accounts included stock on hand, sundry expenses, refined sugar sales, and schedules of balances and expenses. The accounts were accompanied by two key statements which compared “sugar house wages” and the “cost of manufacture” across the company’s five sugar refineries of Pymont (Sydney), Yarraville (Melbourne), Glanville (Queensland), New Farm (Queensland), and, of course, Chelsea [e.g., 31/3/1903, box 125]. Sometimes Sydney questioned the accuracy of the accounting information sent. EWK, for example, questioned why the tons of refined sugar made did not equal the total on the chemical return by 107 tons. He even suggested that the error seemed to have been made in the March quarter [EWK to Auckland, 10/5/1911, box 152]. Other times EWK wanted further explanations of numbers submitted to Sydney. He insisted that “we should be fully informed of the work which this payment represents. ... In cases of this kind, where abnormal expenditure is incurred, we expect explanations to be furnished without application from us” [Head Office to Auckland, 29/3/1910, box 150]. Knox wanted the returns to the head office to be detailed, breaking out items such as the cost of making filter bags from the cost of repairing them [Head Office to Auckland, 25/5/1904, box 154].

The comparative statements enabled Knox to exercise significant surveillance. Knox used the Pymont refinery and other Australian refineries as a quasi-standard to monitor and control the Auckland branch at a distance. In 1908, Miller (New Zealand manager) replied to questions about production quality based on these comparatives. He suggested that the quality of the sugar produced was different from Pymont due to the polariza-

tion of the raw sugars and, perhaps, the use of lime at the mills. He further stated that the quality of the char was another variable in its removal of ash and fruit sugars [Auckland to Sydney, 1/2/1908, box 145]. In 1909, EWK again compared Chelsea to Pymont observing, "...there has been a steady – almost continuous – increase in expenses, and the greater rate of work last half has not reduced the wages per ton of sugar...Considering that you have no charge for water, and that the delivery of refined sugar costs much less with you than in Sydney or Melbourne your figures do not show well alongside those for the other houses, namely Pymont and Yarraville" [EWK to Auckland, 28/4/1909, box 151]. Wastage was constantly monitored by EWK who noted that the loss of 1.49% cane sugar was 0.30% above the average of all refineries [EWK to Auckland, 25/10/1916, box 158].

CSR was shareholder focused; "they do not forget the results which must be achieved for their ultimate employers, the twelve thousand shareholders" [Lowndes, 1956, p. 349]. Knox objected to the Australian government investigating the sugar industry and was pleased in 1912 when a Sugar Commission recommended against the nationalization of the refining trade and for price controls on sugar cane and refined sugar. He describes such ideas as "old socialistic schemes." He was disappointed when the Commission questioned CSR's accounting data regarding refining profits by suggesting that "concealment of profits" may occur at CSR [Memorandum, 20/12/1912, box 125]. Strategies, such as the refusal to pay for overtime worked, provided a source of unpaid labor. The aim was to obtain the highest rate of return on the Australian investment by forcing "maximum surplus" from the factory workers [Tyson et al., 2004].

The second locale of accounting was at the Chelsea refinery. Accounting was implicated in the sequestration [Giddens, 1991] of the workers' experience in the sugar refinery and in the development of a regime of truth [Foucault, 1980] to ensure surveillance and control by the company's omniscient manager (EWK) and his representative at Chelsea, E.V. Miller, manager of the refinery from 1884 to 1920. Accounting enabled sequestration of the workers by enclosing the refinery's space through organization and order and by extracting more moments of time for productive use [Giddens, 1991]. An unknown interviewee [Luke, 1984] states that it was not until the 1940s that New Zealanders started rising through the company hierarchy. Prior to that time, the managers and the bosses were nearly always Australians who kept to themselves. All the senior positions

were held by Australians – manager, chemists, chief engineer. Directors, managers, and auditors visited frequently from Australia. “The people running it were frightened of Sydney. They were definitely frightened of Sydney, of Head Office” [Charlie Castleton, quoted in Watson, 1979, p. 24]. The autocratic management style of EWK was perpetuated by Miller at Chelsea, who considered himself an omnipotent presence as indicated by his correspondence with EWK and the Sydney head office. “He’d been known to fire men for misbehaviour even when they weren’t at work” [Curly Mayall, quoted in Watson, 1979]. “He ruled the men at work and when they were away too” [workers, quoted in Watson, 1979, p. 24].

You will guess I got the bullet,
And it was no surprise,
For the chemists from their cages
Looked down with vulture eyes
To see if they could spot a man
Buttoning up his flies.

It’s hard to take your pay and go
Up the winding road
Because you speak to your brother man
And keep your head unbowed,
In a place where the dismal stink of fear
Hangs heavy as a cloud.

[Baxter, 1972]

The Chelsea sugar refinery provides us with an example of an organization in which factory-floor workers and subordinate management were tightly monitored and controlled in an organizational structure imposing a formal bureaucratic hierarchy [Whitley, 1999]. Management was controlled by formal rules and procedures and tight budgets which limited its discretion in choosing appropriate strategies for day-to-day operation of the factory. Factory workers were tightly supervised to prevent the possibility of opportunistic behavior in the form of extended tea or toilet breaks. Local management and supervisors appear to have been concerned with the welfare of workers only to the extent of the possible impact on workplace productivity [Saravanamuthu and Tinker, 2003]. This lack of concern caused workers to feel that they were just pairs of hands, numbers, and costs to be minimized in order to produce profits for others.

The detailed accounting systems provided the basis for company activities and decisions. The power of this information fostered the autocratic management style of Knox and provided a structure of dominance from the head office. This accounting-

based dominance acted as “a governance instrument for controlling workers at a distance” [Riccaboni et al., 2006] and served to legitimize the sometimes ruthless actions of management. Chelsea provided a specific geography or locale for accounting to be a key component in sequestering the workers’ experience. The sentiments expressed in Watson [1979] indicate that the men perceived that the accounting records were the “eyes of the company” [Kaplan, 1984, p. 392], eyes that were always on them. Giddens notes that institutions like the factory significantly alter the nature of day-to-day experience [1987, p. 151]. This was the case for the Chelsea wage laborers. Accounting was used to discipline the workers to ensure profitable outcomes for EWK and his fellow shareholders. Accounting provided him and his managers with an architecture of power. Accounting facilitated the exercise of EWK’s personal, monarchic power and created an autonomous, administrative power which took on a life of its own. What started as EWK’s obsession for information became an administrative structure. Accounting objectified and shaped beliefs held about Chelsea by management and workers.

The Second Dimension – Accounting Ideology: This second dimension of domination describes the use of accounting ideology as a manifestation of power and control. Burchell et al. [1985] suggest that accounting information has an ideological function in that it is used to legitimize particular activities or rationalize behavior. In this sense, ideology has a key role in the use of accounting to advance particular interests and can be part of the process of maintaining domination [Thompson, 1984]. In the case of CSR, the ideology of accounting points to it as an instrument of evasion used to silence the voice of labor and an instrument of self-deception designed to justify the authoritarian hierarchy of the company and the power of EWK. EWK had a perception of the average worker, of his own role, his responsibility to shareholders, and the nature and role of business, government, and unions. This set of beliefs led him to use the information he gathered to control the lives of his employees. In addition, EWK used accounting information to make sure that the distribution of wealth met his expectations. When faced with a change in labor rates, he instituted compensating cuts elsewhere to ensure the overall distribution was unchanged. He acted to maintain status quo wealth distribution and to punish those who opposed him. When threatened, EWK used accounting information to support his position, to provide incentives, or to punish.

The working environment of the refinery was extremely hot, noisy, dusty, and dirty [Watson, 1979]. Every process was carried out with heated sugar solutions with the heat supplied by steam. The work involved three shifts a day (24 hours) from Monday to Saturday morning. The company did not allow the men morning and afternoon tea breaks. Toilet breaks were monitored:

When the head chemist came to me
Dressed in his white coat
I thought he might give me a medal
For I had a swollen foot
Got by shovelling rock-hard sugar
Down a dirty chute.

But no: 'I hear your work's all right,'
The chemist said to me,
'But you took seven minutes
To go to the lavatory;
I timed it with my little watch
My mother gave to me.'

[Baxter, 1972]

There was an envelope of control around the employees, facilitated by accounting information which was an important power resource [Pettigrew, 1972; see also, Roberts and Scapens, 1985]. The accounting records were detailed around the production process. The labor records enabled the head office in Australia to rule with an unusual intensity and glare. EWK used these detailed accounting records to create a regime of truth around the production process so he could justify his hard stance on wage rates and conditions. The weekly letter to the head office from Auckland outlined weekly production with comments made on all aspects of Chelsea's operations, particularly changes in the workforce. The six-monthly report included detailed individual wage information for each employee broken down by employee task. The age, hours per week worked, wages per week, and length of service were recorded for each employee as well as whether the worker was paid on contract basis or under an Employee Arbitration Court award. The performance of the Chelsea labor force was constantly compared to that of the Australian Pymont and Yarraville plants which became de facto standards for Chelsea. Chelsea's report was inserted into a comparative wages report for all the company's refineries organized around major employee functions in the production process. Computations showed total wages per occupation and the rate of wages paid per ton of sugar melted. The Chelsea factory was

under constant surveillance, organizational behavior was tightly prescribed and controlled, and workers were closely monitored. In 1906, EWK noted that the cause of a serious loss the previous half year was due to a “system of supervision that must have been exceedingly lax.” He suggested that more production records were the answer [EWK, 23/5/1906, Box 151]. As a result, the gatekeeper had to report when men were late and if they left early for dinner or at 5 p.m. [Gatekeeper’s Duties, 19/7/1908, box 150].

Although wages of the refinery workers made up 28% of the cost of production in 1903, 21% in 1912, and 18% in 1920 [Cost of Manufacture, 31/3/1903, box 125; 31/3/1912-30/9/1925, box 114], EWK used the accounting’s regime of truth to justify his non-negotiable approach to the workforce. The average annual wage of a refinery worker in 1912 was £120 compared to the refinery manager’s salary of £700 and the Auckland general manager’s of £1,100. The accounting records produced a truth which EWK proclaimed as fair and true in representing CSR’s organizational facts, therefore legitimating his power to control the workforce to the benefit of the salaried Australian workforce in New Zealand and the primarily Australian shareholders. Foucault [1980, p. 131] states that “truth is a thing of this world: it is produced only by virtue of multiple forms of constraint.” The accounting truth produced by CSR was used by EWK to impose his views of how and why the wealth produced by the company should be allocated the way it was.

Domination was also sought through welfare. In 1910, CSR decided to offer housing loans to some employees who came to live near the refinery. CSR used these loans (advances) to buy employee loyalty and commitment. Welfare sought to gain the loyalty of the workforce with the appearance of employer benevolence [Wright, 1995, p. 21]. CSR saw welfare as good business to engender loyalty. EWK noted that while on occasion they may have a house left on their hands and a small loss “against this we could set the advantage of having a number of men in the neighbourhood of the Works who were more or less tied to the place” [letter to Auckland Manager, 30/12/1910, box 150]. Over a third of all new houses in Birkenhead between 1910 and 1926 were financed from CSR loans. The loans were for 25 years with “rent” deducted from gross wages [Luke, 1984]. Employees viewed the loans as a blessing and a curse. The granting of a loan imparted the status of permanent employee – “they wouldn’t sack you if you owed them money” [unidentified employee, quoted in Watson, 1979]. On the other hand, workers lost the freedom to leave

the refinery. Teenagers began work in the bag shed: "When you got to 20 you used to get the sack if there were no vacancies in the mill itself and they would take a new boy on. They kept me on when I got to 20 because I was paying my father's rent. He had a sugar workers' house but he was on relief work. If they'd sacked me they wouldn't have got any rent" [unidentified employee, quoted in Luke, 1984, p. 12]. Another interviewee tells of how he got sick, received £1 a week sick pay, but had to pay 76% (15/2d) in loan repayments which left his family in dire straits [Watson, 1979, p. 45].

The company also formed a provident fund (retirement funds) and a benefit society. The provident fund ended after the 1920 strike; contributions to date were refunded. Despite these welfare arrangements, interviewees [Luke, 1984] talked of the indifference of the company to the workforce exemplified by the reference to workers as "units" or by their number. "I was number 421. You go into the gates as a number, and you come out the gates as a number" [Stan Luker, quoted in Watson, 1979]. A foreman might ask: "Can I borrow a unit off you for my shift" [Curly Mayall, quoted in Watson, 1979]? Labor was literally seen as a series of numbers, a cost to be minimized in order to provide profits to shareholders.

By the 1900s refinery production became standardized around two key technologies – the vacuum pan and multiple-effect condensers. The vacuum pan enabled the sugar to be boiled at a lower temperature by creating a partial vacuum. These technologies enabled continuous manufacture and the pacing and timing of work flows. Although these processes required a small number of experienced workers capable of applying judgment in their operation, these technological developments did not necessarily imply the existence of a free-labor market. In fact, CSR tried to constrain the capacity of the workforce to bargain over wages by demonizing union activity and segmenting the workforce to weaken its bargaining ability, labeled a deproletarianization of the workforce by Bosma and Knight [2004, pp. 13-14]. The company also solicited the state to bias Arbitration Court rulings against the workforce by emphasizing that sugar was an essential commodity and employees should be punished for interrupting its supply [Watson, 1979, p. 23].

The setting of wage rates exhibited further aspects of hierarchical domination. New Zealand was considered a world leader in enacting legislation to promote harmonious industrial relations [Bennett, 2004, p. 60]. In 1894, the Industrial Conciliation and Arbitration Act laid out a vision for industrial relations

that included compulsory arbitration courts and awards. Unions had to be registered to bring a case and agree not to strike while a wage award existed. This encouraged harmonious relations and took the sting out of any militantly aggressive unions. William Reeves, who drafted the legislation, suggested that the act would “save...labour from itself” [quoted in Bennett, 2004, p. 58]. Labor would be “saved” in the sense that unions would be robust and have a process to follow for wage negotiations. This process was not embraced by Chelsea even though the legislation was considered enlightened and conciliatory. In 1903, some of the workers joined the Birkenhead Sugar Workers Union and took a case to the Arbitration Court. Laborers were awarded a reduction in hours from 54 to 48 for 42/- plus overtime of 1/1d per hour for six hours [memorandum, Auckland Arbitration Award, 1903, box 151]. This amounted to an effective increase of about 15%. Wages for boys were likewise increased. EWK had an uncompromising attitude towards unions. He did not appreciate being dictated to and was outright hostile towards workers who formed unions to negotiate wages and better working conditions. The company labeled union officials Moscow internationalists or Independent Workers of the World (IWW), a labor movement established in Chicago in 1905 whose motto was “the world’s wealth for the world’s workers.”

In 1903, the company dismissed the union secretary after the first wage award was granted by the Arbitration Court [1903, box 151]. In addition, Knox dismissed 115 men from the provident fund so he could use the contributions the company made on behalf of those employees (£258) to offset the increased costs of wages because of the new award. The company had employed this tactic before in 1894 when the Factories Act was passed, and it became illegal to pay boys off before a holiday of which there were only two. The cost of paying the extra day to 16 boys was taken off the picnic fund “because in this way the men would suffer and it is they not the boys who are responsible for the law making” [Miller to Auckland, 27/11/1894, box 145]. EWK also refused to employ boys once they reached 19 so as to avoid paying higher award wages. He threatened to cut back production at Chelsea if the award increased the cost of work. He was more sanguine about cutting employees out of the Employee Benefit Society because it had implications for increased accident insurance [memorandum, Auckland Arbitration Award, 1903, box 151]. EWK’s vindictive approach over the wage award is illustrated by his treatment of a watchman at Chelsea named Hatfield. Knox [letter to Auckland, 21/1/1903, box 151] states:

the Award of the Court has altered our position regarding this man, and he cannot expect any retiring allowance or pension. The rate of wage fixed is so high that a much more active man must be employed. Now that the men have seen fit to appeal to the Court, they must be prepared to submit to their decision, and they need not look to us to go out of our way to assist those who are not fit either for work or to earn the wages laid down in the schedule.

EWK went on to state that even men with long service “who cannot keep up to the faster stroke made necessary under the finding of the Arbitration Court” can no longer be employed [EWK to Auckland, 28/1/1903, box 151]. For EWK higher wages brought an expectation of greater productivity.

At the same time, EWK suggested that Auckland management consider changing employment arrangements by contracting with employees in the wash house, the refined sugar fugal, and the refined sugar store. Using the accounting information, he estimated that cheaper work could be done, especially in the refined sugar store, although contractors would be expected to pay award wages. The accounting mapping of the labor process also suggested segmentation of work as a cost saving measure in response to the award. For example, loading and delivery should be separated from the ordinary work of the store [EWK to Auckland, 28/1/1903, box 151]. Further suggestions were made in 1904 regarding using female labor in the bag-making area because the women are “more handy at the sewing and handling of the material than the boys are.” Auckland management, however, did not think it could employ women despite the possible cost savings [EWK to Auckland, 25/1/1904, box 151].

These strategies and tactics were always ready to be implemented at Chelsea under the direction of EWK. CSR did not view compulsory arbitration as its friend and were vindictive whenever the employees obtained a new award. The union asked for more concessions in 1905, which was a further catalyst for EWK to assert his control over Chelsea. EWK was upset with the unreasonable attitude of wage-earners in New Zealand and was disappointed with Chelsea management for meeting with the union representative, Mr. Wallace. EWK asserted, “no good whatever can accrue from your conference with the men...and anyhow the decision as to the course to be followed must rest with me” [EWK to Auckland, 1/2/1905, box 151]. No wonder EWK noted a “strong feeling against the Company amongst the men” despite the concessions of better light and ventilation in

the refinery [EWK to Auckland, 19/6/1905, box 151].

EWK promoted union officials as “professional agitators.” He would anticipate labor supply and demand in order to justify his hard-line stance against the company’s workers. EWK constantly compared Chelsea workers’ demands to those of the Australian employees, holding strongly to the idea “that the men working at Chelsea should not be put on a footing differing in any way from that of the Australian employees who certainly are not their inferior in capacity and probably do not live more cheaply” [EWK to Auckland, 25/3/1908, box 152]. He would not talk to any person who was not employed by the company. Cost of living increases asked for by the union would be dismissed by EWK as “the usual practice in New Zealand of paying fancy wages and passing the charge on to the consumer.” He would always reiterate the threat that sugar can be refined in Sydney and delivered to New Zealand just as cheaply as being produced in Chelsea [EWK to Auckland, 15/4/1908, box 152]. In 1910, CSR gave a bonus to all employees, both staff officers and wage earners. The bonus was given to wage earners who were under the award and those whose pay was not subject to an award. This was different to the 1905 bonus which only non-award employees received. EWK stated that the employees under an award got the bonus as a reward for not applying to the Arbitration Court during the last five years [EWK to Auckland, 22/10/1910, box 150]. EWK was responding to changing labor market conditions.

In 1911, a 5% increase in wages was given to the workers, and the company topped up the employees provident fund by £10,700 [EWK to Auckland, 31/1/1912, box 152]. However, EWK was quick to make the point that these increases in wages were driven in part by the extravagant expenditure of government money and were not necessarily permanent [EWK to Auckland, 12/11/1912, box 152]. In addition, EWK instructed the branch that “no written announcement is to be made: each man is to be told verbally at the pay window if his pay has been raised” [EWK to Auckland, 15/4/1911, box 158].

In 1914, the wage award for carpenters was set at 44 hours per week. This reduced hours from 47 hours for the same rate of pay. Since EWK objected to paying overtime, his solution to the issue was to have the men do all the necessary work in the reduced time [EWK to Auckland, 7/10/1914, box 152]. The company, in response to workers’ requests, gave out a weekly bonus for six months in 1915 to offset the unprecedented increase in the cost of food in 1915, but the bonus was only given to non-award

employees [EWK to Auckland, 12/8/1915, box 152]. In 1916, an employee was dismissed for “willfully slowing down in the rate of his work.” EWK attributed the “doctrine of slowing down” to the IWW. He accused some of the employees at the refinery of being contaminated by the IWW which had also happened at the Glanville refinery [EWK to Auckland, 1/6/1916 and 5/9/1916, box 152]. Union activity had increased greatly in New Zealand during the 1900s and had come to a head in 1913 with the Waihi miners’ strike and the Wellington watersiders’ strike the next year. There was a sense in the 1910s that, after a decade of inflation, New Zealand workers were falling behind other sections of society [King, 2003, p. 308]. There was worker discontent with the arbitration award system that banned strikes; unions were striking more frequently. This climate of employee-employer relations entrenched EWK further in his view that the company should not negotiate with unions.

World War I created a worker shortage for the company, so it offered bonuses to induce workers to the refinery. In 1916 and again in 1918, the hiring of female labor for bag making, sack darning, and syrup packing was considered although nothing came of it [EWK to Auckland, 29/11/1916 and 27/2/1918, box 152]. The bonus for the minimum adult wage was 6/- per week in 1916, 9/- per week in 1917, 12/- per week in 1918, 18/- per week increased to 22/- per week in 1919, and 26/- in 1920 [Cost of Manufacture, 1912-1925, box 114]. Again the bonuses were not applied to employees paid under awards. This increase in the amount of the bonuses irritated EWK so that in 1916, he suggested that the company needed to make a stand against further increases in wages without an increase in productivity. He further averred, “some of our employees may have thought our recent advances have been a sign of weakness, and that we would hesitate to be faced with a strike and thereby cut off the supply of refined sugar; but, while some inconvenience might be caused, actual hardship to the public could be avoided by supplying raw sugar. However, we trust that a position of this kind is not likely to arise” [EWK to Auckland, 19/12/1916, box 152].

The company proposed that employees work 11-hour days, and that in some areas of the production process, piecework rates be considered. However, Chelsea had to recognize that labor was scarce and that the workers had the upper hand. Some employees started seeking more reasonable conditions, such as taking a day (Saturday) off work without pay and wanting Christmas a paid holiday. CSR also had to deal with an increasing amount of arbitration awards from the Department

of Labour over occupation definitions. It was convinced that its refined store workers were just sugar workers and should not come under the Storeman's Award [Miller to Department of Labour, 23/5/1918, box 150]. The company dealt with the inspector of awards, visiting their refinery and classifying their workforce. This was intrusive on the company and in a sense the company was spoiling for a fight with its workers. CSR objected to the increasing power of the employees and the intrusiveness of union activity and the arbitration awards. Management started writing on industrial peace and how to meet the "evil of industrial discontent." EWK had the view that "co-operation between employer and employed is not to be looked for in the present state of human nature" [Miller to Head Office, 18/3/1919, box 150]. The view of the company was that the workers wanted too much and justified this extra amount by Marx's theory of surplus value. EWK gives a telling insight into his beliefs about his fellow man and perhaps why he was so autocratic. He avowed that "unless the character and intelligence of the average wage earner improves there is little hope of permanent improvement in his material condition...but what motive is there for a man to improve his character and behaviour if he is firmly convinced that his troubles all arise, not from any deficiency in himself, but from the unjust actions of other men?" [Miller to Head Office, 18/3/1919, box 150]. This rhetoric, enmeshed with the accounting regime of truth, was a powerful force.

The company and the workforce were on a collision course. In 1920, the employees went on strike over their proposal to reduce their hours to 44 per week and increase pay from 74/- to 94/- per week. The strike was pronounced illegal by the minister of labour because the union was registered under the 1894 Industrial Conciliation and Arbitration Act. The company retaliated by abolishing the employees' provident fund. The strike lasted 35 days and the Arbitration Court awarded the employees a 44-hour week but only a 6/- wage increase. The company did not hire back any of the union officers, and when they selected the men to return to work, the men were taken to the office and had their contributions to the provident fund refunded [Watson, 1979, pp. 20-23].

The accounting for wages was designed to evade and silence the voice of labor. Yet labor made its voice heard, offering a different narrative and accounting of its contribution to the company without the accounting details the company had created. Although labor did not have access to the detailed accounting records of costs and profits of the company, it was not

constrained in arguing its case for higher wages. Accounting information was not considered as significant a matter when dealing with a commodity business like sugar where the inputs of raw sugar and the outputs of refined sugar are easily obtained [Liberty and Zimmerman, 1986]. This, coupled with a transparent and well-documented manufacturing process, meant that labor was fairly confident of its wage demands despite the lack of access to the company's accounting information. In addition, the labor unions were motivated by social justice issues like human working conditions and livable wages. The alternative voice of the union challenged the prevailing accounting orthodoxy of CSR.

After World War I, the company deliberated extensively over whether Anzac Day should be included in 1924 as a paid holiday as it only wanted to pay for the Picnic Day and Good Friday. This attitude to the workers was representative of the way the company approached the refinery workforce. Knox was outraged by any sniff of union activity and segmented the workforce through actions like dismissal from the provident fund or the employee benefit fund or the granting of loans (advances) selectively. EWK did not completely have his way. Labor reappropriated its sequestered position through participation in the union. Not only did workers protest their repressed position but they also sensed moments of empowerment. Fateful moments, such as the crisis of an on-the-job accident or mobilizing periods of union activity, brought times of moral reckoning which placed labor outside the economic calculus of the company. The workers also appealed to tradition, religion, and national pride so they could withdraw from the rigors of their work to celebrate holidays such as Christmas and Anzac Day.

Chelsea entered into an exclusive supply agreement with the New Zealand government from 1917 to 1923 due to sugar's high demand as a staple commodity. These were essentially cost-plus contracts. The company became virtually an arm of the government much to the surprise of EWK. This situation led to negotiations with the government over selling prices of refined sugar so as to enable the company to make a reasonable profit. Prime Minister Massey decided in 1923 that the government should no longer be the sole buyer of Chelsea sugar. This had become a comfortable arrangement for CSR, and the company wondered whether it could adjust back to its free-market philosophy. In fact, the company concluded that to survive in New Zealand, it had to convince the government that a protective duty should be applied to all imported sugar if the company was going to

be viable. It even co-opted the support of the labor although the workforce was suspicious as to why the company needed its voice of support. This suspicion was not surprising given the history of acrimony with management. The company was able to obtain the support of Parliament by working with the Labour Party opposition as well as the government of Massey's Reform Party. EWK had retired at this point and was not involved in negotiating the protective duty to which he was ideologically opposed.

CONCLUSION

Accounting reports produce "truth-effects" [Foucault, 1980]. This paper provides an examination of domination and autocratic control exercised through two dimensions, the geography and ideology of accounting. It demonstrates accounting regimes of truth and how the narratives within which accounting is situated produce domination and exclusion. The sequestration of the workers' experience by the company is an example of such domination. Accounting meshed with narratives of power embedded in the autocratic control of CSR's general manager EWK throughout the company. These accounting power plays affected the distribution of wealth among workers, salaried employees, and shareholders. Accounting thus influenced the managers and through them the life of the company, its workers, and society as a whole. Accounting information was itself a source of power for management in that the way it was used influenced the behavior of management and shaped organizational reality. EWK was able to exercise his iron fist in a velvet glove of accounting reports which produced and imposed a truth which favored the shareholders. These truth effects were countered by labor providing an alternative narrative to be considered. Accounting is a contested discipline wrapped up in the organizational regime of the production of truth. Thus, the ideology of accounting is suggested to be legitimizing and dominating, diminishing the voice of labor in order to maintain the hierarchical, authoritarian culture of CSR.

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Box 114

Cost of Manufacture 31/1/1912-30/9/1925

Cost of Manufacture 1912-1925

Box 125

Cost of Manufacture 31/3/1903

Box 145

Letter Miller to Auckland 27/11/1894

Letter Auckland (Miller) to Sydney 1/2/1908

Box 150

Gatekeeper's Duties 19/7/1908

Letter Head Office to Auckland 29/3/1910

Letter Knox to Auckland 22/10/1910

Letter to Auckland Manager 30/12/1910

Letter Miller to Dept of Labour 23/5/1918

Letter Miller to Head Office 18/3/1919

Box 151

Letter Knox to Auckland 28/1/1903

Letter Knox to Auckland 21/1/1903

Letter Knox to Auckland 25/1/1904

Letter Knox to Auckland 1/2/1905

Letter Knox to Auckland 19/6/1905

Letter Knox to Auckland 2/8/1905

Letter Knox to Auckland 23/5/1906

Letter Knox to Auckland 28/4/1909

Memorandum, Auckland Arbitration Award, 1903

Box 152

Letter Knox to Auckland 25/3/1908

Letter Knox to Auckland 15/4/1908

Letter Knox to Auckland 10/5/1911

Letter Knox to Auckland 31/1/1912

Letter Knox to Auckland 12/11/1912

Letter Knox to Auckland 1/6/1916

Letter Knox to Auckland 5/9/1916

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Letter Knox to Auckland 19/12/1916

Letter Knox to Auckland 27/2/1918

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Letter Head Office to Auckland 25/5/1904

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Letter Knox to Auckland 15/4/1911

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Box 159

Chelsea Refinery Production Schedule 8/2/1896

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