

The Apostles of Development in Guatemala

In her 1991 assessment of the social and economic devastation caused by the civil war in Guatemala, Suzanne Jonas somberly concluded that “The Guatemalan experience abounds with lessons about the bankruptcy of the old order.” From her perspective, the country served as a “test case of [the United States’] ability to suppress social revolution in Latin America.” It was a place ruthlessly ruled by an illegitimate bourgeoisie-military coalition that refused to “permit reformist options.” But, she foreshadowed more optimistically, “Perhaps, as well, it holds some lessons about the possibilities for Latin American social transformation in the coming decades” (9).

Unbeknownst to Jonas, the Guatemalan sugar industry was undergoing deep changes as she wrote her more-bitter-than-sweet impressions. During the last two decades of the twentieth century, mills tore asunder their “old bankrupt order” and engineered a paradigmatic case of industrial transformation. In a national context in which agro-industries such as coffee and cotton struggled to survive,³⁸ the sugar mills profoundly transformed their production model and business strategy. As markets collapsed around them and the country became engulfed by a bloody civil war, they redesigned their work organization and technology, and diversified their products and markets. They also introduced entirely new and labor and employment practices that delivered significant social gains, including workforce skill development and improved worker conditions. Through these changes, and without the support of the state, the mills adopted an entirely new organizational form that set them apart not only from the Guatemalan traditional sugar processing approach, but also from the model and strategy of mills in neighboring sugar industries.

³⁸ Although the Guatemalan coffee and cotton industries, sharing a geographical location with the sugar industry, faced the same domestic economic and political conditions of crisis, society-wide transformations and state policies, they deepened their reliance on their traditional practices instead of spawning a new model and strategy.

How did the industrial transformation of the Guatemalan sugar mills unfold in such an unlikely context in which comparable industries largely stagnated or declined? As this chapter argues, the engine of change in the case was a religious ideology known as Vatican II Catholic social doctrine. This ideology had garnered attention in the 1960s and 1970s as the source of some of the most searing critiques of capitalism in the region. It served as a launching pad for numerous new, often anti-capitalist grassroots movements (Levine, 1992). Yet paradoxically, in the Guatemalan sugar industry, Vatican II Catholic social doctrine kindled the remarkable industrial transformation in sugar mills. It spurred a team of top firm decision-makers, the Apostles of Development, as they pursued numerous organizational changes that not only delivered remarkable economic results, but also improved the material conditions for most workers.

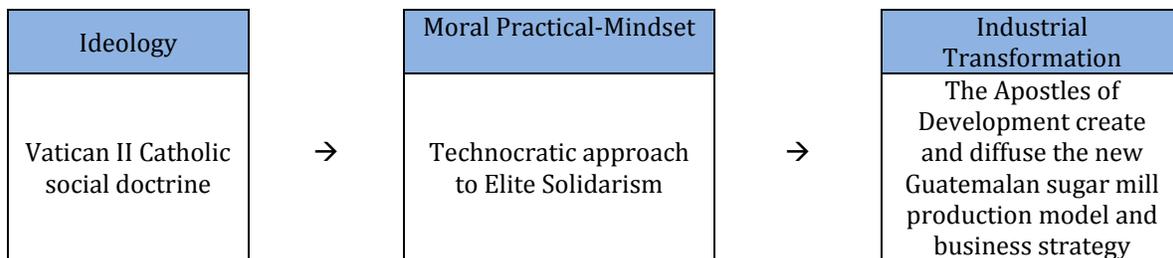
To understand how this ostensibly revolutionary ideology accounted for the industrial transformation in Guatemalan sugar mills, we must reveal the process of translation from the ideology's principles to the value-rational actions of the Apostles of Development. In this process of translation, a distinct interpretation of Vatican II Catholic social doctrine, "Elite Solidarism," played an indispensable role. Elite Solidarism emerged in Latin America in the 1960s. It most basically advocated a top-down interpretation of Vatican II Catholic social doctrine that exhibited traces of Dulles' (1987) hierarchical "institutional model of the Church." It sharply contrasted with the better known, radically grassroots Liberation Theology. As I will show, in the early 1960s, the teachers at an elite Jesuit high school in Guatemala City imbued the Apostles of Development with the substantive rationality of Elite Solidarism. This interpretation would drive and shape the transformation that the Apostles spearheaded in the sugar mills.

After high school, these Apostles studied engineering at Guatemala's public university. As a "directly productive profession" (Lipset, 1967), the practical business-oriented engineering directed the Apostles' efforts toward the secular

economic world. It allowed them to translate the principles of Elite Solidarism into concrete practices. In complementing the Elite Solidarism interpretation of the Apostles of Development, engineering bred a distinct moral-practical mindset among them, the technocratic approach to Elite Solidarism.

Through their technocratic approach to Elite Solidarism, the Apostles of Development initially devised an innovative production model and business strategy at one mill, Tajumulco. Following this creative endeavor, the Apostles of Development assumed a role as industry-wide champions of the new model and strategy. Impelled by the Elite Solidarism interpretation of the Catholic social doctrine principle of corporate solidarity and brotherhood of mankind, they actively disseminated their practices across the industry’s mills (see Figure 3.1). Their diffusion efforts fostered an industry-wide transformation.

Figure 3.1 Vatican II Catholic Social Doctrine as an explanation for Industrial Transformation



The diffusion process of Tajumulco’s model and strategy broadly resembled Powell & DiMaggio’s (1983) mimetic and normative institutional isomorphism. It mirrored other processes of mimetic isomorphism to the extent that, in a highly uncertain context, several mills imitated Tajumulco. But in addition, the Apostles of Development exploited different normative channels, such as personnel mobility and cross-firm organizations, to spread their practices. These normative channels proved indispensable for diffusion, ensuring that all mills in the industry gradually adopted the new model and strategy. Furthermore, this process of normative isomorphism promoted by the Apostles spawned different institutions usually

associated with inter-firm learning and collaboration. Mills joined an encompassing, cohesive business association and instituted a number of supportive industry-wide agencies. Mill personnel actively participated in professional networks. These institutions have allowed the industry's mills to continue along their rapid development trajectory.

The rest of this chapter is organized as follows: Section 2 contrasts the industry's prevalent production models and business strategies before and after the transformation. The third section traces the transformation of the sugar mills in Guatemala. It describes Vatican II Catholic social doctrine, the technocratic approach to Elite Solidarism, and the processes of creation and diffusion of the Apostles of Developments' new model and strategy. The chapter concludes with a review and summary of the findings.

Contrasting production models and business strategies³⁹

Between 1980 and 2000, mills in the Guatemalan sugar industry radically transformed their production model and business strategy. They introduced widespread changes, erecting a new, higher-road model and strategy over the wreckage of the old and discredited low-road traditional approach. This section describes this industrial transformation. It specifies the new practices along the four axes of comparison highlighted in this dissertation: production organization, work and employment practices, technology of production, and products and markets. Then it contrasts the new model and strategy with the traditional approach.

The new production and business strategy of the sugar mills

The first two building blocks of the new, transformational production model and business strategy are a distinct organization of production, and state-of-the art

³⁹ Unless otherwise stated, this section is informed by Bataillon, 2008; Bossen, 1982; COVERCO & International Labor Rights Fund, 2005; Figueroa Ibarra, 1980; Le Bot, 1995; Molina Calderon, 2005; Oglesby, 2002; Organizacion Revolucionaria del Pueblo en Armas, 1978; Valdez & Monzón, 2007; Wagner, 2007, and personal visits in January 2011.

technology. During the *zafra* season extending from September through May, teams of Guatemalan engineers obsessively direct production on plantations. They oversee highly trained seasonal migrant workers specialized in each step of the partially mechanized production process. Mills own or manage 70 to 80% of the plantations. They provide all tools, including the Australian machete and the cane packing vehicles, and invest heavily in R&D. Different mills have also introduced a variety of other innovations on plantations, including sophisticated irrigation systems and biological pest controls. Often, the mills share their agricultural breakthroughs with each other through different cross-industry organizations and institutions.

In the processing stage, a growing cadre of managers and engineers supervises the entire sugar production process. The execution of every processing step falls upon skilled technicians and operators. During the *zafra* season, they run the processing machinery continuously, crushing, wringing, draining and eventually burning the sugarcane in a seemingly endless cycle of transformation. In the off-season, the technicians and operators service all machinery, guaranteeing its smooth operation for the next *zafra*.

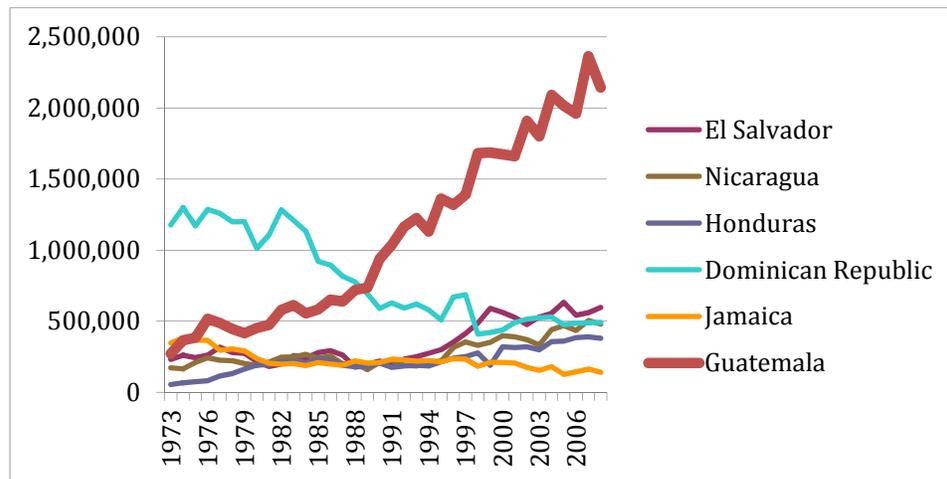
Through these work organization and technological innovations, the mills have multiplied their output and productivity (see Table 3.1). Between 1980 and 2000, the industry attained the highest average annual growth rates in production in Latin America, tripled its proportion of total world production (Food and Agriculture Organization of the United Nations, 2012) and left other sugar industries with comparable production levels in the late 1970s far behind (see Figure 3.2).

Table 3.1 Overview of the production and productivity changes in the sugar industry, 1978/1979-2009/2010

	1978/1979	2009/2010	% change
Production metrics			
Total sugarcane production (metric tons)	4,242,057	22,530,622	431.1%
Total sugar production (metric tons)	362,782	2,340,837	545.2%
Capital and land productivity metrics			
Cane (metric tons/hectare)	78.99	102.40	29.6%
Sugar (metric tons/hectare)	6.76	10.55	56.1%
Sugar (metric tons/ha/month)	0.59	0.92	55.9%
Labor productivity metrics			
Cane cutting (tons/worker day)	~1 - 2	~ 6	~200% - 500%

Source: CENGICANA 2008 and 2011; Oglesby 2000; Personal communications with managers, 2010.

Figure 3.2 Raw sugar production (in metric tons) for selected countries, 1973 – 2008



Source: International Sugar Organization (1976, 1981, 1986, 1992, 1997, 2001, 2006, 2010)

Upgraded work and employment practices complement the sugar mills' technology and organization of production, and offer significant social gains for most of their workforce. Permanent workers are employed mostly in administrative, technical and maintenance activities in mills. They reside in nearby towns, often in mill-provided housing. They undergo extensive training, receive a number of benefits and earn high wages relative to other industries. At the same time, mills curb union representation and worker voice, with management centralizing decision-making.

On plantations, mill human resource departments hire seasonal cane cutters – who represent over 70% of the workforce – on three- to six-month written contracts. Cutters sleep in clean, ventilated, barrack-like residences. They access an array of programs in nutrition, education, health and recreation. The debilitating work on plantations calls forth tremendous physical effort. But under the prevailing compensation scheme, piece-rates with additional bonuses match or more often exceed the national minimum wage (hovering around \$4 to \$5 per day in the early 2000s) and the prevailing wage in comparable industries (COVERCO & International Labor Rights Fund, 2005; Oglesby, 2002). Cane cutters also receive a series of benefits from mills, including low-cost housing, support for production cooperatives, life insurance, low-cost loans, end-of-harvest bonuses, and matching savings accounts.

The production model of these mills works alongside a business strategy valuing product diversification and export markets. Mills specialize in a wide range of products, including electricity, fuel alcohols, drinking alcohols, candy, refined sugar (about 25% of production), and low-grade raw and white sugar (see Table 3.2). They export over 70% of their sugar output to the competitive international spot market, pushing their way into Latin American, North American, European, Asian, and increasingly, African markets. Through this aggressive strategy, Guatemalan mills have rapidly moved up the ranks, becoming the fourth largest exporting sugar industry in the world in 2012 (FAO 2013). In a relentless bid to extend not only their export but also their production reach, the mills have also begun purchasing land and mills in nearby countries (e.g., Nicaragua, Honduras).

Table 3.2 Products for selected mills, 2012

Mill	Products
Acatenango-Atitlan	Range of sugar types, molasses, electricity
Tacana	Range of sugar types, alcohol, electricity
Cerro Quemado	Range of sugar types, alcohol, electricity
Tajumulco	Range of sugar types, alcohol, electricity, candy
Santiagouito	Range of sugar types, rum

Alternative organizational form: the traditional production model and business strategy

The new production model and business strategy of the Guatemalan sugar replaced the pre-transformation, traditional approach, which prevailed through the 1970s. This cost-cutting traditional model mirrored the “low road strategy” of industrial relations theory: it privileged low-productivity processes and technologies on plantations – 80% of them owned by independent sugarcane producers (i.e., plantations not owned by mills) – and mills. It also fostered conflicts across different industry actors and appalling labor conditions.

On plantations, a thin crust of untrained and autocratic field managers and supervisors assigned sugarcane plots to teams of malnourished migrant seasonal cane cutters. Pay was pre-set for the team. Cane cutters utilized their own tools, learned cane-cutting techniques from each other and independently defined the work process. Plantation owner investments on agricultural processes and equipment remained marginal. Mill production mirrored plantation processes. Untrained workers operated second-hand, imported machinery. Only one or two engineers supervised the entire operation. And price disagreements between the mills and their cane suppliers often paralyzed production.

The plantation and mill workforce labored under deplorable conditions. Seasonal migrant cane cutters, an indigenous force constituting the vast majority of the industry’s workers, slept with their families on the dirt floor of overcrowded Dante-esque galleys.⁴⁰ Recruited by abusive labor contractors in the highland regions of the country, cutters and their children toiled for over 14 hours per day. Average wages remained well below \$1 per day, and gun-brandishing supervisors often resorted to physical and verbal excesses.

⁴⁰ Families settled in small sections of the cramped galleys, sleeping on the floor and setting up makeshift walls out of plastic or cloth. In only a few cases did cement walls or floors protect workers from malaria, polluted stagnant water, flies and insecticides. Most of these galleys lacked electricity or running water (Bossen, 1982; Figueroa Ibarra, 1980; Molina Calderon, 2005; Oglesby, 2002; Valdez & Monzón, 2007; Wagner, 2007).

Mills employed most of the remaining industry workforce on a year-round basis. These permanent workers lived in shantytowns, or *rancherías*, on the plantations. Employers furnished them with certain benefits, most notably plots of land. In exchange, they submissively complied with all employer demands. This manorial dynamic, however, began breaking down in the 1970s. An employer drive to raise production by removing these workers from mill land triggered militant opposition.⁴¹ Permanent workers in at least 10 of the industry's 18 mills organized unions. By the late 1970s, constant strikes strained labor relations.⁴²

This production model complemented a narrowly focused business strategy. The mills only produced low-grade unrefined white and raw sugar. Comparable to production to neighboring Nicaragua's and El Salvador's, their sugar production vastly trailed Cuban and Dominican output. The mills sold most of their product (over 70%) domestically through middlemen or in the US quota market.⁴³

⁴¹ Similar contentious processes of change arose in other agro industries (e.g., coffee, cotton, cattle ranching) throughout Central America during this period (Dunkerly, 1988; J. Paige, 1997; Williams, 1986).

⁴² Most union members worked as mill operators, although permanent year-round field workers and supervisors also participated in the union. Their commonalities – essentially their permanent worker status and claims to mill land – held these different worker groups together in the unions.

⁴³ They exported the remainder to the lower-priced international spot market.

Table 3.3 The pre- and post-transformation production models and business strategies in Guatemala's sugar industry

	Pre-transformation	Post-transformation
Labor and Employment Practices	<p>On plantations, poorly trained migrant seasonal cutters (80% of the industry's workforce) with substandard living conditions (<i>galeras</i>, poor quality meals, no personal hygiene facilities); negligible benefits; daily wages at or below the minimum wage; extensive use of contractors for recruitment; family work involving widespread child labor</p> <p>In mills, the mostly permanent workforce housed on plantation land with access to certain mill/plantation-supplied services (water, electricity, food); year-round employment with benefits; relatively high levels of unionization</p>	<p>On plantations, continuously trained migrant seasonal workers housed in specially constructed, clean dormitories with individual beds, bathrooms, showers, and washing areas; industrial kitchens provide workers with all meals; array of recreation facilities/opportunities; no child labor on mill plantations; HR departments responsible for most hiring through written contracts; daily wages above minimum wage; wide array of benefits</p> <p>In mills, the mostly permanent workforce provided housing off plantation land, in nearby towns; extensive training and relatively high wages; only one (weak) mill union survives</p>
Work Organization	<p>On plantations, seasonal cutters responsible for cutting, packing and loading cane; low levels of labor productivity; non-professional Spanish field administrators direct production</p> <p>In mills, engineering expertise for mills provided in part by Cubans; limited professionalization among mill workers</p>	<p>On plantations, a Taylorist organization of production; piece-rate wages for workers with bonuses; high levels of labor productivity on fields; professionalization of top echelons of the plantation command chain</p> <p>In mills, high professionalization of mostly Guatemalan engineers; training for all mill workers</p>
Technology	<p>On plantations, workers supplying their own tools; non-existent agricultural R&D; reliance on imported cane varieties</p> <p>In mills, use of second-hand, wasteful mill machinery</p>	<p>On plantations, mill-provided tools; mechanized bundling and loading of cane; just-in-time cane delivery; high investments in agricultural R&D</p> <p>In mills, hefty investments on processing equipment; some use of automated equipment</p>
Products and Markets	<p>Production of (raw and white unrefined) sugar for sale in the domestic and US quota markets</p>	<p>Production of (raw, white, refined) sugar, electricity, fuel alcohol, drinking alcohol, candy</p> <p>Primary focus on export market through strategies of internationalization of production, brand name commercialization</p>

Tracing the transformation

The industrial transformation of the Guatemalan sugar mills, involving the introduction of the new production model and business strategy, defies common explanations focused on the state or inter-firm collaboration. Drawing from the experience of other countries, accounts of transformations in sugar industries often emphasize supportive state policy or foreign direct investment. Yet in Guatemala, the mills could count on neither. Unlike the Brazilian, Mexican or Thai states, for instance, the fiscally weak and war-focused Guatemalan state failed to develop the bureaucratic, fiscal, technical and clientelistic capacities necessary for state-led modernization (Barzelay, 1986; R. F. Doner, 2009; Mertens, 2008; Pereira, 1997).⁴⁴ And in contrast to the 20th century industries of Peru and some Caribbean islands, Guatemalan mills remain domestically owned. Their only contact with international firms was restricted to brokers uninterested in production upgrading⁴⁵ (Ayala, 1999; Mintz, 1974, 1986; Paige, 1975).

So how did this transformation arise in Guatemala? Interviews with key informants suggest that a religious ideology, Vatican II Catholic social doctrine played a central causal role in this case of industrial transformation. This ideology spurred and shaped the value-rational actions of a team of ideological carriers, the Apostles of Development. Acting as top level decision-makers in the industry's mills, the Apostles created and diffused the new model and strategy. This central finding largely echoes a growing ideational literature linking ideology to economic policies and business practices. Profoundly influenced by Weberian arguments, this literature posits that ideology molds the interests of actors and, as a result, the

⁴⁴ Nor did the Guatemalan state bureaucracy enjoy the necessary embedded autonomy (Evans, 1995). Rather, adversarial business-state relations characterized most of the 1970s and 1980s as the military increasingly sought to wrest control of economic policy from the traditional business sector (Dosal, 2005; Valdez & Palencia, 1998). Such friction extended to the sugar industry (Interview #3, June 8, 2010). As a result, the state provided the sugar industry with none of the developmental support policies documented elsewhere (Amsden, 2003; Evans, 1995; Kohli, 2009).

⁴⁵ At the time, these buyers focused on purchasing raw sugar.

solutions they devise for economic and business problems (Blyth, 2002; Geertz, 1963; Hall, 1989; Weber, 1905).

At the same time, the association between Vatican II Catholic social doctrine and a number of distinct actions inimical to capitalist development, most notably the formation of guerrillas, underscores the need to explain how this ideology translated into the transformative actions of the Apostles. As the following section reveals, Vatican II Catholic social doctrine inspired Liberation Theology, the well-known interpretation associated with such progressive actions. But crucially, it also spawned an alternative, more conservative interpretation, Elite Solidarism. This alternative interpretation prioritized certain moral and political imperatives and aspirations inherent in Vatican II Catholic social doctrine. In Guatemala, its causal map and taxonomy stimulated and guided the actions of the Apostles of Development in the sugar mills. Elite Solidarism urged them to first create the new model and strategy at one mill, Tajumulco, and later to diffuse it across the industry.

Notably, in enacting the moral and political imperatives and aspirations of Elite Solidarism, the Apostles of Development drew upon their professional background as engineers. This background played the necessary role of directing their actions toward the business realm and supplying practical knowledge and skills. It provided the Apostles with the required tools to foster an industrial transformation that responded to the moral concerns stressed by the Elite Solidarism interpretation of Vatican II Catholic social doctrine.

The ideology and its interpretations

Vatican II Catholic social doctrine emphasized the pursuit of the common good as its guiding principle. In this pursuit, the Church instilled a sense of mission and moral responsibility among its flock. Not unlike Weber's Calvinism, the post-Vatican II Church demanded that its followers put their faith to the test in secular life. During the 1960s and 1970s, Papal Encyclicals and other Church documents called upon the Church's "sons," especially the more able and privileged "apostles of development,"

(Pope Paul VI, 1967) to abandon a purely spiritual understanding of salvation (Berryman, 1973; Dulles, 1987; Gutiérrez, 1970). It urged them to actively work to “answer the cries” of “suffering peoples” and to create “an economy which is put at the service of man” (Pope Paul VI, 1967).

In its definition of the common good, Vatican II Catholic social doctrine developed a set of second-order principles. First, it demanded respect for human dignity and the rights “which pertain to the necessities of life, health care, education... professional training, housing, work, and suitable leisure and recreation (Pope John XXIII, 1961:11). The Church sought to “awake in [Latin American Catholics from the lower classes] a sense of personal dignity, hope and confidence that they [could] change their fate...” (Smith 1975, 23). Workers, for example, were not “mere cogs in the machinery” of firms. Like the rest of humanity, they were “the foundation, the cause of every social institution” (Pope John XXIII, 1961, 5).

Second, the Church urged subsidiarity in society (Stepan, 1978). It defended private property as inscribed in natural law. The State should refrain from performing functions readily fulfilled by “smaller or lower societies” (Pope John XIII 1961, 9). Instead, it should support private enterprise in the pursuit of economic development. In this vein, the Church starkly drew “the fundamental opposition between Communism and Christianity.” It made clear that “no Catholic could subscribe to even moderate Socialism” (Pope John XXIII, 1961: 5).

Third, building on a long Catholic tradition emphasizing the corporate solidarity of mankind (Smith, 1975), the Church underscored “the principle of human solidarity and Christian brotherhood” (Pope John XXIII 1961, 4). This principle stood in opposition to both the Marxist emphasis on class warfare and the Liberal preference for unrestrained competition. The Church strongly encouraged Catholics to “work together in harmony,” their individual efforts “proportioned to the needs of the common good” (Pope John XXIII 1961, 7).

However, despite the Church's effort to provide a clear, coherent doctrine, its principles drew varying, and at times even contradictory, interpretations among Catholics (Dulles, 1987; Smith, 1975). Throughout Latin America, these contrasting interpretations, which underscored different aspects of the doctrine's teachings, spurred distinct decisions and patterns of action. In a manner analogous to Berger's (1985) Catholics in France, these contrasting interpretations, rooted in the Church's historical narratives, "released fragments" of the existing "socio-religious order" to travel along diverging new paths, "onto terrain outside the influence of the Church." It often thrust them "into alliance and combination with groups of entirely different genesis and history." These "fragments" would "adapt to the new circumstances by reworking and reordering the load of historical experience, transcendent aspirations, and political visions they [brought] with them from the Catholic past." But, they would also "modify their new allies, by disrupting within them the old balances of force and interest, material and ideal" (23).

On the one hand, the Church spawned the better known, more progressive and even revolutionary Liberation Theology (Berryman, 1973; Gutiérrez, 1970; Smith, 1975). To pursue the common good, Liberation Theology encouraged bottom-up democratic and independent participation through such mechanisms as Freire-inspired conscientization campaigns⁴⁶ in impoverished areas. It envisioned transformative grassroots involvement, primarily among the poor, in the construction of a new society as constituent of individual human dignity. It also decried paternalistic approaches to change and resisted hierarchical initiatives, even from the European Church. It introduced a powerful critique of capitalism and linked poverty to structural inequalities (Levine, 1992). And though it inspired some revolutionary activity, many of the bearers of Liberation Theology strove for harmonious social relations and collective action through the creation of such organizations as Christian Base Communities, cooperatives and peasant movements.

⁴⁶ According to Smith (1975), "the Paulo Freire method of conscientization, [combined] Biblical themes of Exodus and liberation with techniques for self-determination and community organization" (9).

However, Vatican II Catholic social doctrine also bred an alternative, more conservative interpretation often dismissed as a mere reaction to Liberation Theology or as an attempt to preserve the status quo. I call this interpretation, the conservative twin to Liberation Theology, Elite Solidarism. Elite Solidarism underscored the transformative role of society's more economically privileged individuals. Church bearers of this interpretation directed their energies to the private education of children from the upper and middle classes (Smith, 1975). They envisioned these children, the owners, managers and politicians of the future, as the most effective agents of change.

In opposition to Liberation Theology, Elite Solidarism advocated an understanding of social and economic reform that echoed many of the strongly hierarchical conceptions of authority in Dulles' "institutional model of the Church."⁴⁷ Its conception of the common good emphasized material needs and took a rather totalitarian turn, largely dismissing subaltern participation in social transformation. Children educated in elite Catholic private schools essentially became the electi. As the Church's "apostles of development," responsibility fell upon them to lead the flock in the pursuit of the common good.

In this pursuit, Elite Solidarism circumscribed human dignity to respect of the individual and "satisfaction of their basic needs... food, housing, clothing, education and recreation" (Interview #5, 07/14/2010). It curbed worker and peasant organization, deeming it detrimental to business. Elite Solidarism also limited corporate solidarity to collaboration among the privileged electi. And its interpretation of the principle of subsidiarity underscored the staunch defense of private property (Interview #12, 07/19/2010; Interview #01/26/2011).

⁴⁷ Dulles (1987) explains that under this model, "The Church is not conceived as a democratic or representative society, but as one in which the fullness of power is concentrated in the hands of a ruling class that perpetuates itself by cooption" (30-31).

Table 3.4 Contrasting interpretations of Vatican II Catholic social doctrine

Vatican II Catholic social doctrine principles	Liberation Theology interpretation of principles	Elite Solidarism interpretation of principles
Human Dignity	Emphasis on the empowerment of the poor	Emphasis on the material needs of all members of society, satisfied by the hierarchical actions of the Apostles of Development
Subsidiarity	Rejection of paternalistic state approaches that constrains the actions of the poor	Uncompromising defense of private property and rejection of all state intervention in business matters
Corporate Solidarity of mankind	The poor as active, prioritized members of the brotherhood of mankind	Exclusive brotherhood of the Apostles of Development

The Apostles of Development and the Technocratic Approach to Elite Solidarism

In Guatemala, the young men who would become the Apostles of Development in the sugar industry studied at Saint Ignatius, an elite, all-boys Jesuit school in Guatemala City. Most of them graduated in 1963 as members of the school’s fourth class.⁴⁸ Saint Ignatius imbued the Apostles with the Elite Solidarism interpretation. At the school, the Apostles also forged close bonds and formed a cohesive team.

While at Saint Ignatius, the Apostles received the traditional Jesuit humanist education, influenced during the 1960s by the Elite Solidarism interpretation of Vatican II Catholic social doctrine. But their participation in summer “conscience-raising” courses, or “Cursillos de Capacitacion Social,” proved just as influential as their formal classes. Organized jointly by Saint Ignatius teacher-priests and teacher-nuns from the all-girls Maryknoll school, Heart of Mary, the short-lived Cursillos brought together over 50 students from Saint Ignatius, Heart of Mary and, to a lesser extent, other elite Catholic schools (e.g., Saint Marcellin Champagnat). Lasting only a few years in the 1960s, they covered theoretical and hands-on material. In theoretical classes, “we studied laissez-faire liberalism, capitalism, and neo-capitalism, and saw how these doctrines provided the rationale for the corrupt and

⁴⁸ Five students from this class entered Tajumulco. One student a year older and another two years younger also entered in this first cadre of Saint Ignatius-educated managers.

exploitative labor practices... We learned how Marx and Engels developed the doctrine of Communism to explain class struggle as part of the historical evolutionary process... Finally, we turned to Christian social doctrine, as expounded in the key papal encyclicals... finding in its program of justice, equal opportunity, and charity to right the world's evils" (Melville & Melville 1971, 131-132).

The hands-on component, in turn, served to both awaken a sense of social responsibility and develop a methodical lifestyle akin to Weber's asceticism. Cursillo activities began at 5:30 a.m. and finished at 11 p.m. Students visited impoverished areas and prepared projects on social injustice in Guatemala. Discipline was "semimilitary" (Melville & Melville 1971, 130). Mentors assigned chores to students and encouraged them to work as a team.

According to Porras (2009), a graduate from Saint Marcellin Champagnat who participated in the Cursillos, the goal was to "awaken the social conscience of young people" who "given their social position and educational opportunities, were called upon to perform leadership roles in politics, the economy and society. The idea was to create a process of reforms and social changes motivated by the Christian ethic, but also to build an efficient barrier against Communism" (36). One participant described the success of the Cursillos: "the social Christian tradition had a huge impact on the students...People usually focus on the revolutionary effects [of these courses] but they don't realize how the moderate people of that group have had a very important influence on what has happened in Guatemala as well, and on the sugar industry's relative modernization specifically" (Interview #13, 07/20/2010).

In interviews, the Apostles of Development described how this education shaped their lives. They developed close friendships and some married women from Heart of Mary (Interview #6, 07/19/2010; Interview #14, 07/29/2010; Interview #21, 08/09/2014; Interview #26, 01/19/2011). More importantly for our purposes, the Jesuits and their courses inculcated in them "the same questions, the same interests... the commitment" to "participate and actively work to change this

country” (Interview #5, 07/14/2010; Interview #12, 07/19/2010; Interview #13, 07/20/2010; Interview #22, 08/13/2010). Much like Weber’s Calvinism, Elite Solidarism set a higher standard for its “electi” and instilled in them a vocation: it encouraged them to “pursue the Christian ideal of a career as an opportunity to serve those less fortunate rather than simply as a means of earning money...” (Melville & Melville 1971, 129). As a result, the Apostles of Development cast themselves as a team of enlightened leaders, morally responsible for unilaterally effecting change.⁴⁹

After graduating in the mid-1960s from Saint Ignatius high school, the future Apostles entered the national public university. Without exception, they studied at the engineering department, becoming either industrial or agronomist engineers. They finished their professional training by the early 1970s. This professional background directed the Apostles toward the business realm. It also offered the necessary business knowledge, skills and tools for them to translate the moral and political imperatives and aspirations of Elite Solidarism into concrete business practices in the sugar mills. In particular, it focused their attention primarily on problems of inefficiency, and management arbitrariness and lack of control (Guillen 1994). It also legitimized their actions by underscoring “man’s obligation to transform nature, and a robust confidence in his ability to control and manage nature rationally” (Espeland 2001, 411). In Guatemala’s sugar mills, this engineering ethos readily complemented the Apostles’ Elite Solidarism interpretation to foster a particular moral-practical mindset, the technocratic approach to Elite Solidarism. Only by recognizing the intervening role of this moral-practical mindset can we understand the Apostles’ reasons for and actions of transformation.

⁴⁹ As one manager put it: “We had been trained with this style of management of our subordinates very oriented toward social justice... We have been pioneers in the sugar industry, first in the labor changes... then we were at the vanguard” of production changes. (Interview #6, July 19, 2010).

Neomorphism

The Apostles of Development joined one of the most influential mills in the industry, Tajumulco, shortly after completing their engineering education. At the time, Tajumulco, which had once led the industry as the largest producer, faced mounting firm-level shocks. Its production stagnated, leading seven other mills to surpass its sugar output by 1973 (Asociacion de Azucareros de Guatemala, 1974). Furthermore, following the sitting management's clumsy attempts to remove permanent workers from mill-owned land, workers mobilized. They revitalized the mill's dormant union, turning it into one of the largest and most militant in the industry.

In the economic and social upheaval of the 1970s, comparable firm-level shocks affected other mills in the industry. But in contrast to these mills, only Tajumulco employed the Apostles of Development. Tajumulco's owning family, concerned with the fate of the mill, made the drastic decision to replace its entire management team. The young, French-educated scion of the family assumed the presidency of the organization, with the leading Apostle as his second-in-command. Over the next few years, this leading Apostle would form a team of Apostles of Development, placing his former schoolmates in the mill's top positions (e.g. mill production manager, human resource manager, agricultural production manager). By the mid-1970s, they controlled all but one of the top five management positions in the mill, forming a small cohesive team.

Scott (2008) has argued that both demand- and supply-side pressures can foster the development of new organizational practices: they may arise out of pervasive problems demanding solutions, or they may be pressed upon organizations by actors in privileged roles. Both types of pressures played a role at Tajumulco. Influenced by Elite Solidarity and challenged by the troubling state of the mill, the Apostles of Development defined their vocation to pursue the common good as a mission to transform the mill's business model. This mission combined the responsibility to transform the production model with the duty to improve worker conditions, especially for seasonal cane cutters. The existing sense of crisis at the

mill facilitated their project of transformation. Distressed by the mill's decline, the owning family gave the Apostles "carte blanche." The Apostles took the opportunity to craft a unique response to the crisis (Interview #5, 07/14/2010).

They spent considerable energy changing the "shocking" and "undignified" conditions of mill cane cutters. As one of them recalled, "one felt responsible for the situation. We could cry or we could see how to change [it]. It was a shock [to see those conditions], but our main goal [was to] raise wages and living conditions..." (Interview #26, 01/19/2011). According to another Apostle, "we had been taught that subordinate treatment must be directed toward social justice... the worker was not just another element in production, like machinery, but a human being with all the characteristics of dignity of a human being. So treatment of this human being must be dignified" (Interview #6, 06/19/2010).

Thus, Elite Solidarity provided a diagnosis of the problem and general guidelines to address it. But the Apostles of Development needed to translate this diagnosis and guidelines into concrete practices to transform the mill. In this process of translation, the evidence suggests that the engineering background of the Apostles complemented their Elite Solidarity interpretation. We can assess the importance of this professional background by drawing a comparison with a number of the Apostles' classmates from Saint Ignatius. Most of these classmates also enrolled in the school's extracurricular Cursillos, and acquired the same Elite Solidarity interpretation. Yet, in contrast to the Apostles, they pursued transformative efforts in other spheres of social life, particularly in social services and politics.⁵⁰ None toiled in a mission to foster industrial transformations with social gains, despite sharing the Elite Solidarity interpretation.⁵¹

⁵⁰ For example, an interviewed doctor spent most of his time treating impoverished populations in rural Guatemala, particularly during his younger years. And some of the lawyers and religious students participated in politics, even taking top government positions.

⁵¹ For a more detailed explanation, see Appendix 4.

What set the Apostles apart from these classmates was their engineering education. Engineering offered the necessary knowledge and tools to orient the Apostles' transformative actions toward business and industrial development. In contrast, their classmates pursued degrees in medicine, architecture, religious studies (i.e. clergy) and law – all of them “traditional elite professions” according to Lipset (1967). These professions lacked the practical business skills offered by engineering.

Thus, the Apostles deployed the engineering professional ethic to devise practical business solutions to the problems that Elite Solidarity diagnosed. However, it is important to note that other engineers, all of them graduates from the same national university of the Apostles, had been employed in the industry for some time before the arrival of the Apostles, many of them in high-ranking positions. Moreover, these older engineers often called upon Cuban exiled consultants with vast sugar industry expertise for advice. Yet, despite their broad access to the business-focused knowledge and tools of the profession, they lacked the sense of a larger mission and moral responsibility instilled in the Apostles by Elite Solidarity. Absent the urgent drive to execute change, they concentrated on shepherding marginal changes in production. Rather than demolishing the prevailing model and erecting an entirely new one, they were satisfied to oversee the continued operation of a slowly decaying, traditional approach. It would take an ideological shift to “break through the barriers of stagnation... ignite the imaginations of men [and] place their energies in the service of economic development...” (Gerschenkron 1952, 24).

This ideological shift arrived with the Apostles of Development. The Apostles followed the technocratic approach to Elite Solidarity, their moral-practical mindset, to methodically introduce their practices. They looked not only to take control of all aspects of production, but also to fulfill their responsibility as electi. One observer who participated in most of the process of organizational innovation recalled the “great change. They put buses [to transport workers]... Then we brought the nutritionist to see what menu we gave cane cutters. I remember the

firm [chose] the most expensive menu, with eggs, meat, milk, enough tortillas, vegetables, fruit... And [cane cutters received] housing, mattresses, lockers, showers, soap, dishes, an adequate eating area with tiles, hydration with sodium and potassium... [And] for every Quetzal the cutter saved, the firm gave them fifty cents” (Interview #27, 03/22/2011). These changes redounded in notable labor condition improvements. They also deepened manager control of the workforce.

Such improvements proceeded alongside the transformation of production processes. The Apostles faced an economic problem as pressing as the social problem of worker conditions. They urgently required productivity increases to improve the mill’s performance, appease the owning family and underwrite the costs of their human resource and employment practice innovations. As one of the leading Apostles explained, “what happens is that there are two easy systems. One was to say [to workers], ‘eat shit,’ we’ll pay you this [low wage]. The other said, ‘no, look, we’ll raise wages’” without changing anything else. “But [a third] more complicated system was to say, ‘no, look, we’ll raise wages, but we will also change the work systems [to raise productivity]” (Interview #26, 01/19/2011). The Apostles chose this third option. Their choice demanded a new production model and business strategy for the mill.

In developing this model and strategy, and instigating the transformation of the industry’s mills, the Apostles followed an uncharted upgrading path. Seeking inspiration to devise new production practices, for instance, they traveled abroad, a first in the industry. They visited Colombia, Brazil, Australia and other sugar producing countries to observe different sugar production models. They defied mocking and criticism by managers and owners from other mills, most if not all of them educated in schools other than Saint Ignatius.

Relying on their technocratic approach to Elite Solidarity, the Apostles of Development wove the observations from their travels into a unique quilt of production practices. The new production model rationalized every step of

production. On the plantations owned by Tajumulco, they introduced scientific management, an unsurprising choice given their engineering background. They took full control of decision-making in agricultural production by disbanding the traditional team-based system and separating work conception from execution. The Apostles then focused on individual cutters. They developed time-and-motion studies, spent copiously on worker training, and changed the wage setting mechanism to a piece-rate. Wages, complemented by performance-based bonuses, surpassed the minimum wage and rewarded individual performance rather than job category (Oglesby, 2002). The Apostles also introduced new technology. They imported and improved upon the Australian machete, and mechanized parts of the production process (e.g., cane transportation from field to mill).

In the mill, the Apostles devised a similar transformation. They hired a Miami-based Cuban engineer with vast experience in sugar milling to assist them in redesigning, renovating and expanding their processing facilities. They invested heavily in new machinery and trained lower level technicians and operators. Lastly, they hired an entire cadre of young engineers. As graduates of Saint Ignatius or the public university's engineering department, most of the newcomers moved in the same social circles as the Apostles. Along with new recruits at all levels of the organization of the mill, they underwent pervasive on-the-job-socialization emphasizing Tajumulco's new business approach.

These changes in production delivered almost immediate results. Between 1973 and 1976, the mill's sugar production quadrupled. The period was marked by booming international prices and a rising US quota allocation for Guatemala (Asociacion de Azucareros de Guatemala, 1977; United States Department of Agriculture, 2012). These international conditions triggered rapid growth across the industry. But Tajumulco's growth far surpassed that of all other mills. It doubled its proportion of the industry's total production. By 1977, it ranked as the top producer in the country, accounting for almost 20% of the industry's total production (see Table 3.5).

Table 3.5 Tajumulco total raw sugar production, percentage of total national production and rank in national industry, 1970 – 1977

Year	Tajumulco Production (quintals)	Tajumulco's Percentage of Total National Production	Tajumulco's rank in the national industry
1970/71	536,463	12.5%	4
1971/72	571,839	11.4%	4
1972/73	504,362	8.76%	8
1973/74	824,053	12.06%	4
1974/75	1,222,872	15.07%	1
1975/76	2,009,419	17.22%	2
1976/77	2,105,259	19.06%	1

Source: Asociacion de Azucareros de Guatemala (1971, 1972, 1973, 1974, 1975, 1976, 1977)

The dramatic efficiency gains on the agricultural front also prompted a shift in land tenure patterns, even though government land tenure regulations remained unchanged. Until then, independently owned plantations produced most of Guatemala's sugar cane. Yet, with the advent of the new production system on the plantations, the Apostles realized the magnitude of their field productivity gains and the potential economies of scale of the new production organization. They thus wrested land from independent producers. Constrained by their economic limitations and traditional views on production, and enticed by the high prices Tajumulco could offer, most independent producers rented or sold their land rather than trying to adopt Tajumulco's new field practices. For the few that resisted their onslaught, the Apostles and their growing professional mill bureaucracy would eventually offer guidance and inputs in a pedagogical fashion reminiscent of large buyers in global value chains (Gereffi, 1999; Navas-Aleman & Bazan, 2004).

In addition, the Apostles accelerated the removal of permanent workers from mill land against staunch union opposition. The method of removal sheds light on another facet of the industrial transformation: the hierarchical and autocratic manner in which they executed the changes. For the mill union, the question of permanent worker residence constituted a central mobilizing issue. Born and raised on mill land, depending on the mill for year-round employment and relying on mill-

provided plots for additional income, permanent workers organized in the union resolutely opposed removal.

For the Apostles, the challenge involved more than simply recovering mill land. They sought to regain total managerial control of all facets of production. As an opposing “coalition,” to use Cyert and March’s (1963) terminology, the union stood in their way. Their technocratic approach to Elite Solidarism once again steered the trajectory of their transformation, providing a powerful ideological justification for their decisions. Their hierarchical view of change undergirded the imposition of their version of the common good. From their unitary view of the firm, which rejected any notion of class conflict, unionists who opposed them simply ignored the potential benefits of the changes or worse, consciously pursued particularistic interests to the detriment of the good of the community.⁵² This view echoes Espeland’s documented “insularity” among the “Old Guard” Arizona engineers, i.e. an inability to “imagine that their comfortable assumptions about the world” generate dissent and a tendency to perceive opposition as “both baffling and deeply threatening” (415).

Furthermore, the Apostles’ unswerving defense of private property, couched in their interpretation of the principle of subsidiarity, reinforced their resistance to unions. In the 1970s Cold War context of Guatemala, they vociferously accused unionists of promoting the “subversive” idea that “the firm is owned by those who work there” (Interview #26, 01/19/2011). They blurred the line between the union and the Guatemalan Marxist guerrilla. They conceived of the union as an enemy that brainwashed workers, infiltrated the workforce, and supported guerrilla attacks on

⁵² The following quotes evince managers’ view of themselves as agents of change, often facing ignorant or even immoral opposition: “We had to teach these people how to be clean, how to brush their teeth...” “We had to teach [cane cutters] how to eat with glasses, forks, plates.” “There was terrible promiscuity... so we said to the [male] worker, ‘now you’ll come work by yourself and you can send your money back to your woman.’” “At the time there were all those movements, socialists, communists, that went against what we were doing... but they themselves came to realize that what we were doing [was beneficial] and then they would even defend us.” Managers also claimed that once the union weakened, leaders took money, abandoned their followers and flew to Italy. (Interviews with managers, 2010).

mill facilities and personnel (Interview #5, 07/14/2010; Interview #12, 07/19/2010; Interview #26, 01/19/2011).

The position of the Apostles regarding the union also proved consistent with their restricted understanding of the principle of human dignity. While they zealously worked to improve the material conditions of the majority of the workers, the Apostles of Development labored with equal energy to quash any prospect of worker empowerment.

Thus, emboldened by the technocratic approach to Elite Solidarism, the Apostles summoned a number of strategies to remove permanent workers from the land and dissolve the union. They built them new subsidized housing projects and guaranteed them their jobs. Playing on the union's opposition to the project, they turned all those who moved to the new housing projects against the union. They also implemented more subtle strategies to undermine union cohesion and allegiance, such as "many committees to always have communication with workers: sports committee, culture committee, etcetera" as well as soccer tournaments and a firemen club (Oglesby, 2000; Interview #5, 07/14/2010). Additionally, the Apostles fired at least forty unionists in two waves: after a 1976 strike ruled illegal by the Ministry of Labor, and in the early 1980s, once their other strategies had severely weakened the union. Finally, while they vehemently denied any involvement,⁵³ the Guatemalan Truth Commission, created to investigate war crimes during Guatemala's 36-year civil war, reports that in the early 1980s the military, with employer acquiescence, kidnapped and disappeared three union leaders.⁵⁴ As a result of these strategies, by the mid-1980s the union existed only in name (Comisión para el Esclarecimiento Histórico, 1999).

⁵³ An interviewee who participated in the "Cursillos" and then joined the guerrilla movement corroborated the managers' denials. This interviewee, who also served as one of the main organizers for a massive cane cutter strike in 1980, laid the blame for the human rights abuses squarely on the shoulders of the older generation of mill owners and managers (Interview #21, August 9, 2010).

⁵⁴ A fourth unionist reappeared later.

This type of justification for the autocratic imposition of change, couched in Elite Solidarism, extended to all areas of the mill's transformation. For instance, to overcome cane cutter resistance to the individualized approach to cane cutting, the introduction of the Colombian-devised cane cutting technique, or the imposition of the use of the Australian machete, the Apostles pursued strategies akin to those employed in removing permanent workers from the land (e.g., paying higher wages to workers who adopted the new methods and tools, leaving the more difficult tasks to non-cooperative workers or firing them, hiring Colombian cane cutters to demonstrate the benefits of the new techniques).

Isomorphism

Tajumulco's stellar performance during the mid-1970s ignited curiosity across the industry. Some of the younger owners and managers in mills like Tacana, Santa Maria, Zunil, Siete Orejas, and Acatenango-Atitlan quickly expressed interest in imitating the innovative practices. Notably, few if any of these interested owners and managers attended Saint Ignatius high school. Nor did they share the missionary zeal of the Apostles of Development.

Yet, with this interest also came criticism, reflecting an ideological barrier to diffusion. More conservative actors in the industry, many of them members of an older generation, called the Apostles of Development "crazy or communists" (Interview #6, 07/19/2010). They questioned the decision to improve worker conditions, and scoffed at all attempts to introduce production practices from abroad because "here in Guatemala, people can't do anything" (Interview #26, January 19, 2011). In the absence of the state regulatory infrastructure to block the low road model that they preferred, and insofar as that model continued to be economically viable, these conservative actors could reject the transformed higher road approach without incurring major losses.

However, a number of events in the 1970s and early 1980s softened this conservative hostility. The industry underwent a generational change. Many of the older owners retired. Younger family members replaced them.

This generational shift coincided with a period of profound political and economic turmoil constituting a hegemonic crisis in the industry. First, as in many other sugar industries (e.g., those in Brazil, Mexico, Peru⁵⁵), permanent mill workers across the industry unionized and struck to demand higher wages, job security and an end to forced evictions from mill land (Le Bot, 1995; Wagner, 2007; Interviews with managers, 2010). Second, in the midst of the 1980 harvest season, cane cutters, along with coffee and cotton pickers, mobilized and organized an 80,000 worker strike. Led by the peasant organization Comité de Unidad Campesina (CUC),⁵⁶ the strike kindled elite fears of a broad indigenous uprising⁵⁷ as it paralyzed agricultural production in the region. It threatened mill hegemony and forced the military government to raise the minimum wage by 200% (Brockett, 1998; Jonas, 1991; Le Bot, 1995; May, 2001).

Third, in the late 1970s and early 1980s the industry faced a spectacular collapse in the demand for sugar that further weakened the position of mills. A 74% decline in international prices between 1976 and 1979 decimated comparable sugar industries in neighboring countries (e.g., Dominican Republic, Barbados⁵⁸). Prices would remain depressed for most of the 1980s (United States Department of Agriculture, 2012). Additionally, between 1979 and 1981, the US Congress

⁵⁵ See Mertens (2008), Paige (1975) and Pereira (1997).

⁵⁶ The CUC had strong ties to the guerrilla organization, Ejército Guerrillero de los Pobres (EGP). In fact, one of the main organizers of the strike, whom I interviewed, also participated in the EGP. At the same time, the strike was not necessarily driven only by military imperatives – as some mill owners and managers were quick to argue – but by the appalling labor conditions on sugar, cotton and coffee plantations.

⁵⁷ A member of the guerrilla movement who also studied in a Catholic high school described how “that harvest struggle” had “an enormous psychological impact on the Guatemalan bourgeoisie... Since we were kids and for generations they have told us, ‘when the Indians raise their machetes...’ And then I saw [a picture of the strikers] and said to myself, ‘now [the bourgeoisie] shat themselves’ as they did, in fact, shit themselves...” (Interview #14, July 29, 2010)

⁵⁸ See Drummond (1996), Macdonald & Demetrius (1986), Schrank (2008).

suppressed Guatemala's sugar quota as part of a larger reduction in the US sugar quota program. At the time, quotas represented close to 20% of Guatemala's production (Asociacion de Azucareros de Guatemala, 1981). Lastly, with the Latin American Debt Crisis that hit Guatemala in the early 1980s, domestic sugar demand fell by 25% between 1980 and 1983 (Centro Guatemalteco de Investigación y Capacitación de la Caña de Azúcar, 2010).

This hegemonic crisis called the beleaguered industry's traditional mill model into question. As DiMaggio & Powell (1983) have argued, such uncertainty may breed mimetic institutional isomorphism. Organizations often come to resemble each other as managers, weary of taken-for-granted theories relating means to ends, "actively seek models upon which to build." In this search, "organizations tend to model themselves after similar organizations in their field that they perceive to be more legitimate or successful" (152) – what Scott (2008) calls "organizational archetypes."

In Guatemala, Tajumulco emerged from the crisis as the most successful sugar mill, taking on the role of an organizational archetype. Despite the uncanny alignment of economic and political crises, Tajumulco kept its production stable throughout the period; the mill's 1980/1981 harvest production equaled its 1976/77 record and accounted for over a fifth of the industry's total production. The rest of the industry's mills, facing similar economic and social circumstances, adopted a "traditional war economy" approach.⁵⁹ They fared much worse as their production fell by an average of over 20% between 1975/76 and 1980/81 (Asociacion de Azucareros de Guatemala, 1982). At least four mills declared bankruptcy over this period.

In addition to Tajumulco's increased productivity, its management's ability to take full control of production by weakening the mill union became widely accepted by

⁵⁹ See Molina Calderon (2005) for a description of this approach at one of the industry's mills. Most generally, the approach involved deep cuts in mill employment and sugarcane purchases.

other owners and managers as the “best” strategy in the industry. The decline of the industry’s two largest mills in the early 1970s, Toliman and Cerro Quemado, allegedly a consequence of the unchecked strength of their unions, bolstered this view. In contrast to these two mills, argued interviewees, the Apostles of Development neutralized the union, took full control of production and could thus introduce necessary changes (Interview #2, June 7, 2010; Interview #12, July 19, 2010; Interview #26, January 19, 2011). Of course, Tajumulco’s success in raising productivity and total production in the 1970s, well before the disbandment of the mill’s union in the 1980s, calls this interpretation into question.

Managers and owners from other mills also admired how the Apostles regained the upper hand in the fields following the 1980 seasonal worker strike. In the strike’s aftermath, the Apostles deepened their methods of control. They created a detailed database to keep track of seasonal workers and rehired only the more productive and obedient. They also substituted the mill’s human resource department for labor contractors; expanded the menu of benefits available to cutters; and provided written contracts for all workers. As a result, by the mid-1980s the Apostles could boast complete control of an “obedient” labor force.

Surprisingly, rather than exploiting their comparative advantage by jealously guarding their practices as the strategy literature would suggest (Porter, 1980; Teece et al., 1997; Wernderfelt, 1984), the Apostles of Development responded to the interest of managers and owners by encouraging imitation. In an industry traditionally burdened with acrimonious relations between mills, they provided a number of reasons for this seemingly counterintuitive decision. Some argued that with a saturated domestic market, competition shifted to the infinitely large international market where sharing practices posed no competitive threat. Others claimed that sharing indebted borrowing mills that would then pay back the favor if Tajumulco ever needed a spare part. In still other cases, the Apostles revealed a nationalist perspective: “Why would you be selfish? We were already number one,

and the more benefits workers receive, the more Guatemala rises...” (Interview #6, 06/19/2010; Interview #12, 07/19/2010).

In all cases, however, they emphasized that by sharing practices, they fostered cross-mill collaboration: “if we were an isolated mill in a small place, we couldn’t do much. [Together] we could have an association, set up the research center... We needed better collaboration so it was logical to open up” (Interview #26, 01/19/2010).

Yet why did the previous generation (or contemporary managers from other mills) fail to grasp the seemingly evident need to share practices and collaborate? After all, saturation of the domestic market had haunted mills since the 1960s, eliciting confrontation and state intervention. Similarly, spare part scarcity represented an even greater problem in the past, when mills imported all their equipment from abroad. Finally, other mills (and even Tajumulco in the 1960s) had ranked as top producers, but none developed the kind of nationalist concern for Guatemala’s “rise” that would lead them to promote collaboration.

Echoing Weber, Blyth (2007) has convincingly argued that “in order to specify the content of interests, one must have previously specified the beliefs that an agent has about what is desirable in the first place.” In other words, one must understand the substantive rationality driving the value-rational action. In Guatemala, the Apostles’ decision to share their practices, and the reasons they provided for this decision, shed light on their substantive rationality. They bring into relief the powerful influence that ideology exerted over their interests.

The principle of human solidarity and Christian brotherhood, which drove the teamwork at the Cursillos and later at Tajumulco, shaped the Apostles’ understanding of what was desirable. It suggested a distinct approach to address the industry’s collective action problems. This approach set forth inter-firm sharing and collaboration as a self-evident solution consistent with their interests. But at the

same time, the hierarchical emphasis of Elite Solidarity set bounds to this collaboration. It restricted it to other mill owners and professionals, excluding organizational field actors such as independently owned plantations, sugarcane transportation companies and, especially, unions. Only mill owners and professionals qualified as “electi.” The contrast between the newfound emphasis on collective action and the industry’s previous competitive lenses, which emphasized the advantages of acting independently, is stark. Under those previous lenses, sharing and collaboration, even among the electi, seemed irrational and counterproductive.

However, despite the Apostles’ openness to sharing, other mills still faced significant challenges to imitation and adoption of the new model and strategy. As the institutional literature on industrial relations and high performance work organizations (HPWOs) would suggest, the transition demanded costly investments in such areas as training, equipment and process design.⁶⁰ As this literature further predicts, it also faced resistance from two coalitions within the mills: disgruntled and, in some instances, unionized workers distrustful of management initiatives; and surviving conservative owners and managers who remained skeptical of any labor condition improvements, especially for indigenous seasonal workers.⁶¹ This contentious nature of diffusion sheds light on the complications associated with mimetic isomorphism. It suggests that even under extreme uncertainty, significant barriers may stifle imitation.

Recognizing these barriers to diffusion and availing themselves of their increasingly respected positions within the industry, the team of Apostles of Development took an active stance as “champions”⁶² of the model. DiMaggio & Powell’s (1983) concept of normative institutional isomorphism captures this Apostle-led process of

⁶⁰ For example, see Kochan et al (2013) and Appelbaum and Batt (1994).

⁶¹ This contention echoes Kochan, Katz and McKersie’s (1986) claim that sometimes opposition originates from “the fears of union leaders regarding the role that they as individuals, and the union as an institution, will play in the restructured workplace” (xv).

⁶² DiMaggio (1988) describes champions as a set of individuals spearheading institutional diffusion.

diffusion. According to these authors, normative isomorphism involves “the collective struggle of an occupation to define the conditions and methods of their work, to control the production of producers, and to establish a cognitive base and legitimation for their occupational autonomy.” (152) They further note that in driving isomorphism two “instances of professionalization,” universities and professional networks, play a central role. These instances of professionalization ensure that professionals of the same type (e.g. managers, engineers) “view problems in a similar fashion, see the same policies, procedures and structures as normatively sanctioned and legitimated, and approach decisions in much the same way.” (153)

Yet, the Guatemalan sugar industry differed in two important respects from this ideal situation, suggesting important extensions to the normative isomorphism literature. First, DiMaggio & Powell posit that professional affiliation, or “desire to secure” their position and “further their own careers,” drives agents to promote practice diffusion. But in Guatemala, Elite Solidarity’s interpretation of the principle of human solidarity and Christian brotherhood largely explains the Apostles’ efforts to promote elite collaboration and sharing.

Second, the industry lacked DiMaggio & Powell’s instances of professionalization. Only a handful of professionals worked in the other mills of the industry, their networks barely drew members, and mills seldom followed their norms and standards. Therefore, the Apostles had to make up for their absence. To foster normative isomorphism, they built an apparatus of diffusion, encompassing new institutions, from the ground up. The apparatus of diffusion also included existing institutions originally created for other purposes.⁶³ In this endeavor, they often faced significant opposition.

⁶³ This finding echoes Cammett's (2005) argument that “ideas do not spread spontaneously” and “collective action... is never assured.” Instead, leaders must promote them. Furthermore, in fostering collaboration, leaders can “revitalize” existing organizations.

The Apostles resorted to three channels of diffusion throughout the 1980s and 1990s: organized field visits, personnel mobility, and an encompassing business association. Interestingly, such institutions are often portrayed as “preconditions” for upgrading and organizational transformation in the literature (A. H. Amsden, 2003; R. Doner & Schneider, 2000). Yet, while these institutions certainly accelerated the diffusion of the new model, they largely emerged as byproducts of the isomorphic process. Tajumulco’s Apostles of Development and their allies created them as they sought to promote diffusion.

The first channel of diffusion that the Apostles employed built on the existing but neglected practice of organized field visits, a favorite among the technocratic Apostles. During these visits, Tajumulco employees showed their new practices to colleagues from other mills. This sharing helped overcome the knowledge barriers to diffusion, particularly among managers unacquainted with the new models, identified by the institutional literature on industrial relations and HPWOs (Kochan et al, 1986; Appelbaum and Batt, 1994). It provided detailed instructions for managers to follow.

Importantly, employees, like the Apostles, understood and described the entire model, including both the production and labor practices, as internally consistent. Engaged in a process of theorization,⁶⁴ they portrayed each individual practice as indispensable for the adequate performance of the whole. By emphasizing the whole over the parts, this theorization addressed another barrier to diffusion commonly identified in the institutional literature on industrial relations and HPWOs: the piecemeal adoption of practices (Kochan et al, 2013; Ichniowski, Shaw & Pernusshi, 1997)

When visitors returned to their mills and imitated Tajumulco, they also assumed this causal link between the complete bundle of practices, on the one hand, and the

⁶⁴ Scott (2008) defines theorization as “a formulation of why and how the innovation is effective and an identification of the class of problems or organizations for whom it is suitable” (126).

observed productivity outcomes, on the other.⁶⁵ In other words, institutionalization of the practices proceeded as they became objectified (Tolbert & Zucker, 1996). Notably, the labor practices in this production model acquired an almost mythical aura as sources of high productivity. In fact, the labor practice-productivity relationship carries such acceptance that, in an instance of Tolbert and Zucker's (1996) "sedimentation,"⁶⁶ the current younger generation of owners and managers consistently presented it in interviews as a fact.⁶⁷

In addition to promoting imitation, these field visits stimulated initial interactions and exchange of ideas among professionals from different mills, laying the groundwork for future processes of normative institutional isomorphism. In particular, the visits eventually spawned the creation of the Sugar Technician Association (STA), which further lowered the knowledge barriers to diffusion. Saxenian (2004) and Amsden (1989), among others, point to such concentrations of technical expertise as preconditions for organizational transformation. But in Guatemala the STA emerged in the late 1980s, well into the industrial transformation. Currently, it gathers most of the upper-level mill technicians in the industry.

⁶⁵ The manner in which managers in Guatemala recast this set of practices, initially motivated by Elite Solidarism, in purely efficiency terms, bears a striking resemblance to Dobbin & Sutton's (1989) description of the firm level consequences of the "Rights Revolution" in the United States. They argue that while the different legal requirements of this Revolution stimulated firms to establish different offices to manage compliance, firm middle managers later "reconstructed these departments as components of human resource management and articulated theories of how each contributed to productive efficiency" (455).

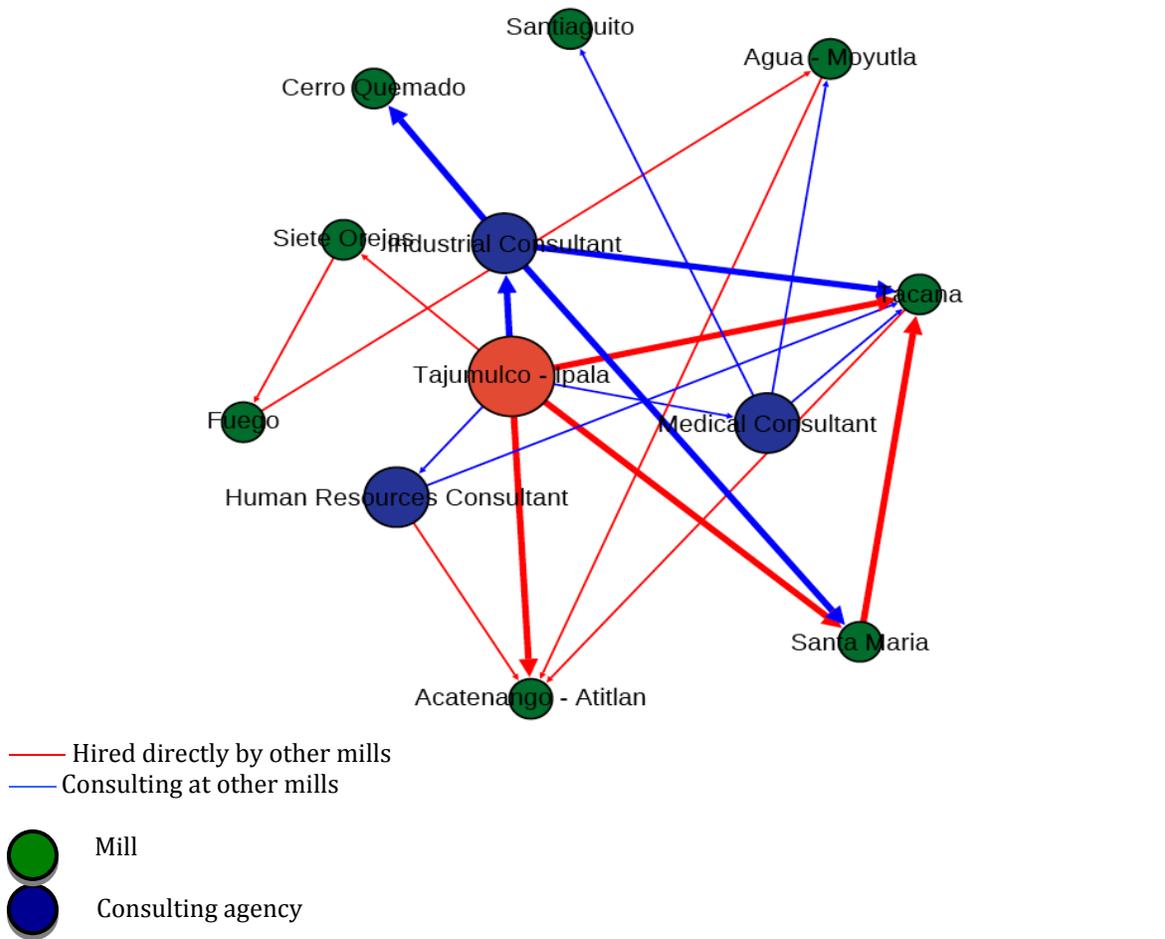
⁶⁶ Tolbert and Zucker (1996) argue that when sedimentation has occurred, typifications are transmitted to new members of organizations "who, lacking knowledge of their origins, are apt to treat them as 'social givens'" (181).

⁶⁷ For example, one young mill owner explained that "the fact that we transformed the worker who came with his family into a worker who must be an adult, who receives adequate nourishment, all the protections of the law and health services... that has a cost, but workers perform better and that lowers your production costs, and over time it's beneficial for us." A middle-aged manager at another mill echoed similar arguments: "When I arrived in the sugar industry 27 years ago [in 1983], the conditions in which cane cutters lived were inhuman... But administrators and mill owners realized that if they had their worker well fed, he would be more efficient and produce more" (Interview #1 and #2, 06/07/2010; Interview #4, 06/09/2010).

A second channel that the Apostles of Development relied upon to promote the diffusion of practices involved personnel mobility across the industry (see Figure 3.2). At least five upper-level managers created consultancy firms that simultaneously disseminated the Tajumulco practices to multiple mills. Scott (2008) has emphasized the importance for diffusion of such “intermediary” organizations and actors. In Guatemala, they advised on such areas as mill upgrading, field production upgrading, human resource management, and even medical and dental services and worker nutrition.

More commonly, Tajumulco employees took permanent high-level positions at other mills and industry organizations. These employees had “already learned the lessons” because “[Tajumulco had] developed a school... they were trained with the [Tajumulco] philosophy” (Interview #27, 03/22/2011). As they moved to other mills, they disseminated the bundle of practices – as opposed to piecemeal adoption – and replicated the hierarchical strategies used to impose them. In addition, they engaged in experimentation and developed new practices.

Figure 3.3 Mobility across the industry of selected top Tajumulco employees during the 1980s, 1990s and 2000s⁶⁸



Name*	Mills where employed and/or consulting after Tajumulco	Area of expertise
Hugo Romero	Siete Orejas, Acateñango-Atitlan, Agua-Moyutla, Fuego	Field production
Luis Benitez	Tacana, Acateñango-Atitlan	Human resources
Leonardo Hernandez	Pacaya, Acateñango-Atitlan	Mill management
Ramon Gomez	Santiagouito, Agua-Moyutla, Zunil, Tacana	Medical services
Jaime Medina	Ipala, Acateñango-Atitlan	Mill management
Manuel Ramirez	Santa Maria, Tacana, Siete Orejas	Industrial production

⁶⁸ In addition to top-level employees, interviewees described the mobility of numerous lower level workers, and I interviewed at least four mid and lower level employees at other mills who had previously worked at Tajumulco.

Lazaro Vega	Santa Maria, Tacana, Siete Orejas	Industrial production
Arturo Aguirre	Santa Maria, Tacana, Acatenango-Atitlan	Industrial production
Juan Figueroa	Tacana	Chemical processes
Pablo Mansilla	Santa Maria, Tacana	Industrial production

Source: Molina, 2005; Personal communications with managers and doctor, 2010.

*All names have been altered to protect the anonymity of interviewees. All of them entered Tajumulco in the 1970s.

In fact, soon other mills added production and employment practices to the original Tajumulco production model (e.g., new pest controls, irrigation mechanisms, improved worker meals).⁶⁹ For example, Luis Benitez, the former human resource manager at Tajumulco and one of the Apostles of Development, introduced life insurance for cane cutters at his new place of employment, the Acatenango-Atitlan mill (Interview #12, 07/19/2010). Such initiatives contributed to a healthy competitive environment. Teams of employees at each mill strove to outperform their peers in other mills. Soon, Tajumulco-like schools encouraging employee-led innovation and sharing had taken hold across the industry.

In addition to raising production and eliciting sharing and innovation, the diffusion of the model affected other areas of business. Although mills raised labor standards, they also quashed unions by employing the anti-union tactics pioneered at Tajumulco. Furthermore, competition across mills prompted changes in land tenure. Mills increasingly preferred to buy or rent independent producer plantations. The collapse of the similarly located cotton industry,⁷⁰ as well as the government's decision to liberalize sugarcane prices in 1987, accelerated this process of land concentration (Interview #11, 07/05/2010). Finally, mills diversified into new

⁶⁹ See Wagner (2005) for examples of the innovations developed at different mills.

⁷⁰ If an agro-industry in Guatemala seemed poised for a transformation in the early 1970s, it was the cotton industry. Receiving significant support from the state, cotton production boomed throughout the 1950s, 1960s and early 1970s. However, as in the sugar case, international prices for cotton collapsed in the late 1970s and early 1980s, and the industry faced labor mobilization. However, unlike the sugar industry, it never recovered from these shocks and by the late 1980s few producers remained. For more on the cotton industry, see Williams (1986).

products, such as alcohol and electricity. Encouraged by the Tajumulco example, owners and managers traveled abroad to learn about them.

The mill business association constituted the third channel that the Apostles of Development relied upon to diffuse their practices and promote collaboration. As DiMaggio and Powell (1983) would predict,⁷¹ the Apostles rose to occupy top-level positions in the association. They replaced the small mill owners who had traditionally held those positions. The Apostles also encouraged representatives from other large mills, such as Santa Maria and Acatenango, to actively participate in the association.

As they sought to encourage collaboration in the association, however, they encountered resistance and distrust from older members. To overcome it, the Apostles pursued a number of strategies. They forged close relations with younger owners and managers from larger mills. In addition, “instead of managing the discussion at the owner level,” they engaged managers or engineers – the technocrats sharing the business focus of their moral-practical mindset – and gradually introduced these professionals into industry-wide organizations. The Apostles also actively sought out other owners. One described how he “went personally from one mill to another... We went to talk with each one because they wouldn’t talk to each other...” (Interview #26, 01/19/2011).

Lastly, the Apostles and their allies built on existing but dysfunctional association projects and created new industry-wide initiatives. For instance, they completed construction of an R&D center in 1992, and an export terminal in 1993, both unfulfilled dreams of previous association leaders (Asociacion de Azucareros de Guatemala, 1977). Similarly, they devised and implemented an aggressive industry

⁷¹ They argue that “managers in highly visible organizations may have their stature reinforced by representation to participate in the boards of other organizations, participation in industry-wide or inter-industry councils, and consultation by agencies of government” (DiMaggio & Powell 1983: 153)

export strategy to drastically diversify their markets. They also created an industry-wide social responsibility agency.

Slowly, through these strategies, the Apostles of Development and their allies overcame opposition and the numerous barriers to diffusion. They ensured participation of all mills in the association, promoted the emergence of a number of industry-wide institutions and successfully diffused their model to across the industry. Indeed, by the late 1990s most mills in the industry shared Tajumulco's model. They relied on authoritarian labor relations, but had also improved material conditions for workers. They focused on exporting and rapidly increased their production. Through heavy investments, they redesigned their production processes, introduced new technology, and diversified into more sophisticated products. Moreover, they adopted a collaborative approach to address industry-wide problems. These changes produced an industrial transformation.

Summary

This chapter has revealed the explanatory role of ideology for the industrial transformation of the sugar mills in the unlikely Guatemalan context. It has shown how Vatican II Catholic social doctrine, a religious ideology, accounted for the value-rational actions of a team of top firm decision-makers, the Apostles of Development. The principles of this religious ideology inspired a particular interpretation, Elite Solidarism, which motivated the Apostles. But as the chapter argues, in enacting the moral and political imperatives and aspirations of Elite Solidarism, the Apostles also drew upon their business-focused engineering background. Engineering complemented their Elite Solidarism interpretation. It endowed them with a distinct moral-practical mindset, the technocratic approach to Elite Solidarism.

Through this moral-practical mindset, the Apostles of Development transformed Guatemala's sugar mills. They first succeeded in creating the transformative new production model and business strategy at one mill, Tajumulco. In top management

positions at that mill, they devised and introduced most of their innovative practices. These practices set the mill apart not only from other mills in the Guatemalan sugar industry, but also from most mills in neighboring Latin American sugar industries. In addition, they fostered social gains, offering significant benefits for most workers. Following their experience at Tajumulco, the Apostles, impelled by their Elite Solidarity interpretation, promoted its diffusion to other mills. By building a diffusion apparatus, they overcame different barriers to dissemination and spread the Tajumulco model and strategy to the rest of the industry's mills, spawning an industrial transformation.