The geography of Washington’s world apple: global expressions in a local landscape

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Abstract

This article explores how the globalization of food and agriculture is linked to local processes of agrarian transformation in the case of the apple industry in the United States. The local, regional history concerning environmental, technological and social change in the apple industry reveals the ways in which the local landscape has changed as this agro-industry has developed and globalized over the last century. Our focus embraces three themes: the social construction of value in fresh apples, the changing structure of the apple industry, and the changing social relations of production as they concern transnational wageworkers. The social constructions of value ascribed to apples in the industry’s advertisements aimed at national and international consumers exist in sharp contrast with the local level intensification of farming practices. Changes in farm structure, production technology, labor process and relations, and the composition and settlement patterns of farm labor reflect both the industry’s regional development as well as how the globalized apple industry is manifested in the region’s development history and geography. © 1999 Elsevier Science Ltd. All rights reserved.

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1. Introduction

In October 1997, thousands of Mexican and Mexican-American agricultural workers picked and packed the year’s current crop of fresh apples grown in the orchards of Washington State. At the same time, the state’s, and the nation’s, first Chinese-American governor was on a trade mission to China to sell the state’s commodities — Boeing aircraft, Microsoft computer software, and Washington apples. These concurrent, spatial practices produce and reproduce the geography of Washington’s world apple. The globalized fresh fruit industry and the trajectory of local agrarian development processes come together in the image of Washington’s world apple — a shiny, perfect Red Delicious consumed in over 60 countries around the world and harvested by a transnational labor force.

How the globalization of food and agriculture is linked to local processes of agrarian transformation in the production, processing, distribution and consumption of fresh fruit is the question driving our inquiry and examination of the fresh apple industry in Washington State. The globalization of fresh fruit is embedded in the local agro-industrial specificities of the commodity as it is produced in a particular place (Wells, 1996; Jarosz, 1996; Goodman and Watts, 1997). In order to reveal how the global is embedded in the local, we construct a regional geographic history of Washington’s world apple. This case study focuses upon three themes — the social construction of value in fresh apples for global consumption, the changing structure of the apple industry, and the changing social relations of production.

We harness the discourse of globalization to the local specificities of our case study and thus reveal the tensions inherent in producing for the global market. We theorize that the Washington apple is globalized in a form quite distinct from the world car or the world steer. While Washington growers have joined forces to develop global marketing strategies aided by state subsidies and just-in-time delivery systems, fresh apple production and packaging remain locally situated, tied to a distinctive landscape wherein the global is embedded within the
local. The ideologies supporting Washington’s world apple draw upon notions of climatic and ecological comparative advantage which produce a perfectly shaped and untainted fruit. These are translated into marketing promotions aimed at national and international consumers representing the Washington apple as pure and nutritious, emanating directly from a pristine natural landscape. Such globalized discourse can obscure local production practices involving intensified factory farming, highly regulated labor markets, pre- and post-harvest agri-chemical applications, and counter seasonal cold storage. As local struggles over orchard wages, working conditions, and housing intensify, the spatial and social practices constituting fresh apple production evolve amidst global discourses which tend to reconstruct a timeless, pre-figured landscape producing the Washington apple. We argue that these divergent social constructions of fresh apple production illustrate the socially contested nature of globalization in fresh fruit commodity chains.

In many ways, Washington’s fresh apple production has been globalized from its inception. Thus, globalization is best understood through its local expression in a regional history of agro-production practices and social relations. We contribute to the ongoing debates within agricultural geography which highlight the need to integrate a sense of local geographies in relation to the global perspective (Goodman and Watts, 1997; Du Toit, 1993; Le Heron, 1993). Through the case study of Washington’s world apple, we attempt such an integration to demonstrate how production for a global palate relies on local geographies for place-name recognition of fruit quality and for co-optation of a transnational farm labor pool. In addition, we interrogate globalized relations in relation to fresh apples disputes accounts emphasizing the role of transnational corporations in defining the globalization of food agriculture (Friedland, 1997; Hefernan and Constance, 1994; Krebs, 1992). Instead, a focus on structural changes in the apple industry over the last century reveals an uneven transformation of family farms to vertically integrated and locally based family agro-industries and grower cooperatives which ship fresh apples around the world. The dominance of family-owned agri-businesses and grower cooperatives, which are smaller in scale than transnational corporate operations, distinguish the Washington apple industry from the agro-industrial structure of other globalized commodities such as grain and beef. Therefore, we extend theorization of globalization as partial, uneven, and unstable (Whatmore and Thorne, 1997, p. 289) and contend that globalization of the fruit is ineluctably embedded in local landscapes.

Washington’s farm worker labor force is increasingly transnational in its composition. Following Wells (1996) and Mitchell (1996), we argue that contemporary labor patterns are historically rooted in the regional development of the fruit industry. Gender and racial-ethnic divisions of labor supported by patriarchy and racism and prejudice have long characterized fresh apple picking and packing for both resident and migrant farm workers. Social identity plays a key role in the local politics of production. National and international economic change and State regulations influence labor migration patterns (Griffith and Kissam, 1995). However, we find that local production practices as well as key local issues such as housing provision and availability, working conditions, and worker wages, largely configure today’s transnational labor force. Agro-industrial divisions of labor and a settling out of previously migrant farm workers have transformed labor relations and fanned ethnic and class tensions in the region. As we examine the changing composition of the farm worker labor pool, we link this examination to aspects of social identity such as gender, ethnicity, citizenship, and race. Our theorization emphasizes the key role that the dynamics of social identity play in the construction of an international farm labor force working in American fields and orchards. Ultimately, we observe how the globalization of consumption constructs both the commercial images of pristine and tranquil orchards and the reality of Third World working conditions in one of the richest and most technologically sophisticated agricultural regions in the nation. This has exacerbated pressures on national, state and local governments to meet farm worker needs both on and off the farms and in the packing warehouses.

2. The emergence of Washington’s world apple, 1898–1998

Washington’s apple country comprises approximately 172,000 acres of the world’s most productive orchards filled with 45 million trees (Washington Department of Agriculture, 1993). The major fruit producing regions are concentrated in three districts made up of nine counties (Fig. 1). Apple orchards stretch from the Canadian border in the north, down the Okanogan and Wenatchee Rivers and the shores of Lake Chelan, then alongside the Columbia River to its confluence with the Yakima and the Snake rivers near the Oregon border. The location of the orchards testifies to the industry’s dependence upon water resources both as an earlier mode of transportation as well as an irrigation source. An arid climate with hot, sunny days and cool nights is necessary for top quality apple production and helps minimizes pests and diseases found in more humid apple growing areas of the Midwest and South. Washington grows over half the nation’s fresh apples and makes the United States the world’s top fresh apple exporter (Washington State Apple Commission, 1992; O’Rourke, 1994).

The integration of Washington apples into the international circuits of the world food economy is not new. Washington apples were shipped to Honolulu and
Hong Kong in 1898; the first European shipments occurred in 1899 (Luce, 1972). National interest in Washington apples grew after Wenatchee’s apples took first prizes at the trans-Mississippi and pan American expositions in the early 1900s. At that time, “carloads” of roughly 1000 boxes were shipped out of the area to meet commercial demand in Seattle and elsewhere. Apples grown in the Midwest and East were shipped in bulk barrels in box cars, but as early as 1891, Washington apples were packed in wooden boxes which were more practical for handling, stacking, labeling and marketing (Bright, 1988). At the 1898 Northwest Fruit Growers meeting, a standard size and dimension wooden box was accepted by regional orchardists “as a first major step to establish area identity and uniqueness” (Bartram, 1996, p.32).

Producing for a global market historically meant that regional agro-industrial development has been shaped in part by the concerns and demands of foreign consumers. In 1926, a food safety scare in Britain over lead arsenate spray residue on American apples prompted the US Food and Drug Administration to require hand wiping and washing of apples grown in Washington (Luce, 1972; Bright, 1988). As a result, systematic apple packing external to grower operations developed as small growers opted to join larger packing sheds rather than invest individually in special cleaning equipment. Commercial apple packing warehouses increased cold storage facilities and hired more single young women and migrants to supplement the labor of farm wives and families. Today, phytosanitation requirements of certain Asian markets dictate procedures that only some larger operations can afford to implement and subject packing warehouse workers to detailed standards of labor control.

Standards of consistent, high quality and unblemished appearance demanded by national retail chains and importers have spurred increasing economic concentration in production and packing activities. However, consolidation and concentration in Washington’s apple industry has developed unevenly. Apple producers relied heavily upon migrant Okies and Arkies and local and household labor for seasonal harvest and packing work in the early decades of producing for a global market. By
mid-century, the larger operations in the Yakima Valley recruited contract crews from California to meet the increasing demands of their larger volume operations.

More recently, the industry has become more structurally concentrated. Through mergers and buy-outs, regional packing warehouses have declined from 150 warehouses in 1985 to 100 in 1995 (Schotzko, 1997). International shipments are not limited to transnational corporations such as Dole and Dovex but are the province of grower cooperatives such as Trout-Blue Chelan, representing 291 growers with 9000 acres in orchards, and of family run operations such as the state’s largest grower–packer–shipper operation, Stemilt Growers, Inc. By 1998, apple packing and shipping operations were increasingly automated and computer driven in the largest operations, but there remain some smaller, old-styled operations which rely solely on hand sorting and packing in order to ship out perfectly colored, unbruised, high-quality apples. As in the 1940s, exceptionally high yields are still attributed to “scientific cultivation and irrigation” and the excellent quality of the pack “sets the standard of the world and gives it a universal market” (Washington State Bureau of Statistics and Immigration, 1940, p.68).

This brief agro-industrial history reveals that Washington State apples were both a national and an international export commodity from its very beginnings. The production of this commodity depended upon the uneven transformation of the region’s arid landscape by the construction of railroads for iced-rail car shipment and a complex irrigation network. This transformation of nature was later revised and reconstructed in advertising campaigns, which emphasized place-based attributes of purity and natural goodness in the pristine ecology of the Pacific Northwest. The fact that the environment was and has been “built” is obscured in the marketing literatures.

3. The social construction of value in fresh apples

In order to understand how local growers, packers, and marketing institutions have created Washington’s world apple, we find most useful Arce and Marsden’s (Arce and Marsden, 1993) call for an examination of how value in food is constructed and circulated to influence consumption and how different values ascribed to commodities interface or are socially contested. Washington State Apple Commission (WAC) is a key marketing agency funded by growers at roughly $.40 per box. WAC spent $4 million in global promotional efforts in 1996 in addition to $3 million of federal promotional subsidies (Jensen, 1997). The Apple Commission promotes ‘the best apples on earth’ with a logo of a perfect Red Delicious apple and a banner reading “Washington” spanning the fruit (Fig. 2). Washington’s Red Delicious is distinctive in its deep red color and its elongated shape with broad shoulders and five distinct bumps at the blossom end of the apple. By 1954, the Red Delicious variety accounted for the majority of apple trees in Washington and today this variety remains dominant despite recent replanting in newer more profitable varieties such as Fuji and Gala.

Promotional imagery (Fig. 3) places these beautiful apples in symmetrical, gridded orchards along a meandering river with the rising sun coming up over the top of the Cascade Mountains. The place is as pure and unadulterated as the fruit and, indeed, according to the marketing materials, the location of the orchards is essential to the purity and quality of the fruit. Sagebrush and grasses are displaced by parallel rows of carefully irrigated trees filled with ripening fruit. Distinct from other states, Washington growers have their own grading standards for fresh apple quality, which are more stringent than federal standards (Sonnenfeld et al., 1997). Grower branded boxes always include the phrase “grown in Washington” or “Washington State” as part of the identification for fresh apples since place-based specificity is particularly important not only to signify exceptional quality, but also to locate the “purely natural” origins of this fruit (Fig. 4). By reconnecting fresh apples sold in San Francisco, Mexico City, or Taipei with their place of production — the fertile soils, clean water, and
Ironically, however, it is the less than perfect fruit — the culls — that are used in all of these processed foods. The advertised association of fresh apples with natural purity and good health may be why suggested linkages with toxic or cancer-causing chemicals are so shocking to the apple-buying public and why the regional apple industry is seriously engaging the values of consumer safety. A recent, controversial Consumer Reports study warns that certain fresh fruits and vegetables, including apples, contain pesticide residues that could be unsafe for young children (New York Times, 1999). These claims have sparked memories of a similar food safety campaign ten years ago which warned of increased cancer risk for children eating apples sprayed with Alar, the brand name for the chemical daminozide, used as a growth regulator to improve color and shelf life (Wenatchee World, 1999). Local fallout from the national anti-Alar broadcast included a drastic fall in apple prices, orchard bankruptcies, and a switch to growing new apple varieties or organic practices. Growers and apple industry officials who have attached values of nutrition and health to the Washington apple contest such media constructions of apples as poisoned fruit by pursuing lawsuits for product disparagement.

The rise in health awareness and the demand for fresh produce among the middle classes and the wealthy of the world has made fresh fruit and vegetable consumption and production in the US and elsewhere, one of the fastest growing sectors of the world food system. Between 1970 and 1988, fresh fruit exports from the United States have increased sixfold (Friedland, 1994, p.215). Between 1987 and 1991, exports increased another 50% to a value of over five billion dollars annually (Rosa and Dong, 1992). The US, France, Italy, and Belgium dominate the world’s fresh apple export market (Luxembourg, Chile and South Africa). The largest importers are the US, Germany, the UK, the Netherlands, Belgium and Luxembourg, and Mexico (FAO, 1994, 1996). The largest growers of fresh apples move primarily between the US and Western Europe with the additional flows from major apple exporters, Chile and South Africa (O’Rourke, 1994). How successful these exporters are in upholding the Chilean world apple or the South African world apple might well depend on the same aspects of local agro-industrial development that we are examining for Washington.² The US is the world’s leader in fresh apple production.

² In the case of Chile, the apple industry is characterized by absentee ownership, vertical integration, capital intensity, and farm workers who are landless laborers or smallholders displaced through the 1970s counter land reform (Bello Bustos and Butler Flora, 1998). South Africa’s world apple is produced primarily upon family-owned farms and is marked by the legacy of slavery and paternalism in its farm labor relations. In contrast to the US and Chile, women’s work in the fields is becoming increasingly important as a way to minimize labor costs.
production both in volume and value. The majority of fresh apples produced in the US come from Washington State. This billion-dollar industry produces the most valuable commodity in Washington’s agricultural economy and is second only to aerospace in importance within the state’s economy. Major markets for Washington apples in 1995–1996 were: the domestic market, Mexico, Taiwan, and Canada (Schotzko, 1997). This means that farm workers of Mexican ancestry harvest and pack Washington apples, which are subsequently consumed by the wealthy and middle classes of their home country. The passage of the North American Free Trade Agreement in 1994 was a boost for such sales by Washington fresh fruit growers. In addition, the 22-year old trade barrier to the import and sale of Washington apples in Japan fell in 1995, and a year earlier, the first commercial shipments of Red Delicious left the Port of Seattle destined for markets in China (Seattle Post-Intelligencer, 1993). These historic shipments symbolized the importance of world trade for fresh fruit growers. Washington apples became an icon for free trade in the global economy in the Clinton administration’s rhetoric as well as in the State’s promotional campaigns.

The increasing prominence of “fresh” in both the diets and advertising of transnational corporations and related demands of consumers has prompted a number of researchers and theorists to categorize the trade in horticultural products as the third regime in the historical geography of world food (Friedland, 1994; Le Heron and Roche, 1995). In the case of Washington apples, shipments of 42 lb boxes have risen from roughly 50 billion boxes in 1982 to almost 80 billion in 1996 — a 37% increase in the volume of shipments in the last 14 years (Schotzko, 1997). Gross revenues to Washington growers have unevenly increased over the past decade from roughly $300 million in 1983 to over $1 billion in 1997 (Jensen, 1997). However, the Washington Agricultural Statistics Service (1996) recently reported that per bin harvesting costs had climbed by 68% in the last 20 years. Despite climbing returns, grower costs have outpaced returns, so profits depend upon keeping labor costs to a minimum and turning over capital investment as rapidly as possible.

4. Agro-technologies and the changing structure of the apple industry

Three technological innovations: controlled atmosphere (CA) storage, trellised, high density plantings, and dwarfing rootstock have enabled more rapid production and global distribution of greater volumes of high-quality fresh apples. The notion of “fresh” apples is also technologically constructed. Controlled atmosphere storage technology developed in the 1960s makes “fresh” apples available and ready for shipment year round from refrigerated warehouses dotting the region. Controlled atmosphere (CA) storage involves replacing oxygen with nitrogen in sealed storage rooms at temperatures of 32–36°F while maintaining constant humidity in order to retard the fruit’s deterioration rate. Storage room conditions vary depending upon the apple variety, but some varieties can be stored up to 12 months or longer in CA, and then shipped as “fresh” to global and domestic markets. A state law was adopted in 1961 to set uniform standards for apples marketed as ‘Washington CA’ fruit including a minimum 90 days in CA storage and a state horticultural inspection after packing. Many packing warehouses employ horticultural consultants to advise growers on when to pick their apples for best CA storage to meet specific market needs. Due to CA storage and increasing demand, the volume of fresh apples sold nationally has more than doubled over the last 30 years, helping to make Washington’s Red Delicious apple a major fresh fruit product (O’Rourke, 1994). Technological innovation has come with environmental costs. The Washington Department of Ecology (1993) notes that the industry’s increasing use of CA storage has increased the number and variety of chemicals discharged in wastewater, resulting in the increased degradation of surface and ground water quality. Environmental limitations involving water supply are paramount for many warehouses increasingly dependent on ample clean water to wash and then float apples through pre-sizer flumes. Location near a fresh water supply like the Columbia River, ground water well, reservoir or municipal water supplier is an essential consideration for large packing operations. The availability of wastewater processing plants has also become an important factor in siting or expanding existing apple packing warehouses.

Over the past three decades, fruit trees have been planted in increasingly high densities using trellises. Fruit trellising techniques were developed in New Zealand, Australia and Western Europe and have been adapted to Washington State. Double rows of fruit trees are planted on either side of the trellis, and tree branches are trained and tied to wire strung between the trellises. Growers can plant as many as 1000 to 1500 trees an acre and train their branches onto taut wires. Free standing orchards normally hold about 70–100 trees per acre. High density planting and cultivation are both capital and labor intensive, costing between $10–20 000 per acre to establish heavily fertilized trees under trellis systems. Farm workers train and tie tree branches to direct nutrient energy into fruit growth rather than vegetative growth. An eight year study evaluating high density orchards systems and comparing them with other apple cultivation systems found that high density systems more than doubled labor costs for training and tying, thinning and harvesting but could increase yields by fivefold (Good
Fruit Grower, 1995). This method of orcharding brings trees into production in three years instead of ten. Thus the initial investment is paid back more quickly than with a free standing orchard of fewer trees.

High-density plantings in this region are usually grown on size-controlling rootstocks, first adopted in 1955, to grow smaller ‘dwarf’ trees. Currently, the popular “Malling 9” rootstocks yield 6 ft high trees, easing the strains and dangers of apple picking. These closely planted, shorter orchards create a very different landscape than the acres of widely spaced rows of large leafy trees sprinkled with red or yellow fruit, which blanketed the region decades earlier and are still depicted on advertising copy. As older orchards are replaced with newer plantings of much shorter life spans, the regional landscape is one of short young trees laden with variously colored fruit, squeezed into tightly disciplined rows with branches trained and tied to wires within the reach of overhead sprinklers. It is factory style farming in fruit production.

The pace of structural change in Washington’s apple industry has accelerated over the last two decades. Orchard acreage has increased by 39% since 1978, but the number of orchards in 1992 remains at roughly 6000 — the same number as in 1978. Small orchards of 25 acres or less represented 67% of Washington growers in 1992, but represented only 14% of the acreage — largely concentrated in the Wenatchee/Okanogan region. Orchards with more than 100 acres represent roughly 7% of the growers but that group controls 53% of the acreage, while the very largest orchards with more than 500 acres have doubled their acreage. If 25–50 acres is a rough estimate of the land needed to support a family from orchard revenues, only 729 out of 4600 operations can fully support a family without a second income (Schotzko, 1994). This indicates the existence of many small scale, part-time orchardists (3078 of 4600 in 1992) as well as the increasing concentration in the international apple export industry.

As production costs, market value, production volumes, acreage and quality standards have increased in recent years, there has been a corresponding drop in the number of growers, orchards, and packinghouses. There has also been a move to family owned, vertically integrated agribusiness which control extensive orchard acreage. Nonfamily, corporate ownership controls less than 10% of the state’s total apple acreage. Increasingly, growers with large orchards, own and control packing sheds, and employ their own international marketing teams. For example, one 4000 acre family-owned operation employs nearly 1000 people and operates a packing facility with 55 CA storage rooms, has its own marketing staff and competes with Chilean and South African apple exporters. This operation was among the handful to ship the first Washington apples to Japan in 1994.

5. The transnationalization of farm worker labor

Fresh apple production is both capital and labor intensive, relying upon a large permanent and seasonal labor force for picking and packing operations. Keeping labor costs low and ensuring adequate seasonal labor supply is a critical concern for apple growers worldwide. This concern is commonly addressed though the use of low paid labor pools including women, ethnic minorities, immigrants, and migrants. Since the turn of the century, a variety of ethnic groups have comprised the seasonal farm labor force in Washington. Japanese, Filipinos, native Americans, Euro-Americans and Latinos have all worked in the fields and orchards. Dust Bowl refugees, commonly called Arkies and Okies, fleeing drought, the collapse of Great Plain’s agriculture and the mechanization of Southwestern cotton in the 1930s and 1940s, also started following the fruit harvest. Okie Flats near Lake Chelan is an area named for Okie migrant families who settled in this area and today are growers in the region.

It is difficult to trace and estimate the number of Latinos who were recruited or otherwise arrived to work in the fields and orchards of Washington during the depression years (Gamboa, 1990). The majority of these migrant workers remained a part of the “invisible” work force, because they seldom remained in the Northwest after harvest work ended. They were specifically excluded from federal aid under the Federal Emergency Relief Administration Act of May 1933. During this period, it was difficult for Mexican immigrants to establish residency in the state because welfare assistance was predicated upon residency requirements of six months to a year, and on-farm seasonal labor requirements fell far short of residency requirements. This ensured constant mobility for seasonal farm workers. By the eve of World War Two, some families did settle in the Pacific Northwest, but social programs were not extended to

3 In her account of Dust Bowl refugees, Lois Phillips Hudson (1957: 101,103) describes the landscape of farm work in the Yakima Valley of the 1930s, as follows: “On a suffocating summer day in 1937, the 13th year of drought and the 7th year of depression, with our mouths, nostrils, and eyes full of the dust blowing from our bare fields, my family sold to our neighbors at auction most of the accouterments of our existence. Then we loaded what was left into a trailer my father had made and drove West to find water and survival on the Washington Coast (to)… the sweaty outdoor factory that is the Yakima Valley. There the Yakima River is bled for transfusions to the millions rows of roots, its depleted currents finally dragging themselves mutely to their relieved merger with the undiminishable Columbia. One can follow the Yakima for miles and miles and see nothing but irrigated fields and orchards — and the gaunt camps of transient laborers. The workers come like a horde of salvaging locusts, stripping a field, moving to the next, filling their boxes or crates or sacks, weighing in, collecting the bonuses offered to entice them to stay till the end of the season, and disappearing again.”
them, and the benefits of the New Deal were unavailable to them.

During the Second World War, the labor shortage in Washington's orchards became particularly acute. Wartime labor shortages were addressed in a number of ways. Children's school days were extended to six-day weeks in order to shorten the school year and free up their labor for the summer thinning season. Prisoners, mental patients, housewives and Japanese workers were recruited for harvest. Agriculture Secretary Wickard traveled to Mexico City and signed an agreement on August 4, 1942, which contracted the temporary movement of Mexican farm workers to US agriculture. The Bracero Program initiated a regularized flow of farm labor migration from Mexico northward. Several studies claim that the Bracero Program enabled growers to lower wage scales and tightly control labor to such a degree that Anglos were no longer willing to work on farms (Gamboa, 1990; Sonneman, 1992; Griffith and Kissam, 1995). Latinos, primarily of Mexican origin, ultimately replaced Filipinos, Native Americans, and Anglos as apple workers in the 1970s and 1980s.

Thirty years ago, the migrant farm worker population of Washington was mainly composed of Anglos (49% of all migrants) and Latin Americans (41%). By 1994, 75% of agricultural workers were members of the transnational Latino community based in Washington, California, Texas or Mexico (Washington State Employment Security, 1995). The passage of the Immigration and Reform Control Act (IRCA) in 1986 and the significant growth of the agro-food industry in Washington contributed to this shift (Cook and Jordan, 1995). One of the goals of IRCA was to stabilize and insure a pool of farm workers who were citizens and legal immigrants by granting legal status to those whom had worked in US agriculture for 90 days (Heppel and Amendola, 1992). This legislation, coupled with increased production volumes and the increased labor required for thinning and cultivating new apple varieties, combined to draw more Latino farm workers to the state. Low wages and lack of full time employment opportunities for young rural male workers in Mexico also contribute to migration flows as does the seasonal nature of farm labor in agricultural areas of the West and Southwest. Documented Latino farm workers and citizens settled in areas with the highest labor demands and sponsored immigrating relatives. Meanwhile, undocumented workers continued to migrate from California, Texas and Mexico looking for farm work. Thus, even though the industry expanded, the surplus labor pool also grew rapidly and kept wages depressed, and work opportunities remained intermittent, part-time and seasonal.

Tensions based upon racial and ethnic differences have consistently marked labor relations in the apple industry. These tensions are currently taking on a new dimension due to new settlement patterns as more Latinos permanently settle in the state and as the labor force required for harvest continues to increase. Newly arrived, undocumented workers compete with legal immigrants and citizens for work. Undocumented workers faced the most oppressive conditions given their lack of knowledge of English and fear of deportation. Second and third generation Latino/as are moving into the professional and managerial class fractions, but the labor pool for farm work is ever expanding due to the intensification of production regimes.

The largest demands for labor come at harvest seasons spanning June through October when roughly 49,000 seasonal workers are employed in the apple harvest in September. Harvester are paid by the bin at piece rate wages (on average $12.00/bin) which when converted to hourly rates represents an annual income of $8423. However, most workers are unable to find 12 months of employment yearly and worked an average of 880 h in 1993 earning $6968 and thus falling below the poverty line. Only 11% of farm workers had a high school education in 1993, thus confining this workforce to low skilled and low paying work (Washington State Employment Security Department, 1995). Latino men now perform most of the orchard work, while women are generally employed in apple packing and food processing. Latina (women) workers are now replacing Euro-American women in apple packing work (Qazi, 1995). Apple packing wage rates for women are similar to those in orchard work, but men can earn more on a piece rate wage during apple harvest.

The higher paying, year-round orchard positions involving the use of equipment such as pruners, sprayers or tractors are reserved for men. Latina (women) orchard workers are assigned the detailed handwork of tree training, bagging and thinning apples. Pruning, generally classified as men’s work, paid $5.14 per hour while raking — commonly women’s work paid $4.82 per hour in 1992. Male physical strength is used as the rationale for the gender division of labor in the orchards, but}

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4 Friz (1996) estimates that IRCA legalized 20,000 Latinos in Washington State.

5 Seasonal farm workers in Washington State are defined as those employed for less than 150 days on any one farm. The Washington State Employment Security Department (1994) estimates that 34,000–40,000 people were employed for the apple harvest season. This does not take into account those working in packing warehouses or those employed year round in the tree fruit industry. These figures are derived from numbers of people filing for unemployment compensation and thus exclude those who did not work the required 680 h to qualify or those who did not file. In another study, Larson (1993) estimates that there are 174,922 migrant and seasonal workers in the state, most of whom are employed in the apple industry at one time or another during the year.
socio-economic and patriarchal power define this division and keep higher paying full time orchard positions in male hands. According to one Latina worker, “The majority of men say that orchard work isn’t for a woman, but women can do all kinds of jobs. There are some women who wouldn’t do this work, because they say it is men’s work. Women may not have the same physical ability as men, but we can still do most work.”

Low pay, pesticide and chemical exposure, lack of adequate and affordable housing, sexual harassment, and lack of access to drinking water and toilets in the fields are among worker complaints. On the packing warehouse floor, the inability to communicate in English contributes to misunderstandings and tensions as does the fear of raids by the Immigration and Naturalization Service. Progressive growers promote experienced farm workers to management levels and diversify crops so as to maximize year-round employment opportunities for workers. Due to increasing production, agriculture employment is expanding, but, over the last few decades, the working and living conditions and wages have not substantially improved for the majority of workers.

Labor organizing efforts directed at Washington apple workers have so far been unsuccessful, as growers and packing warehouse employers have persuaded many employees through fear of job loss, INS deportation, homelessness, and corruption that unions are not a good deal. Racial and ethnic divisions as well as the ability to speak and understand English are factors in farm labor relations. Until 1935, there were no unions active in either the orchards or packing warehouses. In 1936, the Warehouse Workers Union struck, but was defeated through the hiring of replacement workers. Prejudice and violence were directed at orchard workers of Chinese and Filipino ancestry who were blamed for displacing Anglo workers at lower pay.

Growers and resident communities in Washington have traditionally viewed farm workers as invisible and transitory labor power. A number of growers provided housing for workers in dorm-like arrangements and tent camps, but most viewed housing as outside the boundaries of their responsibility and little social or physical infrastructure existed to provide for farm workers. As both the settled and migrant populations began to rapidly increase, community infrastructure proved woefully insufficient. Communities such as Wenatchee saw a 475% increase in the number of Latino students over the past ten years (Ramirez, 1997). Bilingual education for a culturally diverse student population, overcrowding, and prejudice have increased tensions in many small communities. At the same time, the cultural vibrancy of these communities has also increased through the establishment of Latino radio stations, newspapers, and bakeries and increased political and civic activity and visibility.

A number of small towns in the region comprise predominately Latino populations with extremely high rates of poverty. For example Grandview, Sunnyside, Toppenish and Wapato are small rural communities in the apple growing region which now contain a majority of Latino residents (Friaz, 1996). Over one quarter of the people living in these communities is poor — much higher than the 14% average for the whole state’s rural communities. Employment in the food industry predominates in this area, and much of the employment is low paid and seasonal. The problem of affordable housing is particularly acute. It is not uncommon to find farm workers living in shantytowns in boxes beside the fields or rivers or in their cars. Malnourished children and frightened workers increasingly anxious about accelerating immigration raids in the region are invisible to the agrotourists visiting the area for wine tasting tours or to buy fresh pressed cider.

In order to avoid costly state regulation, many growers have discontinued providing housing for workers, leading to increased concern about the adequacy of housing stocks for future harvest seasons. Growers argue that state standards requiring solid structures, rather than tents, and providing running water are too expensive for a transitory work force. Labor advocates argue for state intervention in providing a decent infrastructure for farm workers asserting that in America, no one should live in these sorts of conditions (Sanchez, 1997). At the local level, the role of the state is struggled over in terms of food safety and pesticide regulation, as well as its role in the reproduction of farm workers — education, health, housing and working conditions for both settled and seasonal workers.

6 The Seattle Times (1999) reported that 562 workers lost their jobs in 13 fruit warehouses in February prompting the Governor to ask the US Immigration and Naturalization Service to consider the consequences of such actions on the local agricultural economy.

6. Conclusion

Through this case study of the social geography of Washington’s world apple, we argue that the local is global. Local landscapes are invariably situated within global processes in this case study. Thus, the conceptual boundaries and divisions between the local and the global as oppositional or as cause-effect relations are artificial and false. Our examination of the social and spatial relations of the fresh apple commodity chain reveal that the global does not exist externally to the local, but the global is realized locally through social structures and agency as it unfolds within and is shaped by particular landscapes. Although the form this takes will vary according to commodity chains and local geographic
specificities, this case study serves as an example of how globalization is manifested in local landscapes.

As Latinas increasingly replace white women in the packinghouses and food processing plants of Washington State, gender relations become more tightly bound up with class, ethnic and race relations and with questions of citizenship. Qazi (1998), among others (Collins, 1993; Sachs, 1996; Raynolds, 1997) points out the importance of gender relations in theorizing the social divisions of labor in the global food industry. Our research also reveals the need to begin to theorize the impacts of reproductive relations as farm workers settle in fruit growing areas and alter migration patterns. Previously, reproduction costs of farm workers had been borne by the workers’ country of origin (Mitchell, 1996; Burawoy, 1976). The role and responsibility of growers to provide housing for farm workers is a hotly contested issue as reproduction costs increasingly shift to the local level. Women increasingly bear reproductive costs and effort at the local level as well as undertaking much of the effort involved in the intensification of apple production to meet global and national demand and quality standards.

Due to the Asian economic crisis, the demand for Washington apples from newly opened Southeast and East Asian markets has dropped precipitously. The value of production dropped by 10% in 1997 from 1996. This year, a number of growers left apples to rot in their orchards due to rapidly falling demand in the Asian markets. Growers just barely breaking even are worried about their future in the industry. Farm and warehouse workers continue to lobby for better housing and working conditions, and an amnesty program for undocumented workers. National consumers are targeted in a new advertising campaign aimed at increasing domestic consumption while discussions about agriculture are slated at the top of the list for the meetings of the World Trade Organization to be held in Seattle, Washington in November 1999. And Washington apples are now available for purchase in cyberspace (www.applesonline.com).

Apple industry leaders are calling for more emphasis upon quality rather than quantity in production practices. This would entail reworking the value of fresh apples to emphasize Washington’s ecological advantages in producing an unblemished and untainted fruit with less chemical applications than other apple growing regions. While not the dominant regional discourse in apple production, sustainability is now being discussed in such mainstream institutions as tree fruit research stations, horticultural association meetings, tree fruit production courses, and agricultural extension offices. At this point, this discourse of sustainability focuses upon the reduction of problems related to agro-chemical and fossil fuel dependency while maintaining yields and profits.

A majority of regional apple growers are incorporating integrated pest management (IPM) techniques such as enhanced pest monitoring and some are even implementing the more costly pheromone mating-disruption programs for codling moth. When asked why, their responses parallel public concerns for worker safety, the environment, and food safety. Ultimately, however, they envision a future without many of the chemicals currently permitted and view IPM as a mode of transition. By implementing orchard IPM while working towards integrated fruit production programs that reduce chemicals and toxic wastes at all points in the production process, growers and shippers can confidently market their apples as ‘responsible choice fruit’ and ‘made in nature’ brands. Thus, recent moves towards IPM adoption can be viewed as an effort to influence a social construction of Washington fresh apples as safe and healthy, rather than as a paradigmatic shift toward sustainable agricultural practices. In this way, growers can produce and promote a ‘greener’ world apple than some of their competitors in the hopes of sustaining both national and international markets.

Continuing changes in farm structure, production technology, labor process and relations, and the composition and resettlement patterns of farm and warehouse labor reflect both the industry’s regional development as well as how Washington’s world apple is embedded in local history and geography.

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