

The Geography of Despair: Environmental Racism and the Making of South Phoenix, Arizona, USA

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Abstract

This paper discusses the historical geographical construction of a contaminated community in the heart of one of the largest and fastest growing Sunbelt cities in the US. Our focus is on how racial categories and attendant social relations were constructed by Whites, in late 19th and early 20th century Phoenix, Arizona, to produce a stigmatized zone of racial exclusion and economic marginality in South Phoenix, a district adjacent to the central city. We consider how representations of race were historically deployed to segregate people of color, both residentially and economically in the early city. By the 1920s race and place were discursively and materially woven together in a mutually reinforcing process of social stigmatization and environmental degradation in South Phoenix. This process constructed a durable zone of mixed minority residential and industrial land uses that survives into the present day. 'Sunbelt apartheid' has worked to segregate undesirable land uses and minorities from 'Anglo' Phoenix. Class and racial privilege has been built in a wide range of planning and investment decisions that continue to shape the human ecology of the city today.

Keywords: *environmental justice, environmental racism, historical geographic development, Phoenix, Arizona*

Introduction

Environmental justice studies over the last decade have explored the socio-spatial distributions of hazardous industries and have provided substantial evidence of a disproportionate presence of toxic industries and waste sites in many minority, low income communities in the US (e.g. Lester et al. 2001). Less attention has been given to the social processes that produce these environmental injustices over extended historical periods. Analyses of the historical geographic development of environmental inequities, particularly the ways that race and class are imbricated in the production and uses of urban space, have begun to appear in the literature (e.g. Boone and Modarres 1999). As Pulido (2000) suggests, there is a need in environmental justice studies to consider the complex ways racism, capitalist accumulation strategies, and class privilege are entwined in the historical development of urban landscapes, including the locations of both residential areas and industrial districts. Understanding the ways racial categories are socially constructed and employed in the production of space in the city, including the distributions of people and environmental hazards is a central part of understanding environmental racism (Pulido et al. 1996). As we discuss in this paper, the diverse ways race is constructed are tightly connected to the local social relations of production,

configurations of power, and spatial practices (e.g. Pulido 2000; Soja 1989).

Our concern here is to examine the historical development of a zone of pronounced and chronic environmental inequity in Phoenix, Arizona, exploring the effects of racism and class privilege in constructing this hazardscape. Phoenix today is the largest and fastest growing city in the desert Southwest of the US, a sprawling metropolitan area with a current population approaching 3.5 million spread out over more than 2000 sq. km of former Sonoran desert. At the center of this urban complex is a contaminated zone of mixed land uses (see Figure 1) which currently hosts an assemblage of industrial and waste sites, crisscrossed by freeways and railroads, and under the primary flight path of Sky Harbor, the US's 6th busiest airport (Bolin et al. 2002).

Scattered throughout this district are the city's oldest African-American and Latino⁴ neighborhoods, places which have until recently contained the majority of Phoenix's minority populations. The environmental fate of this district, known locally as South Phoenix⁵, was cemented nearly a century ago, linked to a complex of factors including pervasive racial exclusion, class domination, political disenfranchisement, and a racially segmented economy. These factors, imbricated in a variety of historical combinations, have been materialized in distinct land-use and socio-economic patterns in the central city.

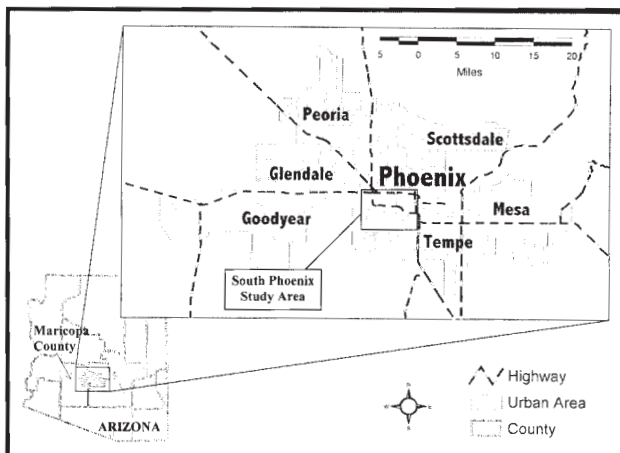
We begin by offering a historical sketch of the early development of Phoenix, considering the ways racist practices contributed to shaping land uses in the old urban core. We examine the ways public representations of minority neighborhoods focus on filth, disease, and contamination, discursively attaching a persistent stigma both to people and place in minority districts of Phoenix. We next discuss the mutual-

ly reinforcing relationship of these cultural representations to an ensemble of land uses and policies, ranging from industrial and transportation encroachment in minority neighborhoods to bank redlining and neighborhood disinvestment. We consider a period that stretches from early 20th century development to the post-war period when Phoenix entered its current 'boomtown' period of rapidly accelerating population and industrial growth. The socio-spatial processes that have shaped the creation of social and environmental conditions in South Phoenix have taken place in the context of an aggressive pro-business and anti-democratic political culture, propped up by large federal expenditures on water projects and military production (Wiley and Gottlieb 1985). Lastly, we briefly note the emerging contestations of hazardous facilities sitings by environmental justice activists and citizen groups in South Phoenix, as initial steps toward mitigating a century of environmental racism.

Environmental Racism: Conceptual Issues

Perhaps the most contentious issue in historical environmental justice studies concerns *environmental racism* and whether race-based discrimination can be invoked as an explanatory factor in environmental inequalities (Pastor et al. 2001). Because of the political and legal freight that the term carries, both for researchers and community activists, claims about the prevalence of environmental racism are contested (e.g., Pulido 1996). The term environmental racism gained currency after the UCC (1987) study highlighted the importance of race in predicting of the location of hazardous waste facilities, based on a national US study (see also Bryant and Mohai 1992; cf. Anderton et al. 1994). The environmental justice literature appears divided over what constitutes environmental racism. A 'pure discrimination model' (Hamilton 1995) argues that environmental racism must involve racially motivated, intentional acts against people of color by those making facility siting and other land use decisions (Pulido 2000).

Other researchers discount intentionality as a necessary element in defining racism, instead focusing on the variety of historical and current institutional practices that disadvantage people of color and produce environmental inequalities (Bullard 1996). Proponents of this approach argue that institutional racism, in all its diverse ideological, discursive, and political-economic manifestations, operating at a variety of spatial scales, must be seen as the key in environmental discrimination, whether explicitly intentional acts are involved or not (Pulido 2000). As critics have noted, focusing on the issue of intentionality in siting unwanted facilities in minority neighborhoods elides consideration of the succession of land uses, patterns of housing segregation, racialized employment patterns, financial practices, and the ways that race permeates



Source: adapted from Bolin et al. (2000)

Figure 1. Map of the Phoenix Metropolitan Area.

zoning, development, and bank lending processes in urban areas (Boone and Modarres 1999; Cole and Foster 2001; Rabin 1990). The focus on intentionality in discriminatory spatial practices neglects the “*simultaneous evolution of racism...*, class formation, and the development of industrial landscapes” [emphasis in original] (Pulido et al. 1996, 420).

In a theoretically informed discussion of environmental discrimination, Pulido (2000, 15) advances the concept of ‘white privilege.’ In her usage, white privilege denotes a hegemonic form of racism, deeply embedded in ideologies and practices, that works to (re)produce white advantage across time and space. Conceptually, it calls attention to the relationships of different racial groupings in urban space and the ways that ‘whiteness,’ as a cultural construct, confers economic and social benefits to those so marked, thus linking race and class. Applied to environmental justice research, it points to the need for comparisons of those who bear heavy environmental burdens with those who are able to avoid them through residential and employment decisions (Szasz and Meuser 1997). In this context, the growth of racially exclusive white suburbs, a pattern that predominates in Phoenix’s century-long expansion outward from city center, is exemplary of the geography of racial privilege. It is a socio-spatial process that has inexorably shifted both environmental and economic burdens toward those remaining in the central city (e.g., Pulido 2000; Bolin et al. 2000; Sciotte 2003).

In this paper, we use ‘environmental racism’ to denote a complex of social and spatial practices which systematically disadvantage people marked by certain racial categories. In the case of Phoenix (and the US generally) until the mid-1960s, racist discourses were pervasive and racial divisions and inequalities were ‘naturalized’ to the point of being taken for granted. We consider environmental racism to include acts of omission, such as failing to provide urban infrastructure and acts of commission, such as the imposition of unwanted land uses, regardless of whether there was specific intent to harm people of color.

Historical Overview

Unlike other cities of the Southwestern US Sunbelt (Albuquerque, El Paso, Los Angeles, Santa Fe, Tucson), which began with centuries old Spanish colonial and Mexican settlements, Phoenix was founded by Anglos and had no pre-existing Indian or Mexican settlements to displace (Sheridan 1995). Established in the late 1860s as an agricultural center in the Salt River Valley of central Arizona, early land speculators used the remnants of 14th century Hohokam Indian canal systems to bring water to the otherwise parched Sonoran desert. While the Hohokam had abandoned major settlements in

Table 1. Maricopa County Population Statistics, 1900-2000.

Maricopa County	1900	1950	2000
Total population	20,457	331,770	3,072,149
Latino	~3,000	~50,000	763,341
Black	210	14,409	108,521
White	13,783	289,402	2,034,530

Source: U.S. Bureau of the Census, 1900, 1950 and 2000

Note: Latino figures for 1900 and 1950 are estimates based on Luckingham 1994

the valley some four centuries earlier, for reasons not well understood (Abbot 2003), the new settlers optimistically named the nascent city Phoenix, assuming it would not share the fate of the earlier settlements. With the revival of the ancient canal system, the ‘worthless desert’ gained value as agricultural land and established the central role water would play in the political economy of Phoenix.

By the late 19th century, Mexicans and Mexican-Americans were the largest ‘minority group’ in Phoenix (Table 1), joined by smaller populations of African Americans, Chinese, and American Indians (U.S. Census of Population 1900, 1950, 2000). While all racial/ethnic minorities were the subjects of discriminatory discourses and practices, those directed at Latinos and Blacks had the most persistent effects on land use and place construction in the city. Residential segregation and unregulated land uses in minority districts began shaping social and environmental conditions in what would become South Phoenix by the 1890s, when Phoenix’s population numbered fewer than 5,000 people. Even at this early stage in the development of the city, the dividing line between Anglo Phoenix and the southern subaltern district was beginning to be established, demarcated by an east-west rail corridor first established in 1887 (Myrick 1980). This corridor soon began serving as both the physical and symbolic boundary between two developing urban worlds (Figure 2).



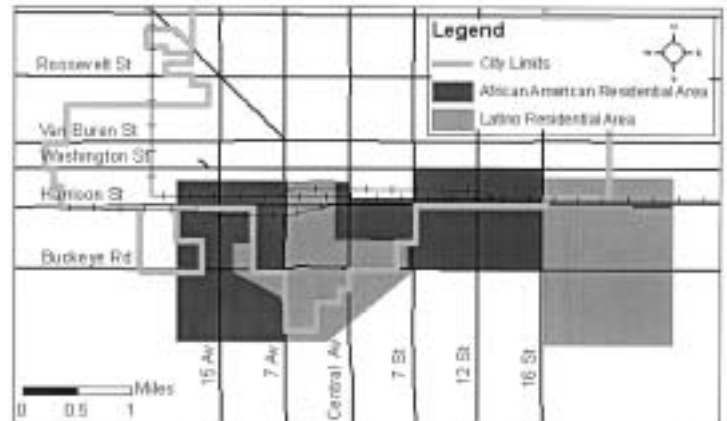
Source: Adapted from Roberts (1973)

Figure 2. Minority Neighborhoods in Phoenix, 1911.

Mexicans were, almost from the city's founding in 1870, marginalized and excluded in most economic sectors, being relegated primarily to field work in local agricultural production (Dimas 1999). This reflects general patterns of agricultural production in the Southwest US, which had come to rely on low-wage Mexican labor by the 1870s. This pattern of employment segregation persists today in California and Arizona. In the hegemonic ideology of the period, Mexicans were viewed as 'naturally' predisposed to stoop work in fields picking fruits and vegetables and culturally adapted to low wages and poverty (Walsh 1999). Mexicans and Mexican Americans were systematically disadvantaged in the early political economy of the city. By 1900, wealth, political power and property were controlled by a growing Anglo business and political elite, a factor critical in shaping race relations and the production of space in the emerging city. As Luckingham (1989, 8) notes, "Phoenix, from its founding was run by Anglos for Anglos," a consequence of which was the production of a persistent north-south geography of uneven development across the city.

An unapologetic pro-growth 'boosterism' has been a central ideological feature of the ruling class in Phoenix from its earliest days and has shaped innumerable planning and investment decisions over the last century designed to ensure growth, profitability, and capital accumulation (e.g. Mawn 1979; Wylie and Gottlieb 1985). Critical in Phoenix's early growth was the establishment of railroad linkages to external markets, and it is the railroad that gained a primary role in shaping the industrial ecology and patterns of racial segregation in the urban core (see Figure 2) (Kotlanger 1983). The rail corridor transecting southern Phoenix became, by the 1890s, a magnet for industrial, warehousing, and stockyard activity. Some of the city's earliest industries located 'south of the tracks': these included meat packing and rendering plants, foundries, ice factories, flour mills, brick factories and food processing facilities, giving the district a durable industrial presence (Mawn 1979). The railroad also anchored a growing warehouse district, as the city rapidly emerged by 1920 as a regional distribution center (Russell 1986). The east-west line of the railroad served a relatively impermeable residential barrier between the poor Black and Latino districts of South Phoenix and Anglo Phoenix extending from the central business district, northward. Today, the rail corridor remains a zone of environmental justice concerns (Bolin et al. 2002) (see Figures 2 and 3).

The northward movement of Anglo residential development began after major flooding on the Salt River in 1891 showed the hazardousness of living on the floodplain. This left the area between the central business district (CBD) and



Source: adapted from Roberts (1973)

Figure 3. Minority Neighborhoods in Phoenix, 1940.

the Salt River channel as a liminal zone hosting the rail corridor and an expanding industrial presence, in proximity to the agricultural fields which were the mainstay of the city's economy in the early 20th century. The *barrios* and ghettos of South Phoenix languished in the interstitial areas between factories and fields, well isolated from the expanding white-only neighborhoods to the north (Dimas 1999). Public expenditures on water lines, sewage, paved roads and urban services were directed toward neighborhoods north of the downtown, while those south of the rail corridor did without, in some areas well into the 1960s (Russell 1986). The lack of basic urban services south of the rail corridor throughout this period contributed to the increasingly unhealthy living conditions prevalent in its low-income neighborhoods. Indeed the city's storm water rains, first constructed in 1890, directed runoff and untreated sewage of Anglo neighborhoods into the minority neighborhoods of South Phoenix, "...victimiz[ing] the lower areas with filth and stench" and causing "... the transition of a desirable residential neighborhood into a depressed area" (Mawn 1979, 140). Because much of South Phoenix remained outside the city limits and political jurisdiction of Phoenix until annexations in 1959 and 1960, land use regulations were lax and urban services were minimal (Konig 1982). The low land values in the district made the area attractive to continuing industrialization into the 20th century, which in turn, engendered continuing environmental blight in residential areas adjacent to the industries (Mawn 1979).

South Phoenix, by the 1920s, was indelibly marked in the Anglo controlled media as an undesirable district of industry, stockyards, and minorities not suitable for the privileged classes (Luckingham 1994). North of the CBD, a new urban trolley system provided transportation to growing suburban White neighborhoods springing up (Russell 1986). This growth, in turn, was promoted by the Salt River Project, a federal water

project which by 1920 was providing reliable water supplies for urban and agricultural uses in central Arizona (Reisner 1993). Indeed, as Reisner (1993) notes, the availability of federally subsidized water promoted rapid increases in land values in desirable parts of Phoenix leading to a frenzy of land speculation and housing development in the early 1920s.

By this time, clear effects of 'white privilege' (Pulido 2000) can be seen in the city's development patterns, with Anglo middle classes increasingly distancing themselves from the degraded environmental and residential conditions of South Phoenix as city limits were extended northward in a series of annexations (Luckingham 1994). Unlike cities of the US industrial heartland, with distinct patterns of 'white flight' to suburbs as central cities deteriorated (e.g. Harvey 1996), Phoenix's split of a minority urban core and expanding white suburbs on the periphery has been in place for the last century. A Chamber of Commerce report in 1920 articulated the desired image of Phoenix when it characterized the city as "a modern town of forty thousand people, and the best kind of people too. A very small percentage for Mexicans, Negroes, or foreigners" (quoted in Kotlanger 1983, 396). For Phoenix boosters, the "best kind of people" were Anglo and middle class, the social class that promoters historically have sought to attract as tourists and as new residents to the city (Luckingham 1994).

Irrespective of city boosters' visions of a racially pure desert utopia, the region has attracted people of color since its founding. Initial African American settlement in the Phoenix area began in the latter part of the 19th century as migrants escaping racism in southern states came west. Phoenix, however, offered little refuge from segregation and discrimination, and by 1912 African Americans were subject to a variety of laws enforcing strict residential, schooling, and employment segregation, practices that persisted well into the Civil Rights era of the 1960s (Harris 1983). A net socio-spatial effect of racial control and exclusion in this period is the concentration, even today, of much of Phoenix's proportionately small Black population in a few census tracts of South Phoenix (Sicotte 2003). Both African Americans and Latinos were segregated and racially controlled by a wide variety of formal and informal practices that remain inscribed in the city's current spatial form.

Race and Place

Race and class inequalities were deeply entwined in the process of place construction in Phoenix, as was typical of US cities of the period (e.g. Harvey 1996). The hegemonic racism that held sway among Arizona's political elite and the planning and investment decisions that were shaped by it insured that South Phoenix's early industrial trajectory would

not be stopped in deference to the growing residential populations in the district. Racist discourses fused race and place as embodied characteristics by ascribing 'hazardous' tendencies to bodily characteristics and cultural practices, thus justifying the segregation of 'races' (Brunk 1996; cf. Craddock 2000). As Young (1991, 126) notes, when a dominant class "...defines some groups as different, as the Other, the members of these groups are imprisoned in their bodies. Dominant discourse defines them in terms of bodily characteristics and constructs their bodies as ugly, dirty, defiled, impure, contaminated, or sick." It also rationalizes and justifies their separation in space.

Such discourses were present from the earliest days in Phoenix as an 1879 newspaper account illustrates:

[Mexicans] do their washing and cooking on the sidewalks, and all manner of filth is thrown into the [irrigation] ditches. They have no outhouses, and the stench arising from the numerous adobe holes is simply fearful. . . Some portions of our town surpass that of the Chinese quarters⁶ in San Francisco for filth and stench (quoted in Luckingham 1994, 18).

Signifiers like 'dirt,' 'filth,' and 'disease' were all used by the media to stigmatize residents of South Phoenix for decades, helping to reinforce their Otherness to the 'right kind of people' in Anglo Phoenix. The colligation of racial stereotypes and degraded living conditions of the inhabitants of South Phoenix legitimated, in turn, a wholesale official neglect of the region, expressed both in unregulated industrialization and an absence of urban services for the residents of the area well into post-war boom period (e.g. Mawn 1979).

Racism was not evenly applied. Blacks and Latinos were subjected to different patterns of discrimination, and, further, were internally segregated along racial and class lines within South Phoenix itself (cf. Figure 2 and 3). African Americans were subject to formal segregation typical of much of the US through the 1960s. In Phoenix, a variety of laws and strict social rules of deference to Whites in public spaces produced near absolute residential, employment, health care, and educational segregation (Luckingham 1994, 1989). An active Ku Klux Klan in the 1920s enforced racial discipline on African Americans in the city although their vigilantism attracted far fewer followers than it did in the Southern US (Harris 1983). Unlike Latinos, Blacks were restricted by Arizona law to Black-only schools. When none was available, Blacks had to endure the humiliation of micro-segregation at White schools in so-called 'colored rooms.' In Phoenix, a 'colored cottage,' a small outbuilding where Black high school students were isolated was used, as if they were carriers of contagious diseases. This form of micro-segregation continued until the city's first segregated 'colored' high

school was built in 1927 (Hagerty 1976). Federally mandated school and housing desegregation, however, would not begin until the 1960s, permitting continuing racial segregation in Phoenix in a variety of spatial scales, from the classroom and workplace to entire zones within the urban core. Indeed, deed restrictions and housing covenants, as well as lending practices kept African Americans out of all-White suburbs until fair housing laws began to be enforced in the 1970s (Harris 1983; Gammage 1999). These forms of spatial and social control reinforced the economic marginality of most of the city's African American population, restricted as they were to service work and as agricultural laborers through the 1920s (Horton 1941). US Census⁷ reports covering four decades from 1900 to 1940 show the overrepresentation of 'Negroes' in domestic work and unskilled laborers (primarily farm and railroad work) as well as among the unemployed (US Census 1922, 1943). While income figures are not given, surrogate indicators including mortality rates and housing conditions (discussed below) suggest pervasive poverty among Blacks.

Socio-spatial discrimination against Latinos was more pronounced in Phoenix than other Southwestern cities in the region that originated as Spanish colonial and Mexican settlements (Dimas 1999; Sheridan 1995). While the *barrios* of Phoenix provided settings for the continuation of Mexican cultural traditions and practices, they were contained there by an all White police force (Dimas 1999). As Dimas notes (1999, 32), the internal segregation of the Catholic Church, with Latinos restricted to the basement for services in the 1920s was "perhaps the most profound indicator of the prejudice and discrimination that the Mexican population faced...in the Valley." In addition to spatial control, cultural control took the form of efforts to 'Americanize' Latinos in the 1920s and '30s, including teaching young women how to be domestic servants in Anglo households of north Phoenix (Mawn 1979). While Latinos were not subject to the apartheid-like conditions of Blacks, they were equally restricted in employment and to residential locations in South Phoenix, circumstances that persisted until US housing and employment laws were changed by the 1964 Civil Rights Act. As Dimas (1999) reports, labor markets were clearly racialized, with the primary occupations for Latinos prior to World War II in very low wage agricultural field work and as laborers in the warehouse district adjacent to the rail corridor (Luckingham 1989).

The sequestration and spatial control of people of color in Phoenix is an exemplar of what Sibley calls 'spatial purification,' using race and class segregation to separate the putative threats of disease, crime, and moral corruption of the poor from the middle classes in their 'purified' suburbs (1995, 77). As Sharpe and Wallock contend (1994, 9): "That

[White] suburbanites effectively wall out those unlike themselves after arriving [in suburban neighborhoods] suggests that a major force driving their migration is the wish to escape racial and class intermingling." This aptly describes a process that has characterized urban growth in Phoenix since the 1890s and continues today with the ongoing expansion of predominantly class segregated suburbs increasingly distant from the pollution and poverty of South Phoenix.

Health and Housing South of the Tracks

The material effects of racial discrimination, spatial control, and unregulated land uses in South Phoenix were pronounced by the 1920s. By then, living conditions for the poorest Latinos and African Americans in South Phoenix were, by all accounts, dire; blame for conditions was placed on residents. Areas of housing, comprising a mix of tents with hastily erected shacks of cardboard and scrap wood, with no water or sewage, were clustered between factories, warehouses, and stockyards (Horton 1941). The stockyards and unregulated emissions of factories and trains produced a miasma of contaminated air and water in which low-income Phoenicians lived and worked. The presence of sugar beet processing factories and meat packing plants inevitably contributed to high concentrations of smoke and putrid odors in adjacent minority neighborhoods (Mawn 1979; Russell 1986). Heat-related deaths and high infant mortality were commonplace in summers when daytime temperatures consistently exceed 40°C. Overcrowded housing, severe poverty, and malnutrition were prevalent as were epidemics of typhoid and tuberculosis in the 1920s and '30s across the district (Kotlanger 1983). Infant mortality data from the Depression era clearly shows death rates for Blacks, Latinos, and Indians as two to three times the White rate (Buck 1936).

T.C. Cuvellier, working for the Arizona State Board of Health, reported housing conditions in Black and Latino areas of the city to be severely degraded (Cuvellier 1920, 5):

... many families were found eating and sleeping in a single room with scores of them crowded into a single block or group of dwellings opening onto a common court. In many cases children were found living in the same room as persons afflicted with positive cases of [tuberculosis]. In many cases filth and flies contributed to the general squalor and unhealthiness of the surroundings, and more deplorable still, many families, as high as ten, were found making use of a single vile smelling toilet.

Local newspapers affixed blame for conditions claiming that: "...poverty and colossal ignorance are claiming their tolls among little brown babies... and that such a congestion of un-

fortunates [was] a combined result of poverty and the greed and inhuman disregard of landlords” (quoted in Kotlanger 1983, 429). While such descriptions were common in local newspapers, there were virtually no systematic attempts to mitigate such conditions until federal resources became available in the latter part of the 1930s. Further, evidence suggests that the city refused to try to control the predatory activities of landlords well into the post-war period (Brunk 1996).

The lack of potable water, sanitation, adequate diet, or healthcare along with the pestilential runoff of industries contributed to chronic health problems of South Phoenix residents. While Anglo Phoenix neighborhoods had an expanding water and sewage infrastructure in the 1920s, none was extended to South Phoenix for decades, other than that needed for the growing industrial district along the rail corridor (Kotlanger 1983). Conversely the city’s first sewage processing plant (1921) was placed in South Phoenix, along with landfills located along the banks of the Salt River (Mawn 1979). In this fashion, impoverished South Phoenix functioned as the dumping ground for wastes produced in the remainder of the city.

Referred to as the “the shame of Phoenix” in a 1920 community report, living conditions in South Phoenix were described as “fully as bad as any... in the tenement districts of New York and other large centers of population” (quoted in Kotlanger 1983, 129). A community worker asserted that housing conditions found in South Phoenix in the late 1920s and early 1930s “helped Arizona attain the highest infant death rate in the nation” and earn the federal distinction of being the worst slum in the US (McLoughlin 1954, 40). A description of a Black neighborhood in 1930s is indicative, with the neighborhood described as:

permeated with the odors of a fertilizer plant, an iron foundry, a thousand open privies and the city sewage disposal plant . . . Its dwellings for the most part were shacks, many without electricity, most without plumbing and heat. They were built of tin cans, cardboard boxes, and wooden crates picked up by railroad tracks (McLoughlin 1954, 41).

These conditions were exacerbated during the Depression as unemployment surged and incomes dropped. A survey of ‘slum conditions’ in South Phoenix in 1939 examined 4065 houses, finding that only 289 of the homes could be classified as meeting accepted standards. On one block, the surveyors found only two houses with running water, and only one with an inside toilet. One outside toilet was shared by 24 families and only seven homes had electricity (Horton 1941). Blame for the degraded living conditions in health and housing in South Phoenix was largely affixed to the people living there,

not local governments or businesses. There was recognition that if living conditions were better disease and mortality could be reduced. But as the following quote from the State director of public health illustrates the problem was assigned to how children were ‘born’ and raised: “if [Indian] babies were well-born and well-cared for, their mortality rates would be negligible” (Cuvellier 1922, 12).

The public representations of people, disease, and general living conditions in South Phoenix, while calling attention to the squalid conditions, also worked to reinforce the stigmatization of the area. Further, they tended to treat living conditions and health issues as the fault of the inhabitants of South Phoenix, rather than the effects of an ensemble of economic and social practices generating pronounced inequalities. As David Harvey notes (1996, 321),

Representations of places have material consequences in so far as fantasies, desires, fears, and longings are expressed in actual behavior. Evaluative schemata of places ...become grist for all sorts of policy-makers’ mills. Places in the city get red-lined for mortgage finance, the people who live in them get written off as worthless ...The material activities of place construction may then fulfill the prophecies of degradation and dereliction.

This is a suitable description of the contradictory effects of public representations of South Phoenix on policy, planning and place construction in Phoenix for much of the 20th century. It was well recognized by 1920 that housing and living conditions were inhumane. Yet, according to the apparent logic of city leaders, as evidenced by decades of planning and permitting of industrial land uses, since South Phoenix had little of value to preserve, continued emplacement of industries and transportation routes would have little additional negative effect on the district (e.g. Sicotte 2003; Sobotta 2002; Dimas 1999).

Institutionalizing Racism in Place

These degraded living conditions there were officially ignored by the city of Phoenix except for scattered attempts at constructing public housing. The advent of federal New Deal housing assistance programs in the 1930s made grants available for constructing low income housing. Some three hundred units of racially segregated public housing were built during the late 1930s to relieve the worst of housing conditions. Separate clusters of modest housing for poor Whites, Blacks, and Latinos were built in ‘appropriately’ segregated areas of South Phoenix, although the numbers built did little to address the overall housing needs in the district (Zachary 2001).

Nevertheless, at the same time that Phoenix was securing federal monies to build low-income Depression era housing, it was also institutionalizing leading practices that would perpetuate the deteriorated housing and economic marginality of South Phoenix neighborhoods. In 1933, the federal government created the Home Owners' Loan Corporation (HOLC) as an economic stimulus to mitigate the rash of mortgage foreclosures sweeping the US. To delineate areas within the city 'worthy' of HOLC monies it relied on the overtly racist National Association of Real Estate Boards (NAREB) policies to appraise and map the city (Brunk 1996). Phoenix was coded into districts based on the demographic characteristics of the inhabitants. Neighborhoods with African American, Latino or "foreign" residents, according to NAREB standards, warranted a 'hazardous' rating and were red lined, denying loans to residents. Minority neighborhoods concentrated in southern Phoenix were denied HOLC monies although housing stock and living conditions were recognized as among the worst in the US. Brunk (1996, 67) concludes that the "HOLC locked in the urban configuration for Phoenix by withholding relief funds from minority neighborhoods, thus establishing precedent for institutional housing discrimination." These practices hindered future economic growth in the "hazardous areas." Continued bank redlining of the same area in the postwar period simply perpetuated what was initiated in the 1930s (Dimas 1999).

Although some public housing was built in the 1930s it had little effect on housing conditions in South Phoenix. A 1941 report describes conditions in the subaltern district:

Phoenix has shockingly disgraceful slum areas... The slums created a public health menace as a breeding place for disease. They fostered juvenile delinquency and created social problems that affected the entire community. They discouraged development of areas in which they were situated and tended to serve as a serious drain in some areas, three of four persons lived in single-roomed shacks which had only dirt floors and no modern conveniences... children grew up in them (Horton 1941, 183).

Missing from Horton's statement is any attempt to understand the sources of 'slum conditions' and the assertion that slums were a problem because they 'affected the entire community' and were a 'menace.' Further, even after a decade of heavy military spending during World War II, living conditions in South Phoenix remained much as they had. Pervasive employment segregation and a racist system of bank redlining noted above ensured that neither good paying jobs nor housing loans could be easily obtained in the district (e.g. Brunk 1996; Konig 1982, 21). An Urban League report on

Phoenix in the 1950s found that 95% of the city's Black population lived in the most deteriorated districts of South Phoenix (McCoy 2000).

A historical lack of planning, land use regulation, or public investment, along with an array of racially discriminatory practices worked to keep housing deteriorated and land prices low, making this blighted area attractive to industries seeking to locate near the rail corridor and the CBD (Kotlanger 1983). While Phoenix adopted a limited zoning ordinance in 1930, it was used primarily to keep White middle-class neighborhoods north of the CBD homogeneous and to protect property values there by keeping both industry and minorities out (Gammage 1999).

Postwar Industrialization and Suburbanization

While Phoenix banks and real estate industry may have considered the people of South Phoenix "hazardous" and the area too financially risky to build homes in, another set of risks and hazards were already being built into the district. These took (and continue to take) the form of substantial environmental hazards from toxic chemicals, air pollution, and hazardous wastes dispersed across the industrialized zone. Since the 1890s, as noted previously, a variety of land uses not permitted in Anglo Phoenix (stock yards, factories, rendering plants, meat packing facilities, sewage facilities, and land fills) could be found in the midst of minority South Phoenix. By the onset of the Depression more than 100 manufacturing firms were located south of the rail corridor and by this period more than 80 km of railroad tracks crossed South Phoenix, connecting dispersed factories to the main rail line (Buchanan 1978).

One consequence was to further disperse manufacturing sites among residential areas of South Phoenix, establishing the rail infrastructure for further industrial expansion in the post-war period. Although the deteriorated housing and environmental conditions and high unemployment in the district were well documented in the 1930s, the city continued to encourage industrialization there (*Phoenix Action* 1955). By the 1950s it was reported that three-quarters of Phoenix's 1000 manufacturing facilities were within 2 km of the railroad, reflecting the expanding agglomeration of industry in South Phoenix as well as in newer industrial districts to the north and west (Hamilton and Huneke 1954). In a variety of reports in the 1950s and 1960s the advantages of Phoenix's industrial district were promoted to attract industry to the city. The presence of a non-union workforce and the availability of large tracts of low cost land for factory sites and adjacent worker housing were considered part of the area's advantage (e.g. Stocker 1955; Kelly 1964; Konig 1982.)

And while the railroad declined in significance as a major transportation anchor in the city since 1950, it has been joined by new modes creating additional impacts across South Phoenix. First, beginning in the 1960s construction of an intra-urban freeway system was initiated, leading to the insertion of two major freeways across South Phoenix paralleling the railroad corridor (Figure 1). This was followed by the rapid expansion of the centrally located Sky Harbor airport in the 1970s and 1980s. Both have promoted wholesale removal of entire minority neighborhoods, environmental contamination, industrialization and neighborhood decline in South Phoenix into the current era (Dimas 1999; Bolin et al. 2002; Sobotta 2003). The airport is now a major anchor for new industries requiring proximity to air transport, becoming in the process one of the most contaminated census tracts in Phoenix (Bolin et al. 2002).

Although the stockyards and agricultural activities slowly disappeared in South Phoenix as the metropolitan area entered its postwar boom, the industrial presence there expanded to produce significant hazard burdens (Bolin et al. 2002). The postwar boom period of population growth, economic expansion, and rapid suburbanization had few positive effects on South Phoenix. Little was done in the immediate postwar period to address the severe low-income housing problems already well documented in the 1930s. While federal loan programs in the 1940s and 1950s made low interest mortgages available through the Federal Housing Authority, these were available only for White home buyers seeking to purchase the tract homes in the burgeoning northern suburbs of Phoenix. Thus people of color not only could not qualify for regular mortgages or low interest home loans to improve South Phoenix homes, they were also denied access to the all White northern suburbs with their restrictive race covenants (Brunk 1996; McCoy 2000).

A 1946 report by county officials described post-war South Phoenix living conditions as unchanged from the Great Depression (Montgomery 1946). The report described "Steinbeck-esque Joad families living in dilapidated housing, row after row of open backyard toilets, which smelled to high heaven and dust blanketed, littered streets and even dirtier alleys, and children played in a squalor that a hog raiser wouldn't tolerate in his pens..." (quoted in Zachary 2001, 203). In another area, squatters lived in an abandoned stable. In the 1950s when the squatters were evicted, city officials discovered that as many as 50 families with up to 60 children had lived in these dwellings without electricity, water or trash collection for over five years. The chronic slums of South Phoenix exemplified Phoenix's inability to manage rapid growth (Zachary 2001, 203). Prospects for mitigation were limited as few resources were available in the 1950s, and with the rapidly expanding White middle class suburbs there was

virtually no political support to assist Phoenix's poor and people of color. At best African Americans and Latinos in South Phoenix might be able to acquire small five-year mortgages, resulting in a poorly constructed homes because of inadequate financing (McCoy 2000). As one commentator noted on housing disparities in Phoenix in the 1950s:

At [the north] end of town, you'll find long, row ranch house mansions of the well-to-do. Down near the other end, you'll find the packing-box like shacks of the very poor...mostly Mexican-Americans. As with any city, the slums are something we don't quite know what to do about and never like to talk about (Stocke 1955, 58).

As recently as the mid-1960s, it was reported that "Phoenix ... finds itself saddled with square mile after square mile of some of the most run-down, dilapidated housing in urban America ...whole blocks are served by one or two water taps ... behind a street facing row of shacks is built a second row, and even a third, of equally inadequate structures" (Citron 1966, 8).

While the poor of South Phoenix were materially excluded from the postwar housing boom, their neighborhoods were increasingly encroached upon by new industries moving to Phoenix after the war. Reflective of the industrial expansion, Stocker (1955) notes that between 1948 and 1952, more than 100 new manufacturers moved into Phoenix, creating 9000 new jobs. As of 1955, it was estimated that Phoenix had more than 1000 manufacturing plants (Stocker 1955). With this influx of industry, industrially zoned areas in South Phoenix expanded, both to the southwest on former farmland and east to Sky Harbor airport. The continued emplacement of new industries adjacent to homes in the district eroded already low values. A 'model community' of single-family homes for African Americans built was constructed in South Phoenix in 1959. The area ostensibly contained the best homes for Black families in the city. But property values were not protected from encroachment of industry and erection of substandard dwellings and homes in this development were sold in 1965 for 15% of the price they sold for in 1959 (Banner and Dyer 1965, 68).

After World War II, the defense industry in Phoenix became a prominent economic sector, particularly in aerospace and electronics. These new 'high tech' defense industries were heavily courted by a politically powerful pro-growth coalition in the city from the 1940s on, offering large tax abatements and cheap land to lure industry to Phoenix (Wiley and Gottlieb 1985; Konig 1982). In the 1950s this coalition successfully attracted major electronics firms such as Motorola to Phoenix, companies that were flush with lucrative Cold War era contracts (McCoy 2000). Konig (1982, 28)

notes that a total of 290 industrial firms moved to the city in the 1950s, placing factories both in the older industrial district of South Phoenix and in expanding industrial districts on what was then the urban periphery. Besides a pro-business tax structure in the city, corporations were also attracted by Arizona's non-union work force, whose wages averaged 25% below national averages (Konig 1982).

In addition to satisfying space requirements, suburban locations of this new generation of electronics facilities provided a second locational advantage: access to educated White workers. These large corporate electronics firms denied employment to Blacks and Latinos until such practices were declared unconstitutional in the 1960s (Sheridan 1995). Then, as now, small-scale subcontractors located in South Phoenix would provide assembly components for the large electronics firms, part of a general pattern of outsourcing now common in 'post-Fordist' industrial ensembles (Soja 2000). These subcontractors have historically proven to be far more lax in their pollution and safety record than the large corporate plants they supply, adding to the hazard burdens of South Phoenix (Field 1997; Pijawka et al. 1998).

Economic and residential decentralization in the 1950s encouraged business and public investment in the suburbs, away from the central city, leaving many downtowns moribund by the 1970s (Hackworth 1999). To revive the declining fortunes of Phoenix's CBD, city boosters pursued a number of redevelopment schemes. These have variously involved a variety of public expenditures to build new government facilities, concert halls, and other facilities that would attract consumers to the CBD. Other redevelopment efforts in the 1970s used tax incentives and other public subsidies to entice commercial and industrial firms into the industrializing zone of South Phoenix. This led to the siting of a number of industrial polluters and toxic waste handling facilities along transportation routes in South Phoenix (e.g., Pijawka et al. 1998; Schmandt 1995; Sicotte 2003). The new industries, however, have done little to reverse the high rates of poverty in South Phoenix where current poverty rates may exceed 40% in a given tract (Bolin et al. 2002).

A political priority for the downtown redevelopment coalition was the placing of two major freeways around the CBD in the 1960s to promote access (Gammage 1999). As a result, two interstate highways were inserted through South Phoenix and around the CBD: I-17 completed in the 1970s and I-10 completed in the 1980s (Figure 1). Interstate 17 was placed directly across Latino neighborhoods of South Phoenix paralleling the historic rail corridor. The resultant high levels of highway traffic contribute to substantial ambient air pollution in this zone today (Bolin et al. 2000). As a consequence of redevelopment efforts since the 1970s, industrial encroachment on residential areas of South Phoenix be-

came increasingly pronounced. Zoning data illustrate the problem: In metropolitan Phoenix today, 3% of residentially zoned areas directly border industrial zoning, in contrast to 35% of neighborhoods in South Phoenix (Bolin et al. 2002).

Although billions of dollars have been spent in the 1990s to 'revive' the downtown, reshaping the city's skyline in the process, those dollars have contributed few if any discernible economic benefits to those living in the adjacent neighborhoods of South Phoenix (Bolin et al. 2002; Hackworth 1999). Indeed as Burns and Gober (1998) show, there is a significant spatial mismatch between the jobs available in the CBD and adjacent industrial district and the people who take those jobs. That is, few inner city residents of Phoenix actually work in the business and factories that are proximate to neighborhoods. Continued industrialization and commercial encroachment in South Phoenix has done little to improve the economic or environmental circumstances of the people who live there.

In addition to the negative effects of highway expansion in South Phoenix, environmental and socioeconomic deterioration has been exacerbated by expansion of Phoenix's Sky Harbor airport. The most heavily impacted neighborhood was the Golden Gate Barrio, one of South Phoenix's original Mexican-American neighborhoods (Dimas 1999). Expansion of Sky Harbor Airport was initiated in the 1970s and called for the extension of the east-west runway system. However, that extension required the removal of residential areas of the Golden Gate barrio, a program that was dutifully undertaken beginning in 1977 (Dimas 1999). By 1986, sixteen hundred households had been removed leaving large portions of the landscape vacant and available for airport and industry. The residential value of the area was also undermined by the I-10 freeway corridor, which was placed directly across it in the 1980s (see Dimas 1999; MAGTPO 1979). Between 1980 and 1990 alone, 40% of residential land in the area was converted to industrial uses. Noise and air quality degradation as a result of airport operations continue to burden nearby South Phoenix neighborhoods (Sobotta 2002).

Race, Place, and Environmental Justice

The origin and development of the patterns of environmental inequality described here are a product of a persistent and diverse forms of racism, coupled with the primary roles of transportation corridors and industrialization in shaping the inner city area of Phoenix. The prevalent racial discourses of the early 20th century, associating filth and disease with the living habits of minorities helped justify spatial segregation. Equally important, it was not just the people who were pathologized: the region in which they lived was likewise stigmatized as a "hazardous" environment. In this fashion, historic racist discourses and practices and their effects on

land use decisions have been literally inscribed on the landscape of central Phoenix.

Decisions to place noxious facilities in the middle of minority communities, based on evidence reviewed here, were not made with the sole intent to harm. The creation of industrial zones, and the logics of industrial location are seldom done with racially motivated intent (Pulido 2000). Indeed acts of omission, such as failing to provide urban infrastructure or not enforcing housing codes, have been as important in the development to environmental inequalities in Phoenix as have been acts of commission (e.g. the imposition of unwanted land uses). Intentional or not, the net socio-spatial effect, as we show, has been to produce unequal and unsafe environmental burdens on low-income, minority communities, a condition that has been produced and reproduced socio-environmental conditions in South Phoenix for more than a century of urban development.

While continued economic marginality of South Phoenix neighborhoods may be, in part, attributed to suburban expansion and the resource drain on the central city (Guhathakurta and Wichert 1998), it is largely the result of decades of political, planning, and investment decisions (e.g., Wiley and Gottlieb 1985). As we have described it, conditions in South Phoenix are not intentionally produced yet they clearly flow from a racist ideologies and practices coupled with a strong political drive to promote growth and development in the city. To promote a century of industrialization adjacent to low-income neighborhoods, without concern for the well being of residents or any substantial investment in housing for its residents is environmental racism (Bullard 1996; Pulido 2000). Within South Phoenix, Latinos and African Americans have borne disproportionate environmental burdens, yet have received few economic benefits from industrial and commercial presence in their neighborhoods (Bolin et al. 2002; Burns and Gober 1998).

While African Americans and Latinos historically lacked the political and economic power to effectively contest the degradation of their neighborhoods, the post-World War II period has been marked by changing legal and political conditions. Building off the 1954 Supreme Court decision to desegregate public schools and the Civil Rights movement of the 1960s, South Phoenix activists have opposed segregation, and sought improved housing and employment opportunities in their neighborhoods (Luckingham 1994). The Environmental Justice movement, which began in the 1980s in the US, linked civil rights issues with environmental concerns providing a new political frame for community activism across the country (Szasz 1994). Changing regulatory and legal structures, including a 1994 presidential mandate for federal agencies to address environmental justice concerns, have enabled new forms of political activism in environmen-

tally stressed minority communities (e.g. Pellow 2000).

In the case of minority neighborhoods in Phoenix, a number of citizen movements against toxic waste sites and hazardous industries emerged in the 1990s (Sicotte 2003; Struglia 1993). In the contemporary political milieu, hazardous industry sitings no longer go uncontested. In a political and legal environment shaped by civil rights and Environmental Justice principles, a variety of recent lawsuits over the permitting of hazardous facilities in South Phoenix have been filed. Local neighborhood movements and environmental justice organizations now frequently deploy the term 'environmental racism' at site-specific protests. However the success of such contestations has been mixed and few contaminating industries have been denied permits or required to shut down (Sicotte 2003).

Once the 'permanences' of industrial zonation are in place, it is a challenge to alter the built landscape to benefit low-income residents. Industries will continue to locate on land near transportation corridors and waste disposal facilities and pollute neighborhoods, unless interventions are politically mandated and there are wholesale changes in zoning and land use. Once an area has begun to function as a center for industrial production and other commercial activities such as storage and transportation that land use legacy will persist, even with the decline of the original commercial enterprises. That industries seek vacant land adjacent to both transportation corridors and waste disposal facilities is well documented, insuring that, as in the case of South Phoenix, an agglomeration of hazardous sites and other residentially incompatible land uses will tend to develop around an initial transportation or industrial node. In South Phoenix, there have been no official actions to discourage such land uses, and in the case of some neighborhoods, zoning has been used to eliminate residential uses all together (Dimas 1999).

The persistent expansion of environmental burdens in South Phoenix, despite major changes in federal regulations, scientific knowledge of toxic hazards, and the environmental justice movement, reflect ongoing neglect by city officials. Environmental activists have been quick to label this disregard as racism (Sicotte 2003). While the Arizona Department of Environmental Quality initiated a marginally funded toxic hazards reduction program for South Phoenix, the first year of that program has seen no reductions mandated (ADEQ 2003). The pervasive racism that shaped the early landscape and economy of Phoenix set in place processes of industrialization and residential patterns that appear to be changing slowly in the current period of rapid urban growth. Few resources are today being directed toward rehabilitating South Phoenix and mitigating industrial hazards in its neighborhoods, reinforcing a century long pattern grounded in racial exclusion and class privilege.

Endnotes

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2. E-mail: Sara.Grineski@asu.edu
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4. The term Latino refers to residents who can trace ancestry to countries of Latin America. In Phoenix most Latinos have roots in Mexico. The term is more inclusive than Mexican-American. We use the term Anglo and White interchangeably. In the Southwest US, Anglo is commonly used to designate White populations.
5. South Phoenix is administratively part of the city of Phoenix although it is recognized as a distinct area within the city, one whose boundaries have expanded with central city development over the last century.
6. The reference to San Francisco's Chinatown is significant as it was discursively constructed by Whites of the period as a center of filth, moral corruption, and disease, and hence a putative threat to the health and moral well being of the Anglo majority (Craddock 2000). To compare South Phoenix to Chinatown is to place it in the context of what the popular press held to be the most degraded of US ethnic enclaves.
7. The US Census in this period listed Mexican Americans under Whites, making it impossible to separate out Latino populations. While the Census lists 'foreign born' Whites, which likely include large numbers of Mexican born residents, the census doesn't provide sufficient information to separate out Latinos from European born whites. While Mexican Americans were 'White' according to the Census, there were nevertheless subject to racial stereotyping and discrimination (Dimas 1999).

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