

Growing Children Out of Doors:
California's Open-Air Schools and Children's Health, 1907-1917

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ABSTRACT

This dissertation, the first detailed study of American open-air schools, examines the relationship between landscape architecture and building design, considering how these innovative educational facilities simultaneously reflected and shaped Progressive-Era reforms related to children's health and welfare—as well as more problematic American discourses surrounding nationalism and racism. This project focuses on the peak of the movement in California, from 1907-1917, in which single-story modern school structures with integrated gardens and permeable pavilion classrooms transformed the state's educational landscape. As such, this project contributes to an understudied area of architectural history, while also considering the movement's complex position at the intersection of environmental design, education, medicine, and technology. At the same time, this research is significant to a wide audience because it examines how the landscapes of childhood were shaped, both in their design and everyday experience, by gendered, racial, and class dynamics.

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INTRODUCTION

Overview

This dissertation explores a critical moment in the early twentieth century when elementary school design prioritized children's health. These new designs were called open-air or outdoor schools. I consider how these innovative educational facilities simultaneously reflected and shaped Progressive-Era reforms related to children's health and welfare—as well as more problematic debates surrounding nationalism and racism. This project, the first detailed study of American open-air schools, focuses on the peak of the movement in California, from 1907 to 1917, when single-story modern school structures with integrated gardens and permeable pavilion classrooms transformed the state's educational landscape and increased children's access to the outdoors, fresh air, and sunlight. As such, this project contributes to an understudied area of architectural history while also acknowledging the open-air school movement's complex position at the intersection of environmental design, education, medicine, technology, and childhood.

The project examines the important relationship between landscape architecture and building design, as it traces the beginnings of this new educational landscape from its origins in temporary tuberculosis facilities – in which access to the outdoors was a primary concern – to its later manifestations in public schools across California, which were shaped by even more far-reaching social and pedagogical aims. Significantly, this new connection between landscape and education was intended to be both protective and curative, allaying anxieties about children's health and loss of childhood in upper-class

urbanizing settings – anxieties that made the prospect of sheltering children in an agrarian, garden-filled setting an attractive one. This goal was arguably achieved, as open-air schools and their landscapes became places of refuge, pleasure, exercise, and democratic socialization for children. At open-air schools, health was impressed upon children’s bodies, as was moral improvement. In one respect, the title of this project, “Growing Children Out of Doors” references precisely this idea of concerted cultivation. Doctors, philanthropists, educators, parents, and architects designed these open-air schools to raise idealized children, bathing them in an abundance of fresh air, sunlight, and nature so they could become the Progressive Era’s vision of perfect citizens: healthful, patriotic, and productive.

“Growing Children Out of Doors,” also references the popular metaphor of children as flowers. Photographs representing children as flowers were often used as propaganda for open-air schools and for the state of California in general. Sometimes the children were dressed as flowers or sometimes the children were posed in flower fields (Figures 1 and 2). Often the flower children were pictured patriotically with the American flag (Figure 3). These pictures helped to create an attractive image of California as a place where children were raised in the outdoors as delicate, sensitive, and impressionable flowers, even as they learned how to grow their own flowers in their school gardens (Figure 4). Children’s gardening was an integral part of open-air schools. It enhanced California’s agrarian image, as the young state was attempting to define itself and entice new residents to settle there. It also helped assuage concerns about industrialization—namely, that children were being robbed of adequate physical activity,

kept from manual labor, coddled by new devices, and guarded indoors instead of exploring their outdoor environment. Together these concerns strengthened California's growing "back to soil" culture. Gardening was also thought by elites to be an especially potent means of acculturating poor immigrant children by teaching them American values of independence, honesty, hard work, and strength. Children were like virginal flowers, pure and new, and therefore they were also malleable. These fresh young flowers, susceptible to illness and vice, needed to be reared carefully in just the right open-air environment. In the *Riverside Morning Enterprise* in 1910, California's latest style of education was described as a new type of child rearing that featured "more fresh air, more romping in the sunshine, under the blue dome of heaven...If children' were taught in the open, with God's health-giving sunbeams pouring about them and the pure, fresh breezes of heaven filling their lungs with life-giving ozone, they would be well-fortified, in a symmetrical way ...for the struggles of life."¹ In California's open-air schools, children were both literally and figuratively sprouted from the soil and blossomed into productive citizens.

This dissertation focuses on the important decade, from 1907 to 1917, when these schools took shape—the most passionate decade of the open-air school movement in California and across the United States. My project starts in 1907 with the establishment of the Polytechnic School in Pasadena, one of the earliest and most widely publicized open-air schools in California. Between 1907 and 1913, open-air schools were founded in sixty American cities, at least thirty-five of which were in California, making the state a

¹ "Open Air School Project Commends Itself," *Riverside Morning Enterprise*, June 25, 1910: 4.

major exponent of open-air school design.² The decade examined in this project was also a period of extensive reform broadly speaking. California's Progressive Era was fast and furious as many major political changes were enacted during a five-year period, from 1910 to 1915.³ These years saw a host of initiatives focused on children, from playgrounds and city gardens to summer camps. For example, in 1906, 38 cities in the U.S. had playgrounds, but by 1917, 504 cities had playgrounds. Likewise, while summer camps were virtually unknown in 1900, they became regular and customary by 1915.⁴ This study of early open-air schools trains attention on a largely forgotten chapter in west coast history. Recent scholarship argues that American school design was revolutionized in the middle of the twentieth century, with new designs like the Crow Island School by architects Perkins and Will and the Saarinenes, projects that revealed the influence of European modernist aesthetics.⁵ However, as this project demonstrates, the history of California open-air schools proves that a critical shift in school design began much earlier. Indeed, one-story garden schools with modern fenestration appeared at the turn of the century and evolved from a complex array of concerns.

California's open-air schools were formally diverse and regionally varied, though they shared key components, both physical and ideological. These schools were primarily one-story structures organized around a central courtyard or adjacent to gardens, with

² Sherman C. Kingsley and F.B. Dresslar, *Open Air Schools* (Washington: Government Printing Office, 1917), 264-267.

³ Kevin Starr, *Inventing the Dream: California through the Progressive Era* (New York: Oxford University Press, 1985), 199.

⁴ See Peter J. Schmitt, *Back to Nature: the Arcadian Myth in Urban America* (New York: Oxford University Press, 1969), 96; Abigail Van Slyck, *A Manufactured Wilderness: Summer Camps and the Shaping of American Youth, 1890-1960* (Minneapolis: University of Minnesota Press, 2006).

⁵ See Amy Ogata, *Designing the Creative Child: Playthings and Places in Midcentury America* (Minneapolis: University of Minnesota Press, 2013); Dale Gyure, *The Chicago Schoolhouse* (Chicago: Center for American Places at Columbia College Chicago, 2011).

external circulation underneath an arcade or loggia. Entire walls could be opened through the use of large hinged, folding, or sliding doors. The remaining facades were made permeable through a continual arrangement of abutting, fully operable windows, which served to break down the wall enclosure and improve ventilation as a means of combatting disease. The purpose was to dissolve the boundary between interior and exterior through technological developments in window and door systems, attention to solar and wind orientation, and the provision of integral gardens and outdoor rooms created by shaded walks, courtyards, or porches. Open-air schools even took the form of temporary, one-room tent structures constructed of wood with canvas windows, or free standing pavilions with only a roof. At times, the architecture dissolved completely and the school operated in a field of grass or on a dirt lot (Figure 5 and 6). Still, the spectrum of open-air school design was united in its difference from the standard urban American elementary school at the turn of the century, which was a multi-storied, multi-room structure with interior halls lined with enclosed classrooms. Many schools in cities like San Diego and Oakland at the turn of the century were pushed up against the street edge, with little development of the land adjacent to the structure (Figure 7). Frequently, there was room only for a few palm trees and certainly no playground (Figure 8). In contrast, the wide open doors and windows of the open-air classrooms encouraged fresh air, sunlight, and unexpected visitors to enter, especially of the non-human variety, like robins and squirrels. Open-air schools were where “Children and Roses Cluster,” as children read their books in special child-sized chairs on study porches draped in purple wisteria and pink Cherokee roses (Figure 9). An important goal was to teach the children

to “make a childhood friend of the open air,” as international open-air advocate Sherman Kingsley wrote.⁶

These new outdoor and in-between spaces also provided places for curricular creativity, as spatial innovations helped reform educational practices. The new school designs and curricula were devised to encourage freedom as well as to provide motor and sensory exercises through manual training, gardening, and dancing. In California, children’s ability to exercise out of doors year-round was used as propaganda and the region’s benefits were emphasized through images of children stretching or dancing—a little army of fresh air fanatics (Figure 10). At the Glendora open-air school, children stood in a wide field of grass as they performed their daily exercises under the close supervision of their instructors, while at the mountain top open-air school, girls danced in their bathing suits amidst the tall pine trees (Figure 11). The students’ exposure to the outdoor environment was coupled with a strict regimen of physical activity, hearty portions of wholesome food, and mandatory rest periods, often on outdoor cots (Figure 12). The goals of these programs were to increase appetite, weight, strength, energy, and mental alertness, while also improving students’ temperament and appearance, including their manners, cleanliness, and neatness. In the first half of the twentieth century, school design included rapidly expanding amenities, such as assembly halls, playgrounds, gymnasiums, sports fields, laboratories and workshops, kitchens and cafeterias, and health clinics.⁷ The concomitant expansion of the school’s curriculum created

⁶ Sherman Kingsley, *Open Air Crusaders; The Individuality of the Child Versus the System* (Chicago: The Elizabeth McCormick Memorial Fund, 1913), 44.

⁷ Lawrence A. Cremin, *American Education: The Metropolitan Experience, 1876-1980* (New York: Harper & Row, 1988), 230-231.

opportunities for learning vocational skills, agricultural practices, physical education, and arts and crafts. At the same time, extracurricular activities were a new focus of attention, including athletics, clubs, and student government, while new programs such as health exams and psychological counseling further expanded the school's purview.⁸ As a testament to this increased educational reach, a photograph of students at the Pasadena open-air school shows students lined up in a row for "weighing in time." Each stepped on a scale, and their measurements were recorded by uniformed school nurses. The sign on the wall above the scale read: "What shall it profit a child if he gain the whole curriculum and lose his health?" (Figure 13) The photograph was captioned with school's motto: "well-fed, well-bred," echoing the eugenic impulses of California's open-air crusade. These children would be taught the importance of healthy American living and cleanliness, outdoor exercises and energy, rural values and manners, and these children would become ambassadors, carrying their new knowledge as well as improved bodies and minds back home to their communities. It is worth noting that the images in this overview come from a variety of open-air schools across the state, even beyond the examples that are the focus of this dissertation, a further testament to the breadth of the open-air school phenomenon in California.

The European Recovery Model and International Scholarship

Open-air schools initially began as a response to a perceived decline in children's health and concerns about tuberculosis, one of the primary causes of death in the nineteenth and early twentieth century. They were originally called fresh-air recovery

⁸ Cremin, *American Education: The Metropolitan Experience*, 230-231.

schools in Europe and were founded specifically for weak and ill children, whose health seemed likely to be improved by exposure to the outdoors, fresh air, and sunlight, with a routine of physical activity, nourishment, and rest. The earliest open-air school of this type was founded in Charlottenburg, Germany in 1904 and featured a small campus of wooden pavilions in the forest (Figure 14).⁹ This recovery model was soon adopted by other cities in France, Italy, Great Britain, Switzerland, and Spain, and eventually open-air schools could be found from Sweden to Morocco to India.¹⁰ The open-air school movement spread through international conferences on tuberculosis and school hygiene, to which doctors, educators, and architects traveled, as well as by way of drawings and photographs of new constructions.¹¹ At international conferences on school health, open-air architecture was passionately discussed; the topic's popularity was second only to that of sexual education.¹² In 1913, with one million tuberculous children attending public schools in the United States, the battle cry at the International Congress on School

⁹ The first detailed report of the results achieved at the Charlottenburg school was published in 1906 and drew the attention of European educators and American tuberculosis organizations; Dresslar and Kingsley, 133, 167.

¹⁰ Anne-Marie Châtelet, Dominique Lerch, and Jean-Noël Luc, *L'école de plein air : Une expérience pédagogique et architecturale dans l'Europe du XXe siècle = Open-Air Schools : An Educational and Architectural Venture in Twentieth-Century Europe* (Paris: Recherches, 2003), 36, 405; Grant Rodwell, "Australian Open-Air School Architecture," *History of Education Review* 24.2, 21-41 (1995); Dresslar and Kingsley, *Open-Air Schools*, 166.

¹¹ In 1905, the Second International Conference on Tuberculosis in Paris helped spread the movement from Germany to France and England. The Second International Conference on School Hygiene in London in 1907 helped spread the movement to Spain.

¹² Carson W. Ryan, Jr., *School Hygiene: A Report of the Fourth International Congress of School Hygiene, held at Buffalo, New York, August 25-30, 1913*, United States Bureau of Education, Bulletin No. 48 (Washington: Government Printing Office, 1913).

Hygiene was, “More air! More air! More air in the school room, more air in the lungs, more air in the curriculum!”¹³

The early international recovery schools created in several European countries as well as Australia have been the subject of existing publications. Initial attempts to uncover this history took the form of article-length case studies analyzing the open-air school movement as a political project.¹⁴ This reform project has been linked to contemporaneous concerns regarding public health, eugenics, social control, and nationalism. In 1995, Grant Rodwell, a historian of education, traced the history of open-air school architecture in Australia. He contended that the open-air schools were connected to anthropometrical programs pushed by Australian school medical officers and were motivated by eugenicists’ desire to produce a physically and intellectually superior racial type, although this agenda was masked by the rhetoric of nature worship.¹⁵ Meanwhile, focusing on the Weimar years in Germany, architectural historian Susan Henderson examined how pavilion-style open-air schools were an expression of the “New Life” of German democracy, emphasizing practicality, freedom from drudgery, and the concept of *Bildung*, or self-development of the mind and body, in this case

¹³ F.A.I. Connolly, “Open-Air School Idea Spreading Over World,” *Los Angeles Times*, October 12, 1913, V16; “More Air!” from Second International Congress on School Hygiene, London 1907, cited by Dresslar and Kingsley, *Open-Air Schools*, 196.

¹⁴ See, for example: Linda Bryder, “‘Wonderlands of Buttercup, Clover, and Daisies’: Tuberculosis and the Open-air School Movement in Britain, 1907-39,” in *In the Name of the Child: Health and Welfare, 1800-1940*, ed. Roger Cooter (London: Routledge, 1992) 72-95; Ning de Coninck-Smith, “Healthy Souls in Healthy Environments: The Open-Air School Movement in Copenhagen 1905-1938” in *Medicina et Stória* 4, no. 7 (2004): 121-36; Gina Green, “Nature, Architecture, National Regeneration: The Airing Out of French Youth in Open-Air Schools, 1918-1939,” Working paper no. 45 (Princeton: Princeton University Center for Arts and Cultural Policy Studies, Fall 2011).

¹⁵ Rodwell, “Australian Open-Air School Architecture,” 22.

through health, nature, and exercise.¹⁶ Henderson argued that these pavilion schools, developed as new public infrastructure, were intended to serve as “incubators” for the new citizenry and to instill the values of the new political system—citizenship, independence, and creativity.¹⁷ From the start, the potentially contradictory ideological import of open-air schools was clear.

The history of open-air schools in Europe has been explored most extensively in *The Open-Air Schools: An Educational and Architectural Experience in the Europe of the Twentieth Century*. Based on a multi-disciplinary international colloquium in 2003, the book examines European open-air schools through a comparative lens. Bringing together the histories of education, medicine, and architecture, the book identifies the campaign against tuberculosis as a key factor in the development of open-air schools, arguing that solutions to the problem of tuberculosis went beyond hygiene and helped to define the built environment more broadly.¹⁸ In *Open-Air Schools*, editor Anne-Marie Châtelet’s main interest is in the cross-cultural translation of design ideas and in the architectural experimentation demonstrated by these schools.¹⁹ Importantly, Châtelet’s analysis privileges the architect’s formal and programmatic design intentions, focusing on production at the expense of reception. My project builds on Châtelet’s work, but challenges her singular focus on architectural form, as my analysis also considers what happens as these constructed landscapes were used, especially in terms of the multifaceted implications for the children who occupied them. Châtelet suggests that the

¹⁶ Susan Henderson, “New Buildings Create New People: The Pavilion Schools of Weimar Frankfurt as a Model of Pedagogical Reform,” *Design Issues*, Vol. 13, No. 1 (Spring, 1997), 29.

¹⁷ Henderson, “New Buildings Create New People,” 28, 33.

¹⁸ Châtelet, Lerch, and Luc, *Open-Air Schools*, 406.

¹⁹ Châtelet, Lerch, and Luc, *Open-Air Schools*, 405.

topic of open-air schools has been understudied because of the open-air movement's complicated position at the intersection of education, childhood, medicine, the city, and architecture.²⁰ The interdisciplinary relevance of this topic is precisely what makes it worthy of further investigation.

Due to the positive health results documented at the turn of the century in European open-air recovery schools, the movement spread quickly by way of international conferences, health publications, and philanthropy organizations to the United States and urban centers, such as New York, Providence, and Chicago. Given the difficulties of obtaining land for new construction in major cities, the first open-air schools were makeshift, temporary installments. They were created, for example, on decommissioned ferry boats, where the mist and chill of the air off the water bathed children's lungs (Figure 15 and 16). Or, they utilized a roof top in the midst of a dense city, where the children wore specially designed "Eskimo" suits, while their lungs were oxygenated with fresh air, far above the dirty streets below (Figures 17 and 18). In the United States, this recovery model of open-air schools was established primarily for the prevention and management of tuberculosis, at first through private means, and then increasingly through public support.²¹

Recently, architectural historians have drawn connections between tuberculosis and the development of modern architecture. Architectural historian Beatriz Colomina

²⁰ Châtelet, Lerch, and Luc, *Open-Air Schools*, 16

²¹ For example, in 1908, the Providence League for the Suppression of Tuberculosis sponsored the first open-air school in Providence, Rhode Island. In Boston, the Association for the Relief and Control of Tuberculosis opened the school of outdoor life at Parker Hill, Roxbury in 1908; and in Chicago the Tuberculosis Institute with the Board of Education created an open-air school in 1909; Dresslar and Kingsley, *Open-Air Schools*, 5; Leonard Porter Ayres, *Open-Air Schools* (New York: Doubleday, Page & company, 1910), 45-74.

explores the relationship between illness and modern architecture, observing that, “Modern architecture was literally presented and understood as a piece of medical equipment.”²² The principles of modern architecture, she argues, seem to have been taken out of a medical text on disease: “unfavorable climate, sedentary indoor life, defective ventilation and deficiency of light” were listed as both the cause of tuberculosis and simultaneously the charge of modern architecture.²³ Colomina proposes that modern architecture has been shaped by medical concerns and that “the success of modern architecture depended on its association with health, its internationalism the consequence of the global spread of the disease it was meant to resist.”²⁴ Likewise, the global proliferation of open-air schools followed international concerns with tuberculosis and children’s fragility to the disease. Colomina argues that medical inventions like the X-ray, developed for viewing the body, especially of tuberculosis patients, inspired the transparency in modernist designs. Likewise my project looks at how the transparency and permeability valorized in open-air schools developed in dialogue with contemporary medical developments, social surveillance, and the preservation of public health.

Open-air recovery schools, initially developed as an architectural response to tuberculosis, spread West across the U.S. where they took hold in California. The model readily appealed to California’s health-conscious and progressive population, especially as the state had become a haven for suffering consumptives. However, the state had been developing its own regionally inspired open-air school designs well before the arrival of

²² Beatriz Colomina, “X-ray Architecture: Illness as Metaphor”, *Positions, No. 0, Positioning Positions* (Fall 2008), 30-35 (University of Minnesota Press): 34

²³ Colomina, 31-32.

²⁴ Colomina, 31.

the curative model of open-air schools from Europe and the Eastern United States.

California's native open-air schools and the European recovery open-air schools blended together to forge an extremely strong open-air school movement in California, one that was designed to affect all children attending public schools, not just those who were ill. The resulting purpose-built open-air elementary schools introduced an entirely new medicalized and fitness-oriented curriculum.

In an essay published in French in 2004, Marta Gutman traced the development of the open-air school movement in the United States in broad strokes, focusing on how designs were translated from Europe to the East Coast, Chicago, and eventually to California.²⁵ This article remains the sole source that considers the beginnings of the United States' involvement in this international movement. She contends that the schools were a reflection of the changing social value of children as well as the government's increasing involvement in public health and in securing the wellbeing of children.²⁶ Gutman argues that because these schools embody a fortuitous relationship between style, education, and progressive politics, focusing on their style alone does not allow one to accurately assess them.²⁷ More specifically, Gutman asserts that although American open-air school buildings were simple, even conservative, in their appearance, the intentions of their creators highlight the exchange of international reform models and ideas. Gutman argues that California in particular led the campaign to normalize outdoor education once the declining demand for child labor increased school attendance and

²⁵ Marta Gutman, "Entre moyens de fortune et constructions spécifiques les écoles de plein air aux états-unis à l'époque progressiste (1900-1920)," in *L'architecture Scolaire: Essai d'historiographie internationale*, edited by Anne-Marie Châtelet and Marc Le Coeur, No. 102, May 2004 (Lyon: Institut National de Recherche Pédagogique, 2004), 180.

²⁶ Gutman, "les écoles de plein air aux états-unis," 162, 179-180.

²⁷ Gutman, "les écoles de plein air aux états-unis," 179.

because the state had adequate funds to construct new schools.²⁸ My dissertation builds on Gutman's investigation of how international ideas were transformed in the Californian context, even as it offers a more comprehensive analysis of local conditions, responses, and lived experiences. Sustained attention is also paid to the interplay between the region's intense focus on children's health and the open-air school movement.

Exploring California's Significance

My project looks at the distinctive turn that the open-air school movement took in California, which was the result not only of ideas arriving from the outside, but also of local developments. The primary questions of this dissertation are: Why did the open-air school movement take hold in California? How was open-air school architecture a response to social issues, public health interests, progressive pedagogies, and child-centric concerns? How did open-air ideals become embedded in California's twentieth century public school structures? The forms of California's open-air schools were extremely diverse, at times reflecting local architectural styles, such as the Arts and Crafts and the Mission Revival, with elaborate Spanish-style courtyard designs or garden bungalows with open porches. Yet, an open-air school could also simply be desks arranged under a tree in an enterprising women's backyard. In examining these differences, this dissertation challenges existing studies of open-air schools, which have focused either on individual sites or a singular national approach. My study instead places architectural design in dialogue with the concerns of educators and public health officials, while concentrating on everyday experiences within these constructed

²⁸ Gutman, "les écoles de plein air aux états-unis," 172,180.

landscapes. Open-air schools were spaces of human activity and interaction that helped to shape the civic landscape even as they became cultural symbols of place and prevailing ideas about childhood. This project's focus on everyday experience provides a window onto how children's physical and psychological needs were defined and managed by adults.

This study answers a call for interdisciplinary research that emphasizes a new, spatial investigation of progressivism, public health, and education reforms. It also highlights the forces of California regionalism on school design and the important global effects of this region's landscape history. The dissertation explores children's spaces overlooked by previous architectural historians and provides a new resource for the history of school design. Visual evidence in the form of design drawings, extant buildings and landscapes, and photographs is anchored with extensive archival documents, culled from local historical societies, dusty and understaffed school facilities departments, and rich private collections. A selection of incredible educational structures and constructed landscapes for children are analyzed in this dissertation alongside developments in pedagogy, public health, and social reform. The materials have been gathered from newspaper microfilms, reports of State Boards of Health and Education, writings from doctors, philanthropists, educators, parents, and the students themselves. The Library of Congress has a special collection of twenty-five hundred photographs of primarily American open-air schools, collected from 1910 to 1920 by Louise Goldsberry, who chose cataloguing and promoting these institutions as her own impassioned cause. Amazing photographs of children growing up and shaping their own spaces provide a

new lens onto the open-air school landscape. I have attempted to include children's voices by highlighting their own writings about their lives and the spaces they inhabited whenever possible. This diversity of approaches and sources allows this dissertation to generate a complex picture of how open-air principles came to be permanently embedded in California's architectural and educational landscape—and how they might inform our understanding of our own educational present.

My project focuses on California because the open air schools had real long term effects there as they changed the form and the curriculum of public schools across California and beyond. As a 1916 national publication on open-air schools announced, "The goal in California is not only to see that each physically debilitated and backward child is cared for, but also that all the children of all schools are given their full fresh-air and hygienic rights."²⁹ While the rest of the United States was slowly attempting to drum up support to install open-air schools for all public school children, not simply those that were ill, national publications on open-air schools and international congresses on school hygiene acknowledged the critical progress that California had made with the widespread construction of purpose-built open-air structures: "In California the movement has reached a phase where it is receiving permanent embodiment in definitively planned and constructed buildings for the purpose."³⁰ Indeed, "open air school building is beginning to influence the architecture of regular school buildings."³¹ The report concluded that, "[i]n California whole cities are reconstructing their school buildings on the open-air

²⁹ Dresslar and Kingsley, *Open-Air Schools*, 177.

³⁰ Dresslar and Kingsley, *Open-Air Schools*, 23.

³¹ Dresslar and Kingsley, *Open-Air Schools*, 28.

principle. The movement is thoroughly under way.”³² Schools in Oakland, San Diego, and Fresno—key case studies in this dissertation—feature prominently in these discussions as stellar examples of municipal open-air school projects. The City of Oakland was particularly highlighted for its work in this direction because the city established a special open-air school research commission and resolved that the each new school building would have open-air provisions.³³

California’s open-air schools are also significant for their relationship to the state’s extreme interests in children’s health and the developing eugenics movement, which became one of the most active in the country. This study confronts the problematic connections between these movements, by analyzing the ideological and financial support that prominent eugenicists provided for innovative educational experiments, projects that can be seen as an extension of their contemporaneous investments in landscape preservation and agribusiness. To some degree, the contemporary crusade for the conservation of natural resources extended to the conservation of people and an increased concern for the health of the nation’s youth. Leading activists in California’s eugenics movement aimed to provide a new institutional structure and improved environment that would acculturate foreign children, while simultaneously developing a superior race by protecting and strengthening children’s health. It is no coincidence that Ezra Gosney, a citrus tycoon and the founder of the infamous eugenics organization known as the Human Betterment Foundation, established the first major open-air school

³² Dresslar and Kingsley, *Open-Air Schools*, 177.

³³ International Congress on School Hygiene, *Preliminary bulletin. Fourth International Congress on School Hygiene Buffalo, New York, U.S.A., August 25-30, 1913* (New York: Schlueter Print Co., 1913) 103-105.

in California, the subject of the first chapter. As much as California's favorable climate and undeveloped land provided a fertile setting for purpose-built open-air structures that facilitated students' interactions with the landscape around them, the support of prominent eugenicists played a key role in helping open-air schools to succeed. Even as San Francisco architect William Hays asserted that California "is an 'open' country—open doored, open windowed, open minded," the influence of eugenics complicated the lofty ideals associated with the push for open-air schools.³⁴

In California, one of the very important shapers of children's lives was State Superintendent Edward Hyatt. Hyatt was a passionate advocate for open-air schools and his various endeavors to support and promote new school architecture were essential for the state's open-air success. He was a very public figure and published pamphlets, books, and newspaper articles on school architecture, children's health, and the importance of the outdoors, from his state office in Sacramento. His publications on California school architecture were reproduced by the US Bureau of Education, were used by authorities for school architecture reform in southern states, and attracted attention in faraway places such as Mexico and Sweden.³⁵ Like many of California's early residents, Hyatt came to the state around 1882 seeking a milder climate to treat his tuberculosis. After a long career as an educator and superintendent, Hyatt became the State Superintendent of Schools in California in 1907. He became the first three-term

³⁴ William Hays, "One Story and Open-air school houses in California," *Architectural Forum*, (July 1917): 3-12, 7.

³⁵ Solomon P. Jaeckel, *Edward Hyatt, 1858-1919: California Educator*, Education Dissertation (Los Angeles: University of California, 1965), 147.

superintendent in California, and his time in office, from 1907 to 1918, paralleled the peak of open-air school activity in California.

In 1909, Hyatt published *School Architecture and School Improvement in California*, which was a report based on discussions at the state convention of superintendents. In Hyatt's words, the book represented "some of the latest ideas of our best school architects, some thoughts from enterprising superintendents, some ideas of the best modern school buildings, some feeling for the adornment of school grounds."³⁶ Hyatt called on school trustees across the state to improve school houses and grounds and to make California "famous for tasteful and harmonious schools," that carry an "air of prosperity."³⁷ This book was critical for the initiation of the "California Style" school, a name Hyatt gave California's distinct school architecture: one-story buildings with exterior circulation, featuring many windows and generous grounds. Several school administrators contributed to the volume, writing essays on architectural subjects from playground design to window spacing to the effects of color. Hyatt wrote a check list for the reader to assess the quality of a school house: "to anyone who visits the school: do the windows extend up to the ceiling? Are the windows all to the left of the pupils? Is there a space of at least 8 feet in front of the pupils without any windows entirely? Is there any way for fresh air to get in? Is there any way for foul air to get out? If not, there is something rotten in Denmark."³⁸ In 1914, Hyatt continued publicizing California's advancements in school architecture with the book, *School Architecture in California*.

³⁶ Edward Hyatt, *School Architecture and School Improvement; from the Twenty-third Biennial Report, Edward Hyatt, Superintendent of Public instruction: Prepared at the request of the Tahoe Convention of Superintendents* (Sacramento: State Printing Office, 1909), 4.

³⁷ Hyatt, *School Architecture and School Improvement*, 3.

³⁸ Hyatt, *School Architecture and School Improvement*, 31.

This publication focused on California's initiation of open-air principles in school design. As Hyatt noted, "More strongly every year in California school architecture is marked by adaptations of the outdoor idea. Probably the ultimate plan will be practically an outdoor schoolhouse because this state is peculiarly suited for it... If it is better for the health and growth of our children and costs less to build, why in the name of heaven should it not become the dominant feature of our architecture? Answer that if you can!"³⁹ The popular publication was a graphic catalogue that visually displayed California's many exceptional schools, selected by a jury of state architects.⁴⁰

While ardent open-air proponents like Hyatt were key to the movement's success, California's climate was also an important factor. In 1910, the *Riverside Morning Enterprise* noted that the open-air idea in California was "practicable and profitable." Indeed, "Nowhere on the globe are meteorologic conditions better adapted to the outdoor school than in California. Nowhere would physical health be better conserved by the open-air school than in this land of salubrity."⁴¹ In California the "old-fashioned idea of schooling has about passed away."⁴² No longer does the schoolhouse keep the child "shut-up in a dingy, illy-ventilated, unattractive room... coupled with treadmill tasks in book-learning against which the healthy, normal mind of childhood revolted... [The] stuffing of minds and starving and poisoning of bodies masqueraded under the name of 'education.'"⁴³ Open-air schools incited a change in the course of education. In 1915, Dr.

³⁹ Edward Hyatt, *School Architecture in California* (Sacramento: California State Printing Office, 1914), 53.

⁴⁰ Jury included: John J. Donovan, Oakland; Lewis P. Hobart, San Francisco; Chas Kaiser, Sacramento; C.H. Cheney, San Francisco.

⁴¹ "Open Air School Project Commends Itself," 4.

⁴² "Open Air School Project Commends Itself," 4.

⁴³ "Open Air School Project Commends Itself," 4.

George E. Tucker, the health officer of Riverside addressed the Parent-Teachers'

Association calling for reform:

If the open-air school building can be constructed for $\frac{1}{4}$ to $\frac{1}{2}$ the cost of the so called closed building, and if the children attending such schools show a 50 percent increase in efficiency, as statistics indicate... and if our tuberculosis school children improve under such therapeutic procedures, in California where climate conditions are favorable, why should we continue to build monuments of brick and mortar for future generations to destroy because of their unfitness from a health standpoint?⁴⁴

By emphasizing the varied impulses, philosophies, and environmental factors that informed the open-air school movement in California, my project also underscores its more progressive instances. Historians William Deverell and Tom Sitton argue that California progressivism is a major regional development, indispensable to the larger history of the Progressive movement, and that the state's progressive initiatives and key figures are not as well studied or understood as they should be, especially when it comes to the contributions of women.⁴⁵ Building on this work, I reveal the significant contributions women and children made to the development of modern architecture and the reformation of children's environments. This project reveals the agency of women and children in the preservation of health, the improvement of education, and constructions of gender and childhood. My study is particularly concerned with highlighting the important contributions of women in the design and construction of open-air schools, including such pioneers as Virginia Pease Hunt, Clara Sturges Johnson, and Janet Owers. Through such participation, these elementary schools became more

⁴⁴ "Fresh air for the Schools," *Santa Cruz Evening News*, May 18, 1915: 3.

⁴⁵ William Deverell and Tom Sitton, *California Progressivism Revisited* (Berkeley: University of California Press, 1994), 3-4, 8.

than educational establishments; they became places of political and social radicalism and embodiments of the desire to improve public health and learning conditions.

This dissertation extends until the beginning of World War I. Though the interest in open-air schools did not end in 1917, by 1917, the intense focus on education reforms, children's health, and open-air schools shifted because of the United States' involvement in the war. As American education historian Lawrence Cremin notes, World War I "marks a great divide in the history of Progressive education."⁴⁶ During the war years, reform movements in the U.S. were focused on nationalism and democracy, and education reforms were "eclipsed by larger crusades to make the world safe for democracy, then when armistice came, Progressivism seemed fragmented and lacking in appeal."⁴⁷ After WWI, the direct crusade for open-air schools in the United States lost steam, though in California, the fresh air ideas had already been permanently infused into public school design. Interestingly, in Europe, it was after WWI, that open-air school design became most popular. However, by then, open-air schools in California were well-established, challenging earlier scholars' assumptions that American school design was refashioned following an influx of mid-century European modernism.

Chapter Outline

The following chapters trace the development of open-air schools in California. The first chapter examines the early history of the open-air school movement in California and how ideas about access to fresh air, sunlight and the outdoors, were latent

⁴⁶ Lawrence A. Cremin, *The Transformation of the School: Progressivism in American Education, 1876-1957* (New York: Alfred A. Knopf, 1961), 179.

⁴⁷ Cremin, *Transformation*, 180.

in California's culture and landscape. Looking closely at one of California's first open-air schools, Pasadena's Polytechnic School (1907), the chapter examines the cultivation of children in the landscape and the connection of open-air schools and children's health. This chapter analyzes this private academy school that was founded and supported by a prominent eugenicist, while also acknowledging the key role that women played in the founding and management of private open-air schools.

Chapter Two examines the similarities and differences in open-air schools in California as they developed between 1910 and 1912. From a temporary wood and canvas public school medical experiment in Oakland, to the elite and established San Diego Francis Parker School—a mission revival structure that extended the classrooms into the surrounding garden courtyard—the experiments across California used architectural innovations and landscape integration to improve children's health and education.

Chapter Three examines ephemeral open-air schools, or tent schools, emphasizing how their distinctive evanescent architecture embodied social and cultural beliefs about race, class, and childhood. In rural Fresno and the Central Valley, where swelling immigrant populations created concerns about the loss of American values, open-air schools were implemented as an inexpensive Americanization technique and hygienic tool. Meanwhile, at the ritzy Hotel Del Coronado an open-air school was established on the beach for the children of wealthy vacationers—an entirely different use of the tent school form. These ephemeral open-air schools, like the more permanent courtyard schools, also helped instill open-air principles within the broader public school landscape.

The final chapter explores how the tenets of the open-air schools became normalized within the public school system in California, through the efforts of select municipalities and their boards of education architects and medical directors. In 1912 San Diego and Oakland led the charge, implementing city-wide open-air requirements in public schools. This chapter considers what role medical intervention and school health boards played in these educational environments and why children's spaces were understood as essential to this intervention. Ultimately, childrearing, medical care, personal hygiene, and fitness became the province of the state rather than the home. Special consideration is given to women's contributions as members of temperance unions and tuberculosis organizations, educators and administrators, and parents and community members, which they accomplished even before holding the right to vote.⁴⁸

While these open-air schools have important historical and historiographical relevance, this study also has contemporary significance. Increasing children's access to fresh air, sunlight, and the outdoors, as well as integrating public health in the schools, are laudable efforts that continue today. But the story begins at the turn of the century in California, where in this land of sunshine, children grew out of doors.

⁴⁸ California equal suffrage law passed October 10, 1911; the 19th Amendment was ratified August 26, 1920.



Figure 1

Beach School flower girl, Coronado. Kathleen Buchanan, age 6, 1916.

Coronado Historical Association.



Figure 2

Children hiding in the sunflowers (there are 15 faces in there!). Open-air school, Sacramento.

Goldsberry Collection of Open-Air School Photographs, Library of Congress.



Figure 3

Children dressed as flowers with the American flag. Open-air School, Sacramento.

Goldsberry Collection.



Figure 4

Girls gardening. Open-air school, Sacramento.

Goldsberry Collection.



Figure 5

Children at their desk in the grass. Open-air school, Sacramento.

Goldsberry Collection.



Figure 6

Outdoor class, Sutter Grammar School. Sacramento. Goldsberry Collection.

Figure 7 (omitted)

Franklin School, San Diego, 1903.

**Figure 8**

Fruitvale School, Oakland, c. 1989. Oakland History Room, Oakland Public Library.



Figure 9

Rose and wisteria study porch. Castilleja School, Palo Alto. Goldsberry Collection.



Figure 10

Morning exercises. Glendora open-air school. Goldsberry Collection.



Figure 11

6:45am Stretching exercises. Mountain open-air school near Sacramento. Goldsberry Collection.



Figure 12

Roof top rest period, Michelangelo Open-Air School, San Francisco, c. 1917.

Goldsberry Collection.



Figure 13

“Weighing-in time,” Pasadena open-air school, c. 1916. Goldsberry Collection.



Figure 14

Forest School, Charlottenburg, Germany, 1904.

Ayres, *Open-Air Schools* (New York: Doubleday, Page & company, 1910), 16.

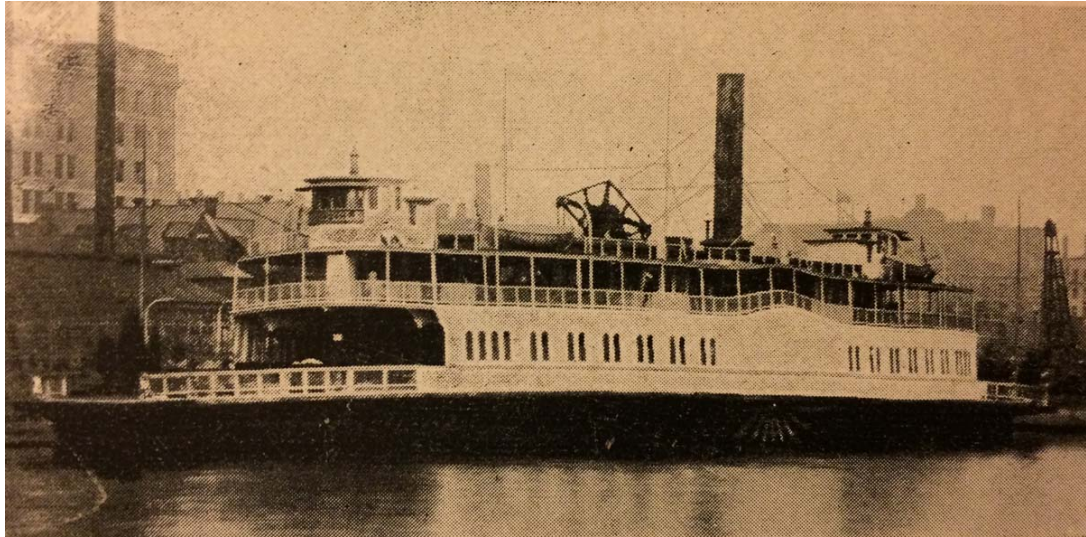


Figure 15

Southfield Ferry boat turned into open-air school, New York City. Ayres, *Open-Air Schools*, 58.



Figure 16

Southfield Ferry boat turned into open-air school, New York City. Ayres, *Open-Air Schools*, 58.



Figure 17

Wintertime open-air rooftop exercises in “Eskimo” suits, Chicago. Ayres, *Open-Air Schools*, 66.



Figure 18

Open-air class room on roof-top at P.S. 21 in Manhattan, opened April 1910.

Ayres, *Open-Air Schools*, 64.

CHAPTER 1
GROWING CHILDREN OUT OF DOORS:
ORIGINS OF THE OPEN-AIR SCHOOLS
AND THE PASADENA POLYTECHNIC SCHOOL

Introduction

One of the most highly publicized schools built in California in the first decade of the twentieth century, the Polytechnic Elementary School in Pasadena was a defining and exemplary model for the open-air school movement. Built on a four acre site of existing orange groves, on the corner of Catalina and California Avenues, the Polytechnic recalled a farming compound or homestead, with bungalow-style structures set in a pastoral context. The buildings were clad in board siding and topped with gabled roofs. They had large clerestories, operable sash windows, and a continuous porch around the broad wings that embraced vegetated courtyards (Figure 1). In affluent communities, like Pasadena, founded by health-seekers in the nineteenth century, the new open-air typology was appropriated as an opportunity for artistic, architectural, and cultural innovation and a laboratory for educational and eugenic investigation. Small private open-air schools, like the Polytechnic, were often founded and co-designed by women. Privately funded by health seekers and progressive women educators, they served as a stage for experimental ideas regarding children's health, as architectural and educational demonstrations, and eventually as inspiration for public schools.

This chapter examines the founding of the Polytechnic and the factors that inspired the creation of this radically new kind of school in Pasadena. Key to its

development were the intersecting and divergent investments and ideas of its founders. The influence of the first principal of the school, Virginia Pease Hunt, was especially critical to the innovations in both architectural design and the curriculum, including the school's focus on gardening and nature study, manual training, and physical fitness. The architects, Myron Hunt and Elmer Grey, also played a key role in developing the design of the school's architecture and landscape, drawing on their established investments in the Arts and Crafts movement as well as their particular dedication to integrating buildings and landscape. Founder, agricultural tycoon turned eugenicist Ezra Gosney, likewise contributed considerably to the school's establishment. His contributions necessitate close analysis of the relationships amongst child rearing and crop cultivation that were articulated at the Polytechnic. In 1907, when the school was constructed, it did not consciously declare its participation in the "open-air school movement." It was an idiosyncratic experiment. Indeed, it would be at least five more years before the open-air school movement would coalesce in the United States, becoming a commonly discussed and recognized topic in popular press and across disciplines and ultimately becoming a sought after style for educational edifices.

Through the analysis of the Polytechnic's history, this chapter argues that educational architecture designed to improve children's health and well-being originated in California, while drawing on a regional culture and environment. The major forces in California that helped to initiate these designs were a hearty and evangelistic culture of progressivism and reform; a population of health-seekers ready to promote and realize a landscape of health, which at times embraced extremist eugenic and nationalistic ideas; innovative responses to climate and place, local building traditions, and imagined visions

of the history of California; and an agricultural focus and a strong back-to-soil culture that encouraged life out of doors. These factors combined to form a fertile landscape for a new kind of school.

The Polytechnic's architecture became well known across the country through newspaper articles and architecture and education publications, and the school received weekly requests for its architectural plans.¹ Far away, a small newspaper outside Chicago praised the architecture of the Pasadena school: "Its broad and simple lines, with its cement-floored colonnade which is extended through the building on two sides as an open-air hall to connect all the rooms, and its simple, restful interior, always flooded with light and fresh air, make it unusually attractive and suitable for a school house."² Even the students of the Polytechnic knew and felt the importance of the school's architecture. The cover of *Elementary Life*, the school's student publication, was often adorned with renderings of the school. The open-air architecture of the school became the school's defining identity. Even though the Polytechnic was constructed in only six weeks, the school, which still operates today, is the oldest school building in continuous use in the city of Pasadena and has been a City Landmark since 1970.³

The Founding of the Polytechnic Elementary School

The Polytechnic grew out of an elementary school program at Throop Polytechnic Institute (now the California Institute of Technology), which was founded in 1891 by

¹ Manuscript of A. Stevens Halsted, Jr. based on recollections of Mrs. Myron Hunt. Polytechnic School Archives, Pasadena, CA.

² From *The Evanston Index*, Illinois. Polytechnic School Archives.

³ Designated by the Cultural Heritage Committee on August 11, 1970.

Amos Throop as an institution focused on practical arts.⁴ Throop, a businessman, agriculturalist, and local civic activist, was concerned that the middle class was becoming too bookish and removed from manual labor. In response, he founded a school focused on crafts and manual training, including the Sloyd technique, which would later become central to the Polytechnic's curriculum.⁵ The name "Polytechnic" is derived from just these ideas. The word has Greek roots meaning "many arts" and reflected a school where education included science, technology, and a hands-on approach to learning involving the whole mind and body.⁶ In 1907 when Throop decided the institute would only include higher grades, the existing elementary school had to find a new home, a decision that upset many residents. Pasadena citizens rallied together to establish the "most complete and up-to-date first eight grades school to be found anywhere in the state of California."⁷ That same year, the Trustees of the Throop Institute formed a corporation to establish the new elementary school, led by local citrus magnate Ezra Gosney.⁸ In June 1907, Miss Virginia Pease (later Virginia Pease Hunt, the name I will use to refer to her hereafter), the director of Throop's existing elementary education department, offered

⁴ California Institute of Technology was founded in 1891 as Throop University by Amos Gager Throop (pronounced T-R-O-O-P). The name changed to Throop Polytechnic Institute (1893-1912) and then to Throop College of Technology (1913-1919). The school became the California Institute of Technology on February 10, 1920, <http://archives.caltech.edu/about/fastfacts.html>.

⁵ Kevin Starr, *Inventing the Dream: California through the Progressive Era* (New York: Oxford University Press, 1985), 107-108.

⁶ Polytechnic School, *Poly 100: Polytechnic School Centennial* (Los Angeles: Balcony Press, 2007), 11. Polytechnic School archives.

⁷ "Review of Realty and Building: Handsome Building Planned for Throop Elementary School," June 22, 1907. Myron Hunt Papers, The Huntington Library, San Marino, California.

⁸ Gosney served as the longest President of the Board of Trustees from 1915 to 1941. Presidents of the Board of Trustees included S. Hazard Halsted (1907-1909), Walter S. Wright (1909-1915); the first board included: John Earle Jardine, Vice President, J.C. Brainard, Secretary and Treasurer, W.S. Wright, Attorney, Harry Schlaudeman, B.O. Kendall, Hiram W. Wadsworth, E.N. Wright, and Myron Hunt. "Polytechnic School Marks 50th Anniversary," 1957, Myron Hunt Collection, Huntington Library; Manuscript of A. Stevens Halsted, Jr., Polytechnic School Archives.

her resignation with plans to establish her own private school.⁹ The trustees, however, were not willing to let her go. They hired Pease Hunt to be the first principal of the new school.

After successfully recruiting Pease Hunt as their first principal, and given their utmost confidence in her direction of the school, the trustees decided to form a new elementary school with a separate campus and legal organization on June 17, 1907. They decided that a new site, separate from the institute, and a new building, designed expressly for progressive education methods, would be best. Gosney declared that the aim was to “perfect the Polytechnic as a thorough, practical, progressive, commonsense elementary school, an object lesson in educational work.”¹⁰ However, there were no funds available for the construction of a new school, until Gosney donated an initial \$12,500 as well as a site for the project.¹¹ Throughout the summer months, architects Myron Hunt and Elmer Grey, who donated their design services to the project, worked closely with principal Pease Hunt. During the day, Hunt would work on the project, and in the evenings he would consult with Pease Hunt and the trustees before implementing new ideas the following day.¹² The Polytechnic’s design was approved and presented in the local newspaper on August 10.¹³ Hunt and Grey designed one new building to be

⁹ Pease Hunt was born in Nevada, orphaned at a young age, and she and her brother, Lute Pease, were brought up by their aunt. She graduated from the Franklin Academy in Malone, New York and was a teacher and principal from 1890 until 1904 when she was hired at the Throop Polytechnic Institute. She moved to Pasadena in 1896 and was a teacher in the public schools for six years, before becoming principal of the Garfield School in Pasadena from 1902-04. Myron Hunt Collection, Finding Aid, Huntington Library.

¹⁰ Catalogue of the Polytechnic Elementary School, 1908-1909. Polytechnic School Archives.

¹¹ Manuscript of A. Stevens Halsted, Jr.

¹² Journals of Harriet Boardman Hunt, Tuesday June 23, 1907; Harriet wrote: “The Throop agitation keeps us up, with meetings or consultations every night...Myron devoting the day to Throop business.”

¹³ “Contracts for Throop’s New School Building Awarded”, August 10, 1907, *Angeles Express*. Myron Hunt Collection, Huntington Library.

constructed immediately, but also worked out a master plan for an entire campus that could be built over time.¹⁴ The Polytechnic Grammar School was incorporated and a board of nine members appointed on August 8.¹⁵ The Board of Trustees voted to name the school's assembly hall, "Gosney Hall" in honor of the founder. According to the board, Gosney Hall served as the "heart of the school," the "crossbar of all its activities," and Gosney's portrait was prominently displayed within it.¹⁶

During the summer of 1907 and throughout her eight years as school principal, Pease Hunt organized the curriculum, collaborated with the architects, managed the instructors, secured funding from donors, and worked on advertisements and brochures.¹⁷ She was even willing to get her hands dirty for the sake of the landscape and was "reported to have lent a hand with spade and trowel to expedite the foundation planting on the new campus."¹⁸ Pease Hunt valued landscape for its curricular possibilities and helped to ensure that the school's design maximized children's time spent out of doors. She demonstrated a pioneering interest in health and social issues, and she required that the Polytechnic School have a nurse, a social worker, and bathrooms. Her investments in gardening had an even longer history. Pease Hunt was first hired as Director of Elementary Education at Throop when two local doctors who were on the board at Throop discovered her garden projects at Garfield School, a public school in Pasadena

¹⁴ "Review of Realty and Building."

¹⁵ "Poly in Retrospect: A Chronicle of Fifty Years, 1907-1957", compiled by Dorothy Flint, Polytechnic School Archives, Polytechnic School Archives.

¹⁶ "Polytechnic School Marks 50th Anniversary," 1957. Myron Hunt Collection, Huntington Library; "Remarks by A.B. Ruddock on Presentation of Mr. Gosney's Portrait to Polytechnic School on April 8, 1958." Polytechnic School Archives.

¹⁷ Much of the material about the architectural and educational design of the school's history comes from these school publications, and one can assume that the ideas included in the publicity materials were those of Pease Hunt herself as she likely wrote them, or at the very least, supervised their content.

¹⁸ Virginia Pease Hunt folder, Virginia Pease Hunt biography, c. 1960. Polytechnic School Archives.

where she was previously the principal.¹⁹ They admired her progressive approach to education, and they invited her to implement her methods at Throop. The innovative architecture of the Polytechnic was inspired by and directly enhanced Pease Hunt's experimental curriculum.

Indeed, according to the *Pasadena Daily News*, Pease Hunt's progressive curriculum was highly regarded by city residents. In an article announcing her resignation from Throop Institute, she was described as "one of the most popular and eminent instructors at the institute [who] has received much favorable comment, both locally and abroad."²⁰ Pease Hunt worked closely with the architects of the Polytechnic to develop the design and to integrate an outdoor curriculum based on her initial work at Throop. Shortly after the death of architect Myron Hunt's wife, Harriette, to tuberculosis, he married Virginia Pease in 1915. Pease Hunt was adored by the students, who wrote several thoughtful tributes to her upon retirement.²¹ Pease Hunt continued her civic work in Pasadena until her death in 1957. Pease Hunt twice won the Arthur Noble Award Winner for the Builders of Pasadena which was given to an individual who made the "most valuable contribution to the civic advancement of Pasadena." In 1932, it was for her work with the Pasadena Block-Aid Organization for unemployment relief, and in 1951, it was for her service as a member of the board of the California Junior Republic,

¹⁹ Dr. James H. McBride and Dr. Norman Bridge, Pasadena medical doctors, who were also on the board at Throop Institute. Manuscript of A. Stevens Halsted, Jr.

²⁰ "Principal at Throop Quits. Miss Pease to Go Elsewhere. May Establish Similar School for Elementary Class at Another Town. Trustees Express their Appreciation. Work has prospered under her direction; Other important plans." June 5, 1907, *Pasadena Daily News*, 2. Virginia Pease Hunt folder, Polytechnic School Archives.

²¹ Pease Hunt was still very much involved in the school and served as a trustee on the board from 1915-1918; Virginia Pease Hunt folder, Polytechnic School Archives.

La Vina Sanatorium, and the Huntington Hospital.²² Pease Hunt made a considerable mark on Pasadena's civic landscape beginning with the establishment of the Polytechnic and continuing through other welfare projects related to children and health.

When the school opened on Thursday, October 10, 1907, the Polytechnic's architecture was already garnering attention, and Hunt was in talks to complete the projected additions to the Polytechnic. There were twenty-one employees, including teachers, a secretary, janitor, and bus driver. Twelve teachers were the same as at Throop, including principal Pease Hunt, which ensured continuity of the methods embraced there.²³ 106 children were enrolled in Kindergarten through eighth grade. The cost of tuition was \$75 to \$85 depending on the grade level. The school grew steadily as enrollment expanded from 106 in 1907 to 240 by 1914 and to 407 in 1956.²⁴ Most of the students were from Southern California, but some came from as far away as Mexico, Guam, Pennsylvania, New Jersey, New York, Illinois, and Michigan.²⁵ The boys and girls at the Polytechnic were mixed together in all of their classes, except gymnasium. Co-education was especially important to Gosney, who believed that marriage at an early age was key to ensuring healthy offspring. According to Grace Henley, who succeeded Pease Hunt as principal and served from 1915 until 1946, Gosney was "convinced that too many young people were deprived of opportunities for acquaintance with people of

²² Virginia Pease Hunt folder, Polytechnic School Archives.

²³ "Review of Realty and Building."

²⁴ Today, the school, which now includes grades Kindergarten through 12th grade, has approximately 900 students and tuition is approximately \$25,000-30,000 dollars per year. Flint, "Poly in Retrospect: A Chronicle of Fifty Years, 1907-1957"; "Throop Elementary School is Now Ready for Occupancy. Six weeks since work started and completed structure stands," *Pasadena Star*, September 28, 1907. Myron Hunt Collection, Huntington Library.

²⁵ The first Polytechnic 8th grade graduating class was 15 boys and 3 girls in spring of 1908. The average class size in 1912-1913 was only sixteen students. Catalogue of the Polytechnic Elementary School, 1908-1909. Polytechnic School Archives.

the opposite sex.”²⁶ The openness of the architecture, the fluidity with the outdoors, and the freedom of the curriculum, encouraged the mixing of the boys and girls on a daily basis.

To ensure that the school attracted talented students, regardless of economic status, students were given the opportunity to earn all or part of their tuition by working at the school, and scholarships, financed primarily by Gosney, were given to gifted students lacking monetary resources. The school attempted to tailor the curriculum for individual students’ needs: “slow pupils are encouraged. Ambitious children may advance rapidly and complete the course in less than...8 years.”²⁷ Gosney was very interested in providing financial aid to deserving children who were gifted, intelligent, and strong. Upon his death, Gosney was remembered by Henley as a man who “was quick to recognize a good mind” and who had “firm, beneficent faith in the potentialities of human beings of good stock.”²⁸ The school was arranged by grade level for organizational purposes, but students were advanced by subject and not by grade, giving those who excelled an opportunity to move ahead more quickly than their peers. According to a brochure publicizing the school when it opened, its guiding mission was to encourage industriousness and “individual effort.”²⁹

The physical health of the students at the Polytechnic was as important as their educational development and success. The founders believed that a student’s health ultimately determined what level a student could reach and what classes he or she could

²⁶ Grace Henley, “Notes on Ezra Seymour Gosney,” 1942. Polytechnic School Archives.

²⁷ The Polytechnic Elementary School Announcement, 1912-1913. Polytechnic School Archives.

²⁸ Henley, “Notes on Ezra Seymour Gosney”; “Remarks by A.B. Ruddock.”

²⁹ The Polytechnic Elementary School Announcement, 1907-1908. Polytechnic School Archives.

take. Upon entrance, students were given a thorough medical examination by the school doctor, Dr. E.B. Hoag. Dr. Hoag also supervised the “sanitary condition” of the school grounds.³⁰ At school, children would learn how to maintain good health. In turn, their new knowledge and improved bodies and minds would be brought back home and would guide them into the future, ultimately ensuring a stronger, more unified and durable nation. This emphasis on hygiene, both of the students and the buildings they occupied, anticipated the public schools’ sense of growing responsibility for the promotion and protection of public health.³¹

Seeking Health and Morality in Southern California’s Arcadian Landscape

Beginning in the late nineteenth century, California became known as a place for healing. The arrival of the railroads and the subsequent reduction in fares encouraged health-seekers, above all consumptives, to flock to California, as did extensive literature promoting Southern California as a health resort. One California newspaper touted: “Men go [West] not to buy land but to buy lungs.”³² The state, and especially Southern California, attracted ill and health-conscious residents who were interested in promoting and developing a healthful and nurturing environment inspired by medical therapies intended to cure tuberculosis, while ensuring vitality and longevity. The tuberculosis cure prescribed the greatest amount of fresh air possible, a task made easier in the mild climate of California. Fresh air became a religion that could save an ailing population. Sufferers

³⁰ Catalogue of the Polytechnic Elementary School, 1908-1909. Polytechnic School Archives.

³¹ See Fletcher B. Dresslar, *School Hygiene* (Massachusetts: Norwood Press, 1916); John Duffy, *The Sanitarians: A History of American Public Health* (Urbana: University of Illinois Press, 1990); Veronica Strong-Boag, and Cheryl Warsh, *Children's Health Issues in Historical Perspective* (Waterloo: Wilfrid Laurier University Press, 2005).

³² Quoted in Sheila Rothman, *Living in the Shadow of Death* (New York: Basic Books, 1994), 145.

would go to great lengths to get their air, sometimes dangling themselves out of windows as they slept with special cantilevered beds. Architects wholeheartedly participated in the fresh air crusades. Balconies, sleeping porches, cabins, and bungalows, were constructed for their fresh air benefit.³³ Popular architecture magazines like *The Craftsman* warned about the special dangers that awaited children who spent too much time indoors: "...we have decided that fresh air was dangerous rather than life giving and kept our children away from it, we no longer are a race of Spartans, beautiful and strong of body, full of physical and moral courage, but are weak spirited illy formed, diseased in eyes teeth, lungs and heart."³⁴

This mass health migration had dramatic effects on Southern California. While some of the ailing were cured, many remained ill, as sunshine and outdoor living could not actually prevent sickness. As California historian Kevin Starr describes, "The promise of course outran the reality...The effect on Southern California's developing culture of so many desperate Americans fleeing there only to die is easy to imagine. A paradoxical morbidity, an anger against defeated expectations of healthfulness and other hope, subtly pervaded the civilization of the Southland."³⁵ This phenomenon Starr describes incited evangelists of health and eugenic zealots whose crusades reached every aspect of private and public life, from housing reforms and immigration restrictions to playground advocacy and school architecture. The "restless hypochondria" of Southern California furthered cultural obsessions with exercise, diet, natural ways of living, and

³³ Katherine Ott, *Fevered Lives* (Cambridge: Harvard University Press, 1996), 89.

³⁴ "Studying out of doors: an open air school that furnished a new ideal in education," *The Craftsman*, No. 6, Vol. XXX (September 1916): 539-540.

³⁵ Starr, *Inventing the Dream*, 54.

curative fads, and inspired the creation of facilities that would enable a health-seeking way of life.³⁶

Even though the majority of Californians lived in relatively dense urban environments in the early 1900s, Californians' relationship to wilderness and rural life was fixed in the health-seeking image of the state.³⁷ At the turn of the century, Pasadena was described as the ideal progressive and healthy city, and promotional literature touted its constructed landscape, its charming garden neighborhoods of bungalow homes, and its progressive open-air schools in the hopes of attracting new residents.³⁸ In the first lines of a Board of Trade advertisement, the city's focus on healthy living, its ideal climate and beautiful landscape were emphasized: "[Pasadena] has the advantages of mountain scenery, mountain water, refreshing breezes and recreational opportunity."³⁹ Southern California domestic life took place primarily out of doors, in the garden or on the porch of the bungalow, and horticulture was especially popular in Pasadena, as it began as an agricultural colony and still had orchards interwoven in the city's landscape.⁴⁰

The open-air schools reflected and enhanced California's image as an agrarian and neo-Mediterranean landscape as the region was attempting to define itself and to entice new residents to settle there. California was described as the "Athens of the

³⁶ Kevin Starr, *Americans and the California Dream, 1850-1915* (New York: Oxford University Press, 1973), 204.

³⁷ "Of the million and a half people living in California in 1906, over a third lived within a 75 mile radius of San Francisco. Subtract also those who lived in the population clusters of Southern California and it became clear just how empty was the countryside and how isolated remained rural life... Yet some relationship to the outdoors, to nature, had been fixed as part of the California identity." Starr, *Americans and the California Dream*, 204.

³⁸ "Pasadena a City of Homes and Churches and Schools," *Southern California Magazine*, vol. 1 no. 5 (November 1917), 25. Myron Hunt Collection, Huntington Library.

³⁹ "Pasadena a City of Homes and Churches and Schools," 25.

⁴⁰ Starr, *Inventing the Dream*, 100.

West,” where the quality of the climate and landscape paralleled that of the rich and fertile Mediterranean, and where daily activities and civic and cultural events took place outdoors. Following this image of California as the new Mediterranean, architect William Hays equated the state with Ancient Greece and claimed that the one-story open-air schools that were developing there were not all together new, but had origins in ancient education systems and forms like the “Groves of Academe” and Aristotle’s teaching. Hays wrote, “For purposes of comparison, it is enlightening to bring together these antique equipments and our own Pacific Coast schools of similar type.”⁴¹ The analogy Hays drew emphasized similarities of climate, landscape, and vegetation. He also admired the cultivation of democratic citizenship and social organization in ancient Greece, “wherein the life of every individual man was, to a degree, a vitally interwoven thread in the fabric of the state.”⁴² Hays asserted that the temperate Greek climate was responsible for boys’ early maturation and discussed their extensive training in gymnasia and the prevalence of outdoor structures like porticos and piazzas. He concluded, “What, then, is the type of school building indicated by natural conditions in the coast country of California? The one-story, open-air type which logically came into being ages ago in ancient Greece.”⁴³ California’s open-air schools drew strength from this longing to recreate the ideals of antiquity in modern form. In these schools, thought to be perfectly suited to their geographic location, young men and women were educated, strengthened, and groomed in a romanticized forum for health and democracy.

⁴¹ William C. Hays, “One Story and Open-air school houses in California,” *Architectural Forum*, (July 1917), 3-12; William C. Hays, “One Story and Open-air school houses in California: Second and Concluding Paper” *Architectural Forum*, (Sept. 1917), 57-66: 4.

⁴² Hays, “One Story and Open-air school houses in California,” 3.

⁴³ Hays, “One Story and Open-air school houses in California,” 12.

Also important to the vision of the open-air schools was the increasingly popular “back-to-soil” movement and Californian’s quest for an outdoor life. The “back-to-soil” culture stemmed from an agrarian nostalgia and was embraced as a defense against industrialism, immigration, and the perceived weakening of the nation. This culture of the American West encouraged the quest for a new educational environment, one that was a tempered version of the West’s previously wild and undeveloped natural landscape. The idea of agrarianism was increasingly important for the suburban citizens of Pasadena, as the city had been founded as an outpost of horticulture, citriculture, and health. As historian Peter Schmitt notes in *Back to Nature: The Arcadian Myth in Urban America*, the early twentieth century was a moment when the “Back to Nature” movement went from being a luxury reserved for the rich to a concern and desire of a middle-class.⁴⁴ The Back to Nature movement, or “Arcadian Myth,” as described by Schmitt, valued “nature’s spiritual impact above its economic importance.”⁴⁵ Suburbanites were not looking to nature to make a living as farmers, but they were looking for a new spirituality and moral uplift in a utopian landscape. Schmitt asserts, that “however esoteric the Arcadian ideology may have been,” its promoters “lost no time in adapting it to children’s minds,” as children were encouraged through new programming and school designs to appreciate and embrace nature and the values it represented.⁴⁶ For example, State Education Bulletins emphasized the celebration of Bird

⁴⁴ Peter J. Schmitt, *Back to Nature; the Arcadian Myth in Urban America* (New York: Oxford University Press, 1969), 3-4

⁴⁵ Schmitt, *Back to Nature*, xvii.

⁴⁶ Schmitt, *Back to Nature*, 77.

Day and Arbor Day and the importance of resource conservation.⁴⁷ This middle-class call to nature, especially strong in California, encouraged the spread of open-air schools. It was the Polytechnic's connection to the landscape, its simple embrace of natural elements, which made it significant and influential.

Liberty Hyde Bailey, an educator, eugenic advocate, and spokesman for the nature movement promoted the idea that nature could transform children first and then society, though Bailey's ideal "nature" was a modified one, a suburban nature, a mild wilderness.⁴⁸ In 1901, Bailey cautioned that Americans must be neither "country-bred nor city-bred, but suburban-bred, product of neither extreme."⁴⁹ The open-air schools were just this—they were mediators between country and city. Advocates of fresh air and outdoor education faced many questions when considering the design of the new educational environment that blended country and city. As Schmitt summarizes, "Was the country experience as valuable psychologically as physical? Should it be offered to as many children as possible or offered in depth to a fortunate few? Could children in the country be left to their natural instincts, or must they be guided to use the opportunity? And finally, how could the country experience best prepare children to live in the city?"⁵⁰ California educators and architects were grappling with these questions as they established their open-air schools.

California's "back to soil" crusade was part of broader national initiatives reflecting nostalgia for an agrarian lifestyle during Theodore Roosevelt's presidency,

⁴⁷ Hyatt, *School Architecture and School Improvement in California*, 34.

⁴⁸ Liberty Hyde Bailey was the author of *The Nature Study Idea*, 1903, and other titles, and he served on Roosevelt's Commission on Country life. He was the President of the American Breeders Association and set up a special commission on eugenics in 1910.

⁴⁹ Liberty Hyde Bailey, *The Outlook to Nature* (New York: Macmillan Co., 1905), 72.

⁵⁰ Schmitt, *Back to Nature*, 97.

such as the Commission on Country Life and national conservation programs. Popular President Theodore Roosevelt (president 1901-1909) advocated that agrarianism, the out-of-doors, and the struggle with natural elements could teach proper morals and eliminate social unrest.⁵¹ But, Roosevelt's ideas, like the intentions of progressive reform projects, were often contradictory. As historian Samuel Hays argues, "Roosevelt's emphasis on applied science and his conception of the good society as the classless agrarian society were contradictory trends of thought. The one, a faith which looked to the future, accepted wholeheartedly the basic elements of the new technology. The other, essentially backward looking, longed for the simple agrarian Arcadia which, if it ever existed, could never be revived."⁵² As architectural historian Ben Campkin and geographer Rosie Cox note in *Dirt: New Geographies of Cleanliness and Contamination*, "dirt is not always a threat to be avoided but can be sought out and embraced."⁵³ Agrarian societies did not have a simple relationship with dirt: "The countryside has repeatedly been conceived of as a space of moral purity and uncorrupted by the worldliness of city life. It is also imagined as being physically clean and healthy, a place to go to for fresh air and clean water."⁵⁴ Yet the American values advocated by Roosevelt and Hyatt, values born from a history of American agrarianism and rural life, and values that were "traditionally based on real dirt – on mud, manure and human sweat," were not necessarily neat, clean, and

⁵¹ Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Pittsburgh: University of Pittsburgh Press, 1999), 268.

⁵² Hays, *Conservation and the Gospel of Efficiency*, 268.

⁵³ Ben Campkin and Rosie Cox, *Dirt: New Geographies of Cleanliness and Contamination* (London: I.B. Tauris, 2007), 153.

⁵⁴ Campkin and Cox, 153.

sanitary.⁵⁵ Rooted in the open-air schools were conflicting ideas between a scientific, sanitized, efficient future and an earthly past anchored in sweat and soil.

Myron Hunt, Elmer Grey, and the Architecture of the Polytechnic

The architects of the Polytechnic, Myron Hunt and Elmer Grey, came to Pasadena seeking improved health in the California climate and landscape.⁵⁶ While there were four main figures who were instrumental in the Polytechnic's design—the two architects, the founder, and the first principal—the architects played a critical role. They were health seekers and devoted landscape aficionados. Hunt's family interests in health and horticulture were an important source of inspiration for his open-air designs. Hunt's father was an established nurseryman and was President of the Society of American Nurserymen and Treasurer of the Society of American Florists. His father's trade clearly had an influence on Hunt's fondness for landscape design, and landscape was often an integral part of his architectural projects. While Hunt's father inspired his interest in landscape, his grandfather, a doctor, may have inspired his interests in health. Hunt's main investment in health, however, concerned his wife, Harriette Boardman Hunt, who was ailing from tuberculosis. Harriette's health was fragile, and she often spent time in the warmer Carolinas. In 1903, the Hunts moved to California from Chicago, hoping that the climate would cure Harriette's consumption. While in Southern California, she spent

⁵⁵ Campkin and Cox, 153.

⁵⁶ Hunt was born in Massachusetts and educated in Chicago public schools. He attended architecture school at the Massachusetts Institute of Technology (1891-1892). In 1893, Hunt married Harriett Boardman and the couple traveled to Europe where Hunt studied the architecture abroad. When he returned to the U.S., Hunt worked at Hartwell & Richardson in Boston, then at Shepley, Ruten & Coolidge in Chicago. From 1897-1903, Hunt practiced on his own in Chicago. Myron Hunt Collection Finding Aid, Huntington Library.

much of her time at a sanatorium in Palm Springs, eventually passing away in 1913.

Hunt visited her often at the sanatorium, where he learned about the latest fresh-air techniques and curative outdoor methods.

While in Southern California, Hunt established an architectural partnership with Elmer Grey from 1903 until 1908, and then founded his own office there until 1920. Elmer Grey shared similar interests in health, landscape, and climate of the Pacific Coast. Grey originally worked in Milwaukee, but his health began to fail, and he came to California in 1903 to recuperate. Elmer Grey had traveled extensively, including to Tahiti, before settling in Los Angeles, and he carried with him an appreciation of Tahiti's tropical lifestyle, fertile Pacific plantings, and simple outdoor living.⁵⁷ Many of his articles and illustrations, published in magazines such as *The Craftsman* and *Architectural Record*, focused on "scientific gardening" and landscape architecture. When young draughtsman Grey first arrived in California, he camped in the Sierra Madre Mountains. His priority was to rebuild his health with the acclaimed outdoor lifestyle.⁵⁸

At first, Hunt and Grey worked primarily on the design of residences and gardens. Their houses were celebrated by critics for their "charm" and "bare, simple, pleasant wall surfaces."⁵⁹ As Hunt's own practice grew, he shifted his focus to civic work. He designed many hospitals, educational buildings, libraries, and public and hospitality

⁵⁷ "Tahiti is Too Far and Too Warm Says Architect Grey," July 7, 1906. Myron Hunt Collection, Huntington Library.

⁵⁸ "Work of Elmer Grey, Young Draughtsman of National Reputation is to Make Los Angeles His Home. Noted Writer and Lecturer. His Designs Have Been Published and Republished in Numerous Magazines." *Los Angeles Express* (May 14, 1904). Myron Hunt Collection, Huntington Library.

⁵⁹ Herbert Croly, "Some Houses by Myron Hunt and Elmer Grey," *Architectural Record* 20, (October 1906): 289. Myron Hunt Collection, Architecture and Design Collection. Art, Design & Architecture Museum; University of California, Santa Barbara.

buildings. Notably, he made schools and healthcare a significant focus of his practice.⁶⁰

In 1906, Harriet noted in her journal that he “occupied much space lately in the Architectural Record,” and he was selected as Southern California’s delegate to the fiftieth anniversary convention of the American Institute of Architects in January 1907 in Washington D.C.⁶¹ His prominent positions gave him access to the latest national and international architecture trends, including the open-air initiatives that were reaching the East Coast from Europe through publications, reports, and newspapers. His appointments also gave him a platform for sharing his own beliefs about the relationship between design, health, and building sanitation concepts. At the same time however, the Polytechnic’s design had personal import. The Hunts had four children, and all of the children attended the Polytechnic. Beyond his original design and many additions, Hunt remained involved in the affairs of the school serving as Vice-President of the Board of Trustees.⁶²

Hunt and Grey were inspired by regional architectural trends, which were evident in the bungalow-inspired form of the Polytechnic School. Hunt valued simple forms, exposed craftsmanship, and literal and figurative connections to natural elements, and he shared these values with other architects of the early twentieth century Arts and Crafts movement. The office of Charles and Henry Greene of Pasadena, known for their residential bungalow designs, was at the peak of its activity from 1902 to 1910, during

⁶⁰ Hunt’s hospitals included: General Hospital, City Hospital in Pasadena, Pasadena Dispensary and Preventorium, Community Hospitals of Riverside, Redlands, and Upland. His schools included: Occidental College, a new campus for Throop College of Technology, and buildings at Pomona College; Union High School at Whittier and Lankershim High School. Myron Hunt, *Town and Country Life* (1929): 30. Myron Hunt Collection, Huntington Library.

⁶¹ Journals of Harriet Boardman Hunt. November 29, 1906.

⁶² His children were Charles Boardman Hunt, Harriet (Hunt) Bard, Hubbard Hunt, and Robert Nichols Hunt.

the time of the Polytechnic's inception.⁶³ The Greenes, whose work was featured in many popular architecture and design magazines beginning in 1902, inspired an attention to artistic craftsmanship and integrated design of structure and furnishings and introduced ideas about connections between aesthetics and ethics. These principles were embraced by Hunt and Grey at the Polytechnic. California's bungalows, like those designed by the Greene's, were low, wide roofed, wooden structures, shrouded in vegetation. Drawn to the close relationship between indoors and out in the bungalow designs, Hunt also collected Japanese architectural plans for teahouses, studying their indoor-outdoor details, such as covered wooden walks, broad eaves, window and door mechanisms, and garden plans, elements that would figure into the Polytechnic's design.⁶⁴ As Hunt described, the local bungalow designs had a "touch of Japan, or a touch of Thibet, and even something running through them like a Swiss chalet."⁶⁵ In *On the Edge of the World*, architectural historian Richard Longstreth argues that at the turn of the century many architects working in California were particularly sensitive to "topography, cultural interests, and vernacular building traditions."⁶⁶ This emergent regionalism assumed new dimensions in California and led to the popularity of the Mission Revival, the Arts and Crafts, and the development of the bungalow. Integral to bungalow living was the garden, a cultured space of health-giving nature. In 1904, California poet Charles Augustus Keeler saw the garden as central to California life: "Let us have gardens wherein we can

⁶³ Greene and Greene Archives, Huntington Library, USC, <http://www.usc.edu/vh/greeneandgreene/aboutgreenes.html>

⁶⁴ Box 5 folder 9. Myron Hunt Collection. Huntington Library.

⁶⁵ Myron Hunt, "Personal Sources of Pacific Coast Architectural Development," *American Architect* (January 5, 1926): 51-54. Myron Hunt Collection, Architecture and Design Collection. University of California, Santa Barbara.

⁶⁶ Richard Longstreth, *On the Edge of the World: Four Architects in San Francisco at the Turn of the Century* (New York: Architectural History Foundation, 1989), 32.

assemble for play or where we may sit in seclusion at work... gardens that will bring nature to our homes and chasten our lives with the purity of the great Earth Mother.”⁶⁷ According to Keeler, the ideal garden “simulates, as nearly as may be, the charm of the wilderness,” but a wilderness “tamed and diversified for convenience and accessibility.”⁶⁸

The Polytechnic featured distinctly pastoral qualities. The suburban school resembled a rural ranch or farm with craftsman structures. The horizontal board exterior and low pitched shingled roof with large eaves, coupled with an interior of exposed structural elements and carved wooden details, accentuated its simple, rustic style. The interior was finished with natural woods, such as Oregon Pine and Maple, which were stained natural shades of brown to create a rich, earthen quality.⁶⁹ The central auditorium resembled a large barn with its broad gable roof, clerestory, and double swing doors along the exterior facing the courtyards. The Polytechnic was as much an element of the landscape as an object of architecture: the low gables, long broad porch, simple boxy massing, and wide wings, anchored it to the site, while foliage covering the corners of the building helped it to further blend into its setting (Figure 2). Like Hunt and Grey’s early residential designs, the Polytechnic had plain wall surfaces and facades that were free of ornamentation. They chose instead to cultivate beauty through utility, exposed craft, and connection to the landscape.

⁶⁷ Charles Keeler, *The Simple Home* (San Francisco: P. Elder and Co., 1904), 16.

⁶⁸ Keeler, 11.

⁶⁹ Catalogue of the Polytechnic Elementary School, 1908-1909. Polytechnic School Archives.

Maximizing Health by Design

Programmatic function, climate responsiveness, and occupants' wellbeing also drove the design. The one-story form of the Polytechnic was the result of prioritizing "safety with convenience," as concerns about efficient fire and earthquake egress combined with interests in increasing children's contact with the outdoors.⁷⁰ The *Pasadena Star* called the Polytechnic one of the first of its kind: "It has been said that no other school building has been erected of the type represented in this structure. It is remarkable that every room is on the ground floor, with outdoor entrances."⁷¹ As function was a driver of the form, likewise, function was also a goal of the detailing. At the Polytechnic, ventilation strategies were given aesthetic priority. The front elevations of the school had wood louvers at the ends of the gable pitches for air flow. The slatting, painted a dark brown, highlighted this important ventilating feature.

The Polytechnic's plan and its cardinal orientation were inspired by concerns for ventilation and sun exposure. The school was designed with two long narrow wings and an intersecting crossbar, creating a north and south courtyard on either side of the bar. The H-plan maximized the benefits of fresh air and sunlight, as the wings, which were only twenty-feet wide, encouraged cross breezes and allowed the sunrays to reach into the entire classroom (Figure 3). Instead of a solid mass, the building's elongated envelope increased its surface area and allowed more interaction with the exterior. All the classrooms had windows on at least two sides, and sometimes three in the case of the four rooms at each end of the "H." In his later additions to the school, Hunt designed new

⁷⁰ The Polytechnic Elementary School Announcement, 1907-1908. Polytechnic School Archives.

⁷¹ "Throop Elementary School is Now Ready for Occupancy."

classrooms as free-standing pavilions separated by their own outdoor courts but conjoined by a covered walkway (Figure 4). The structure's special responsiveness to the climate was highlighted in advertisements for the school, which emphasized its ideal "sanitary conditions," seemingly intended to appeal to Southern California's rapidly expanding population of health-seekers.⁷² The brochure, likely written by principal Pease Hunt, read: "the classrooms are planned to admit as much light and fresh air as possible. The windows, of which there are an unusual number, are broad, and open to within a few inches of the floor. Transoms are provided over all doors and windows and the sunlight penetrates to every corner of the building."⁷³ The main courtyard was in the front of the school and faced north giving continuous, even light without too much direct sunlight. It was also dotted with umbrellas and patio chairs, which encouraged students to work outside in the shade (Figure 5). The east wing was planned for younger children; the younger children mostly attended school in the morning and this way, the morning sun rays would fill the classroom, enlivening them. Sunlight was thought to give "courage" and to destroy "disease germs," as one educator wrote in 1910, adding that, "This is not fantasy but fact. Every physician will confirm it."⁷⁴

At the Polytechnic, the classrooms were only 22 feet wide and 25-40 feet in length, and all the classrooms had operable windows on two or three sides. The height of the Polytechnic's large windows, sometimes three feet wide and four feet tall, were often positioned only a couple inches off the floor in order to maximize natural light, exterior

⁷² Catalogue of the Polytechnic Elementary School, 1908-1909. Polytechnic School Archives.

⁷³ Catalogue of the Polytechnic Elementary School, 1908-1909. Polytechnic School Archives.

⁷⁴ Henry Griscom Parsons, *Children's Gardens for Pleasure, Health and Education* (New York: Sturgis & Walton, Co., 1910), 7.

visibility, and fresh air for the children (Figure 6). The window mullions and the spacing between windows were quite narrow to allow for wide bands of light and to avoid shadows. Cove ceilings served to further distribute the light and prevent dark corners.⁷⁵

Developments in window design were critical to the establishment of open-air schools. Over the course of the twenty years that Hunt worked on the design and additions to the Polytechnic, he tested a variety of operable window and door types. These variations became important examples for open-air schools. “Dutch doors” or “stable doors,” that is doors with two horizontal-swinging parts, were implemented at the Polytechnic. Drawing from an agrarian vernacular, these two-part doors increased ventilation and visibility, while continuing to contain the children and keep the classrooms secure. These types of doors effectively connected inside and outside, and were used at the Polytechnic well before modernist European designers used them in mid-century open-air school designs.⁷⁶ Other popular types of openings were French windows (similar to French doors) which were double vertical windows that minimized the exterior enclosure when the pair of windows was swung outward (Figure 7). Hopper and awning windows were also used, and when they were rotated open to a horizontal position, air could pass freely on either side of the thin horizontal plane. Sash windows were usually discouraged because of their limited space for airflow relative to the size of the window. But, when sash windows were used at the Polytechnic, they were extra-large, spaced closely together, and topped with operable clerestories.

⁷⁵ Walter H. Parker “Small School Buildings” in *School Architecture and School Improvement in California*, Edward Hyatt (Sacramento: State Printing Office, 1909), 42.

⁷⁶ Kenneth Worpole gives an example of Garrett Rietveld using Dutch doors in *Here Comes the Sun: Architecture and Public Space in Twentieth-Century European Culture* (London: Reaktion, 2000), 84.

All of the classrooms at the Polytechnic opened on to a great “porch” or “open-air passageway” that encircled the courtyard. The porch was fifteen feet wide and wrapped the entire H-plan (Figure 8). It extended around the perimeter of the front courtyard, across the front of Gosney Hall, and along the sides of the southern or back courtyard. The porch allowed entirely external circulation and eliminated “dark, necessarily ill-ventilated corridors.”⁷⁷ But, the porch was more than covered circulation; it was “garden architecture” as Hunt described it, functioning as a landscape room where the life of the school took place. Hunt himself referred to the colonnade as the “porch,” a familiar agrarian structure designed to address and survey the landscape. The “porch” was the intermediary space connecting interior and exterior, a zone that was somewhere between fully out of doors and entirely protected from the elements. The school catalogue described the corridors as “broad open-air passageways” that “hum with the life of the children.”⁷⁸ The low large windows along the porch meant that when the sash was up, a child could have easily walked right out the window to the outdoors. Because the windows were under the shadow of the broad porch, the primary purpose of these windows was not necessarily light, but air, maximizing ventilation and cross-breeze. Including windows for such a purpose along a shaded corridor was a new and noteworthy innovation, which was highlighted in a local real estate magazine as the “unique feature” of the Polytechnic.⁷⁹ These open-air hallways were further brightened with the use of skylights punctured every four feet or so into the wooden roofs to let in even more light and air.

⁷⁷ “Review of Realty and Building”.

⁷⁸ Catalogue of the Polytechnic Elementary School, 1908-1909.

⁷⁹ “Review of Realty and Building”.

The porches played a critical role in shaping the school's atmosphere and implementing the school's values. The development of character and social skills was valued as much as the possession of health and knowledge, and the porches were specifically designed to enhance the acquisition of "virtues." The "chief aims of this school," as established by its founders, were "the cultivation of the social virtues and the adaptation of the individual child to its environment."⁸⁰ The pupils' passage along the porch had a pedagogical purpose: "The children move freely about the patios and rooms between classes and are taught to exercise self-control in availing themselves of this liberty of action."⁸¹ The ideal balance between self-control and freedom was understood to be an essential skill for navigating the school and the world beyond it. However, the students did not always follow the rules or succeed in exercising self-restraint at every turn. In *Elementary Life*, eighth-grader Le Roy Johnston wrote about the lessons that were learned as the students moved about from playground to porch to classroom. When the gong rang to signal the "youngsters" to come in from the playground, he described the great race for the doors, with pushing and shoving, until the boys were reprimanded by a teacher. Additionally, "loitering" between class periods was frequently observed and was the "subject of weekly lectures" from Pease Hunt.⁸²

The Polytechnic attempted to forge a balance between discipline and individual freedom: "The discipline is firm and consistent, but recognizes the individual as well as

⁸⁰ Catalogue of the Polytechnic Elementary School, 1908-1909.

⁸¹ Catalogue of the Polytechnic Elementary School, 1908-1909.

⁸² *Elementary Life* was published quarterly by the student body and included essays, poems, illustrations, and jokes written by the students. The content shows a rare perspective of the student, child, and occupants' point of view. Le Roy Johnston and Leon Eliel, eds., *Elementary Life*, Volume 1, Number 1 (1908).

the mass.”⁸³ While the administration described the students as being free to roam, they were, at the same time, protected and shepherded by the porch, ordered along the structured linear arrangement, and given a strict schedule of fresh air inhalation exactly every thirty-five minutes: “In reporting to their classes, pupils pass from room to room through open-air corridors. This gives them a complete change of air and scene every thirty-five minutes.” The porches were also hailed for their curative properties: “The absence of nervous strain is noticeable in the school...The reasonable freedom allowed during these intervals is of special benefit to active and nervous children.”⁸⁴ Finally, the porch reinforced its moralizing aims in a sign posted there that read: “Happiness is a perfume you cannot pour on others without getting a few drops on yourself” (Figure 9).⁸⁵

Intermediary spaces, such as the porch and central courtyards, were revolutionary features that allowed children to spend increased time out of doors, while still being protected from the elements. The porch was the threshold to the courtyards and the broader landscape of the school. The courtyards, which were called “patios,” were planted at the edges with rich tropical vegetation, palms, and ferns, while flower baskets were suspended from the eaves. Vines planted at the base of each column grew up the columns and over the roof, creating a blanket of foliage over this pergola-like structure and giving the courtyard the feel of a protected sacred garden (Figure 10). This tropical palette, designed by Hunt and Grey, played on the image of California as the new Mediterranean and a fertile Edenic garden where everything hardily grew, including the children.

⁸³ Polytechnic Elementary School Announcement, 1912-1913. Polytechnic School Archives.

⁸⁴ Polytechnic Elementary School Announcement, 1912-1913. Polytechnic School Archives.

⁸⁵ Photograph, folder 1907-1920, Polytechnic School Archives.

Over the course of his career, Hunt's commitment to healthy architecture remained consistent. Some twenty years later, Hunt worked on the design of two tuberculosis facilities in Pasadena: La Vina Tuberculosis Sanatorium and the Pasadena Preventorium. Both designs had strong similarities to the Polytechnic. The Pasadena Preventorium was called a "Fresh Air School" and was designed to prevent tuberculosis and other childhood diseases through improving the child's primary environment. Like the Polytechnic, the Preventorium sat on four-acres with abundant garden plots and playgrounds. The simple, low-lying building paid attention to airflow and outdoor access with thin wings, an abundance of tall sash windows, and broad overhangs that shaded the exterior circulation.⁸⁶

At the Polytechnic, some elements that encouraged open-air study were added as improvisations without the participation of the architects. Another key element of indoor-outdoor space that increased the students' time studying out of doors was the giant canvas canopy that covered the main patio. A few years after the school opened, a large donation was given by one of the school trustees, Robert N. Frick, for a canvas canopy, 45 by 65 feet, to shade the patio. The translucent canvas canopy was suspended from roof to roof, draped right over the existing palm trees and growing vegetation. The canopy protected the children from extreme weather, allowing them to study longer in the out of doors. The irony in the open-air schools was that the elements of sun and fresh air, which were deemed so healthful and necessary, were also feared in excess. In images of the school from the nineteen-teens, the shade covering turned the courtyard into a sort of

⁸⁶ Ethel A. Fisher, "Pasadena Preventorium – H.O. Clarke contractor." Myron Hunt Collection, Architecture and Design Collection. University of California, Santa Barbara.

green house with bright, but tempered light. Under the canopy, students performed concerts, studied at their desks, or practiced their Sloyd exercises, such as basket weaving, while seated on large rugs on the compacted dirt of the courtyard (Figure 11).

Curriculum and Student Experience

Sloyd manual training courses, modeled after methods taught at Throop, were brought to the Polytechnic by Pease Hunt. Sloyd, which meant “dexterity” in Swedish, taught life skills: “Sloyd gives mental and physical growth, and it inculcates those qualities that best fit for real life—the qualities of exactness, patience, order, perseverance, dexterity, individuality. Besides the constructive and inventive faculties are cultivated, with a love for bodily labor... In this work the strength and ability of the pupil is tested, his esthetic sense is cultivated, his body developed, and the inventive and constructive faculties trained.”⁸⁷ Sloyd, originally developed in response to industrialization, appealed to the local arts and crafts community, as it drew on similar ideals of simple beauty, handicraft, and utility—the same values reflected in the architectural design of the Polytechnic. As Sloyd educator Gustaf Larsson wrote, “Sloyd cultivates the aesthetic sense. The pupil is led to see and feel the simple beauty of proportion, of harmony of parts as well as grace of outline—those elements of beauty which should be found in the useful as well as in the merely ornamental.”⁸⁸

⁸⁷ “Sloyd work in school,” *Los Angeles Herald*, Volume 26, Number 144 (February 21, 1897); Sloyd was introduced in California as early as 1893 at the California State Teachers Association meeting, after the world’s fair in Chicago. Charles A. Kunou, from Stockholm, brought Sloyd to Throop, which ultimately led to its implementation at the Polytechnic. Pease Hunt was the director at Throop beginning in 1904. Pease Hunt and Kunou were part of the Pacific Manual Training Teachers Association.

⁸⁸ Gustaf Larsson, “Sloyd as a Means of General Education,” Meeting of the California State Teachers’ Association, Dec. 26, 1893.

At the Polytechnic, the Sloyd educational program, which consisted of woodworking, basket making, and sewing, among other handicrafts, was thought to help build character, defend against laziness, and encourage moral behavior. Students in grades five through eight did “bench work” as part of the Sloyd program at the Polytechnic. The students learned to work with their hands using a variety of materials and tools, crafting with wood, leather, metal, and reeds, and using stains, dyes, and varnishes. This program taught drawing and design as a “natural application” of the fields of geometry and arithmetic.⁸⁹ The classrooms at the Polytechnic were ideal for this sort of handicraft, where sets of French doors at the ends of classrooms opened onto courtyards, making a long continuous indoor-outdoor space where students wove their baskets and carved wood (Figure 12).

The kindergarten also followed progressive education methods, such as Froebel and Montessori, that took advantage of the open-air setting. In the original kindergarten room, the pupils gathered on the floor. The craftsman style interior was filled with vases of flowers, and had a piano in the corner, with child sized furniture, chairs, and desks. Often, however, students received their lessons, simply gathered around a teacher under one of the grand oak trees. The kindergarten was located at the end of the west wing with the easiest access to out of doors where the “child’s interest in plants and animals is awakened.”⁹⁰ The German word “kindergarten” suggested itself an outdoor space for early education. As historian Ken Worpole notes, “progressive thought proposed that early education should take the form of a garden, or a pre-lapsarian Eden where virtue

⁸⁹ Catalogue of the Polytechnic Elementary School, 1909-1910.

⁹⁰ Catalogue of the Polytechnic Elementary School, 1908-1909.

could grow untrammelled. Not surprisingly the emphasis on learning through play, on the exploration of all the senses, on kinesthetics and movement, all had implications for architecture and the use of interior space, as well as the need to provide access to sunshine and fresh air as much as possible.”⁹¹

In 1912, Mrs. A.F. Gartz, a wealthy philanthropist, donated funds for a new kindergarten building at the Polytechnic. Hunt was enlisted to design the kindergarten building at the southwest corner of the existing structure adjacent to a south-facing covered garden.⁹² An open-air room with easy access to the exterior supported the Montessori system, where children practiced real-world “work” such as messy activities of washing, cleaning, painting, and gardening. Hunt wrestled with exactly how open-air the kindergarten addition would be. The kindergarten building was, at one point, described as entirely out-of-doors. The lower part of the building would be walled in, but the upper portion of the wall would just be screen. In cold weather, sheets of canvas could be rolled down over the screens, enclosing the building only with fabric. This design iteration would be similar to many subsequent tent-like open-air schools constructed in California.⁹³ While much of the Polytechnic was designed with flexible open spaces for the children to shape their own arrangements, there were still interiors with rigid, orderly furnishings that reflected the discipline and order expected. In Gosney Hall, for example, study hall desks were lined up in perfect rows in a static, militant grid

⁹¹ Worpole, *Here Comes the Sun*, 50

⁹² “Addition will be made to local school. Polytechnic Elementary is to Have Kindergarten Building. Mrs. Gartz gives Institution Aid. Montessori System Will be tried in Lower Grade During Year,” 1912. Polytechnic School Archives.

⁹³ A notable Fresno version, based on the Polytechnic’s design, was popularized in 1913, and will be discussed in a following chapter.

across the interior. Even when study hall was set up in the outdoor courtyard, the desks were placed in a similar fashion.

Ironically, even though the open-air curriculum often included much time spent outdoors doing messy physical activities, such as gardening, wood working, or gymnastics, there was a drive towards purity at the Polytechnic. In *Elementary Life*, the students promoted the moral atmosphere of their school, touting it as one of the most “clean” environments around: “Right here it is well to mention the fact that there are few schools that so wholly lack the ‘bad element’ as does ours. The clean, wholesome character of the student body thro’ and thro’ is a big inducement in itself to right thinking and acting on the part of new students entering the school.”⁹⁴ Cleanliness was a main selling point despite the affection and pride for a school so tied to the earth.

The students recognized the special environment of their school, and the real value in the school’s design can be found in their appreciation. The first volumes of *Elementary Life* were filled with drawings of the school’s architecture and landscape. A cover was adorned with a banner of orange fruits and a sketch of three orange trees along a wooden fence, while another cover had a drawing of the school’s front elevation with a grand oak tree as the focus (Figures 13 and 14).⁹⁵ The students took note of the school’s special architectural details, highlighting its expansive windows, ventilation louvers, and broad overhanging eaves.⁹⁶ An article by young Elizabeth Churchyard from 1911 is

⁹⁴ Le Roy Johnston and Leon Eliel, eds., *Elementary Life*, Volume 1, Number 2 (April 1908): 16.

⁹⁵ Le Roy Johnston and Ralph Winston, eds., *Elementary Life*, Volume 1, Number 3 (1908). Polytechnic School Archives.

⁹⁶ *Elementary Life*, 1911. Polytechnic School Archives.

further evidence of the importance of the architecture and landscape to the daily life of the school. Elizabeth wrote about her first glimpse of the Polytechnic School:

I was rambling through Pasadena... I suddenly came upon a low, white-washed bungalow school, situated in an orange grove. Indeed, it did not resemble a school, and if it had not been for the children and a sign, I might have taken it for a club house, but surely never for a school. One usually pictures a school as a bare place where the children must talk in a whisper, and are not given any freedom, but this school was far from being like that.⁹⁷

The school didn't look like or feel like a school to the students, but more like a play house, a place designed expressly for children. As she described the architecture, her appreciation for the abundance of windows, the homey bungalow environment, and the accessible landscape was clear.

A California Landscape

Landscape was especially important to open-air schools as it was primarily where the real work took place. In California, "School Necessities" were sun, air, and the outdoors: "Shade to play in, seats to eat lunches on, swings and playthings, they are *necessities* to children nowadays, no less than books and desks," State Superintendent Hyatt wrote in 1909.⁹⁸ In their design of the Polytechnic, Hunt and Grey integrated existing native vegetation, such as oak trees, and plantings that enhanced the Mediterranean image of California, such as palm trees, citrus trees, and flowering vines.

Hunt and Grey were inspired by the geography and climate of California. Hunt observed that the "breadth of mountains and foothills, a blue-green sky, usually sunny,

⁹⁷ Elizabeth Churchyard, "The Polytechnic Elementary School", *Elementary Life* (1911): 5-6. Polytechnic School Archives.

⁹⁸ Edward Hyatt, *School Architecture and School Improvement in California*, 52.

the strong massing of trees in the countryside, tied to an interesting architectural tradition are probably more responsive for the architectural feeling which is developing than any personality or group of personalities.”⁹⁹ The architects also took advantage of the fertile soil and mild climate and adapted garden traditions from Europe, the Pacific Islands, and the Far East to craft a unique landscape blending foreign and regional references. In 1903, Hunt wrote about his landscape passions in the *Los Angeles Express* in an article entitled “Scenic Gardening in a Favored Clime.” The article discussed California gardens and the importance of landscape architecture, or garden structures entwined with plantings. He argued that California should look to Southern Europe for precedents, where a similar climate encouraged garden architecture, “that charming art which is neither wholly architecture, nor is it gardening, landscape architecture.”¹⁰⁰ The lack of snow and frost in Southern California also meant that structures could be set directly on the ground, making raised structures with stairs unnecessary. Hunt also thought that buildings should be white to reflect the sun and keep their interiors cooler.¹⁰¹ These ideas were all incorporated in the design of the Polytechnic.

Hunt and Grey tried to preserve vegetation in place, such as the existing orange grove and grand oak trees, and it was certainly a difficult task to preserve trees in place when laying out a symmetrical building.¹⁰² Oak trees, which were native to California, dotted the landscape of the Polytechnic, sharing the site equally with the architecture, providing shade, and creating outdoor rooms under which lessons could take place. Oak

⁹⁹ Hunt, “Personal Sources of Pacific Coast Architectural Development,” 51-54.

¹⁰⁰ Myron Hunt, “Scenic Gardening in a Favored Clime,” *Los Angeles Express* (Dec. 19, 1903). Myron Hunt Collection, Huntington Library.

¹⁰¹ Hunt, “Scenic Gardening in a Favored Clime.”

¹⁰² “New Throop Plans for Finest School. Designs for Plant in Pasadena Costing Millions to Be Discussed Tonight—Work on Part to Start at Once—Dream Coming True,” *Los Angeles Daily Times* (Feb. 29, 1908).

trees flanked the wings of the school, while a large, grand oak tree with a fifty-foot canopy was intended to occupy the center of the southern patio (Figure 15).¹⁰³ These grand oak trees became icons of the school; the silhouette of the oak tree became the school's logo and the school newspaper was named the *Oak Tree Times*. Kindergarten took place often under the shade of a large oak tree, the children gathering around the teacher beneath its broad boughs (Figure 16). In order to preserve one large oak tree close to the building, a cutout was made in the eave of the west wing's north façade that allowed the tree to grow up directly alongside the building, a move that demonstrated the value of harmonizing vegetation and structure, or rather, revealed the structure's subservience to the landscape. State Superintendent Hyatt himself underscored the importance of the preservation of trees when constructing a new school: "The trees are of more value than the improvements. Build around your tree; not through them."¹⁰⁴ Even though the tree's presence was extremely valuable, the filtered sunlight the tree provided was perhaps even more treasured. The *Review of Realty and Building* acclaimed that the space under the canopy was broad enough "to insure no loss of sunlight through the presence of the tree."¹⁰⁵ To Hunt, the ideal California trees were the Live Oak and Sycamore; they are "our trees," he said.¹⁰⁶ Hunt was enamored with California architect Willis Polk and his use of the oak tree form as design inspiration. Polk's Water Temple for the headgate of the Spring Valley Water System had the scale and shape of an oak

¹⁰³ Throop School Architectural Renderings, June 6, 1907. Polytechnic School Archives.

¹⁰⁴ Hyatt, *School Architecture and School Improvement in California*, 12.

¹⁰⁵ "Review of Realty and Building".

¹⁰⁶ Hunt, "Personal Sources of Pacific Coast Architectural Development," 51-54.

tree.¹⁰⁷ The Polytechnic too could be said to have the scale and shape of an oak tree—low, wide, and sheltering. These men found formal design inspiration in the vegetation of California.

The vegetation was as important as the structure to the designers, educators, and to the students who occupied the campus. In Elizabeth's article in *Elementary Life*, she discussed the integration of the building and landscape, noting that the posts along the broad patios were entwined with vines and the "contrast of the dark green with the white pillars was very effective..."¹⁰⁸ Her discussion of the landscape and vegetation filled her with emotion: "The trees were chiefly orange, but a number of acacia and eucalyptus trees had been recently set out. Best of all, there was one tall spreading live oak, that reminded one of an old man, full of experience, wisdom and love for his fellow men, smiling down upon the impetuous passions and foolish sayings of the children, ready to shelter them in time of trouble, yet stern, and strict in discipline."¹⁰⁹ Her perception of the oak tree paralleled the protective approach of the school.

The landscape at the Polytechnic was designed to reflect an idyllic vision of California, but it was also established to encourage gardening, an important aspect of the curriculum that emphasized teaching life skills and embracing a disappearing agrarian culture. The agricultural quality of the Polytechnic was secured from the beginning. The site where it stood was an existing orange grove. The orange trees, many of which were preserved in place, served as an enclosure around the gardens and playgrounds. The school became a sort of working farm as the remaining trees continued to bear fruit.

¹⁰⁷ Hunt, "Personal Sources of Pacific Coast Architectural Development," 51-54.

¹⁰⁸ Churchyard, "The Polytechnic Elementary School," 5-6.

¹⁰⁹ Churchyard, "The Polytechnic Elementary School", 5-6.

Because of the quality and quantity of the fruits, the students harvested and sold prize-winning Pasadena citrus to raise money for the school.¹¹⁰ Two orange trees were given a prominent central location on axis with the entry, highlighting their importance to the Polytechnic. The rear orange grove was also the site for extensive and elaborate physical education programs at the Polytechnic. In publicity images of the school, children could be found lined up stretching, arms out, like little trees, in the orchard (Figures 17 and 18).

The extensive site and planned garden rooms encouraged and reflected the school's keen attention to physical fitness. Athletics and exercise were important for the expelling of the child's "animalistic" behavior to make way for development of the child's good behavior: "...it is our belief that the child has the right to a joyful exhibition of his animal life..."¹¹¹ Play and recreation were intended to satisfy the animal side, and time and space were dedicated to relieving the children of this inhibiting element. While all the students were required to participate in some sort of physical training, its precise form varied greatly from boys to girls. The girls were directed by a woman, and attention was given to "grace of movement and physical poise," while the boys played sports and games.¹¹² Coach Leonard, a male, coached the football team and led boys' gymnasium, while Miss Roberts, a female, was in charge of girls' gymnasium and vocal expression. Discussions of adequate space for sports and athletic programming were a lively topic at the Polytechnic, always with a focus on gender and the belief that boys and girls required different activities.

¹¹⁰ Flint, "Poly in Retrospect: A Chronicle of Fifty Years, 1907-1957."

¹¹¹ Catalogue of the Polytechnic Elementary School, 1908-1909.

¹¹² Catalogue of the Polytechnic Elementary School, 1908-1909.

It wasn't simply the teachers who encouraged outdoor exercise; the students also advocated the practice of sports outdoors with passionate cries. An article in *Elementary Life*, "Ho! For a Gym!," expressed the student's desires for a dedicated exercise space. Physical activity at school was essential, the students wrote: "Children used to get exercise at home working. Now that much labor is done outside of the home, children need more special training..."¹¹³ The girls held candy sales to raise funds for the construction of tennis courts, and the students offered to help donate labor for the construction.¹¹⁴ Impatience with the lack of progress constructing a gymnasium often took over *Elementary Life*. Without a gym, the athletic work was conducted in open fields, but the gym was needed for days when the weather was bad, which the students noted was especially the time when they really needed to let off some steam: "whereas work in the open air is undoubtedly beneficial it is not always advisable or easy to take exercises standing on the bare ground and with no cover overhead. On warm, sunny afternoon the sun hurts the eyes and on slightly damp days, and for some time after the rain, the ground is too damp, especially for the girls."¹¹⁵ The students were hoping for a modified version of the outdoors, one that allowed fresh air but filtered intense sunlight or rain. Here again, the girls were portrayed as fragile and weak, unable to participate in certain physical activities and more susceptible to dirt, grime, and "dampness." Pease Hunt had plans for just such a gymnasium prepared for the moment when the funding would become available. The plans included a building with the "walls arranged so that

¹¹³ Le Roy Johnston and Leon Eliel, eds., *Elementary Life*, Volume 1, Number 1 (1908): 27.

¹¹⁴ Johnston and Eliel, *Elementary Life*: 10.

¹¹⁵ Carmen Denton and Carleton Wright, eds. *Elementary Life* (February 1910).

in suitable weather the whole building may be thrown open, and give the benefits of outdoor gymnasium work without its disadvantages.”¹¹⁶

Student gardening and nature study were also essential in open-air schools across California. Agriculture was critical to California’s foundation and to its agrarian and Arcadian visions.¹¹⁷ At the Polytechnic, learning about “plant growth, animal life, and hygiene” was offered for all grades, primarily through the tending of extensive school gardens (Figures 19 and 20).¹¹⁸ While the use of gardens in children’s education was thought to originate in antiquity, according to the 1910 guide, *Children’s Gardens for Pleasure Health and Education*, the focus of contemporary children’s gardens was to “foster the growth of children as its main object, instead of being principally to teach them how to grow plants.”¹¹⁹ The children’s garden, in the view of the guide, was a laboratory to teach how “wealth, health, courage, energy (fresh air and good food) and happiness are to be gained.”¹²⁰ School gardening made the children “stronger, more intelligent, nobler, truer men and women,” the *Nature-Study Review* noted in 1905.¹²¹ School children were expected to learn American values while tilling the soil, an activity that exemplified the most cherished rural American lifestyle. At the Polytechnic, students were groomed to sun-ripened perfection in the courtyard classrooms and orchards of the pastoral compound.

¹¹⁶ Denton and Wright, *Elementary Life*.

¹¹⁷ As Starr described, “Agriculture, not sport or tourism or mountaineering, constituted the most primary and workaday relationship of the Californian to the land.” Starr, *Americans and the California Dream*, 191.

¹¹⁸ Catalogue of Polytechnic Elementary School, 1909-1910. Polytechnic School Archives.

¹¹⁹ Parsons, *Children’s Gardens for Pleasure, Health, and Education*, preface; see also: Dora Williams, *Gardens and Their Meanings*, 1911; George Hood, *Practical School and Home Gardens*, 1916.

¹²⁰ Parsons, *Children’s Gardens for Pleasure, Health, and Education*, 5.

¹²¹ Quote from HD Hemeway, “School-Gardens at the School of Horticulture, Hartford CT,” *Nature-Study Review* No. I (January 1905): 36; Schmitt, *Back to Nature*, 90.

From the Training of the Human Plant to Eugenics

The founder of the Polytechnic School and the owner of the agricultural property on which it stood was Ezra Gosney. Mr. Gosney made his millions as a cattle rancher and a citrus farmer and was active in experimental research, conducting extensive studies in his quest to develop the perfect crop or herd. The emphasis on elementary agriculture and exposing children to the landscape was intimately tied to contemporary notions about raising children as if they were plants. Important to the development of this popular idea was the rising fame of California plant breeder Luther Burbank and the publication of his book, *The Training of the Human Plant*, in April 1907, just at the very moment the Polytechnic was being conceived. Burbank's book applied principles of cultivating plants to the raising of children and was intended to help reform education by increasing children's contact with the outdoors. Burbank, who was childless, dedicated his book to the "16 million public school children of America and to the untold millions under other skies."¹²² Burbank's ideas provide insight into how a Progressive educator like Pease Hunt and an agricultural tycoon like Gosney would have been interested in the design of the Polytechnic and the raising of children in such an outdoor fashion. Gosney would have known of Burbank, if not through popular culture or educational avenues, then through his agricultural pursuits. Along with nature-study advocate Liberty Hyde Bailey, they were both active in the American Breeders Association, and Burbank spent time working with the Southern California State Teachers Association and educators at

¹²² Luther Burbank, *The Training of the Human Plant* (New York: The Century Co., 1907).

Throop.¹²³ Upon the graduation of one of the Polytechnic's first classes, a local newspaper played up the ideas introduced by Burbank, announcing the students as "Pasadena's Best Crop."¹²⁴

A *New York Evening Journal* illustration was titled, "Luther Burbank tells parents the way to GROW BABIES AS PLANTS," and it featured a portrait of Burbank surrounded by drawings of plants with photographs of children faces pasted into them to form the plants' flower blooms (Figure 21).¹²⁵ The image in this widely read journal is evidence of Burbank's celebrity and the growing popularity of his call to raise children as plants, far beyond scientific and professional communities. Indeed, Burbank was so popular that the California Federation of Women's Clubs passed a resolution recommending that Arbor Day be celebrated on Burbank's birthday. As historian Jane Smith writes in *The Garden of Invention*, "Burbank transformed the application of scientific methods to human reproduction from a disturbing premonition of stringent social control into an invitation for every child to realize his or her best potential. In the process, the skilled inventor of new and better plants was declared a sage who taught how to apply the solaces of nature to the human soul."¹²⁶ Burbank believed that children

¹²³ Burbank became quite famous between 1903 and 1907. He received honorary degrees, was written up in popular press like the *Ladies Home Journal* and *New York Evening Journal* and he received numerous invitations for memberships and appointments. In 1905, he became the Dean of the College of Agriculture at the University of California. Burbank was connected with education in Southern California, attending the Southern California State Teachers Association meeting in Los Angeles in 1907. While there, he dined with citizens of Pasadena and educators at Throop; "Citizens to Dine with Luther Burbank Tonight," *Los Angeles Herald*, Volume 35, Number 69, (Dec. 18 1907): 18.

¹²⁴ "Pasadena's Best Crop," 1913, newspaper article clipping, Polytechnic School archives.

¹²⁵ *New York Evening Journal*, Library of Congress; Jane S. Smith, *The Garden of Invention: Luther Burbank and the Business of Breeding Plants* (New York: Penguin Press, 2009), 188.

¹²⁶ Smith, *The Garden of Invention*, 195.

should be molded not by selective breeding, as some eugenicists argued, but by careful nurturing.¹²⁷

Progressive educators, like Pease Hunt, embraced Burbank's ideas as a call to increase children's access to the outdoors and to open up the school beyond the classroom, thus setting the stage for the openness of the Polytechnic and the establishment of open-air schools. Burbank advocated that children be kept out of school until they were at least ten years old. Generally reformers interpreted this idea to mean that children should learn from experience and that they needed increased contact with the outdoors and the experiences that nature offered.¹²⁸ Smith suggests that progressive reformers and educators "embraced Burbank's ideas and his book to promote nature-centered schools, parks, playground, fresh-air camps, schoolyard gardens, and nutrition programs for the poor."¹²⁹ Burbank himself insisted that children were especially sensitive to and responsive to the many benefits of nature: "Give them nature. Let their souls drink in all that is pure and sweet...let nature teach them the lessons of good and proper living, combined with an abundance of well-balanced nourishment. Those children will grow to be the best men and women. Put the best in them by contact with the best outside. They will absorb it as a plant does the sunshine and the dew."¹³⁰ In the case of child-rearing, Burbank believed that a carefully crafted environment and proper outdoor exposure and activities could alter heredity: "The appropriate environments will bring out and intensify all these general human hereditary experiences and quicken them

¹²⁷ Peter Dreyer, *A Gardener Touched with Genius: the Life of Luther Burbank* (New York: Coward, McCann & Geoghegan, 1975), 209-210.

¹²⁸ Smith, *The Garden of Invention*, 193-4.

¹²⁹ Smith, *The Garden of Invention*, 193.

¹³⁰ Burbank, *The Training of the Human Plant*, 28-29.

again into life and action, thus modifying for good or evil character—heredity—destiny.”¹³¹ Thus, the design of children’s spaces, such as schools, was extremely critical as the spaces could define children’s character.

In 1906, before word of open-air schools in Europe had even reached the East Coast, Burbank called for fresh air, sun, and wholesome food for young children: “Plants should be given sun and air and the blue sky; give them to your boys and girls,” and he placed emphasis on the benefits of fresh air and adequate ventilation above all else.¹³² Exposure to wind and weather made children strong, “[children] need the winds, just as the plants do, to strengthen them and to make them self-reliant.”¹³³ Ensuring that children had adequate fresh air, sunshine, and contact with nature supported children’s health, but it also ensured children’s good behaviors: “Pick out any trait you want in your child...be it honesty, fairness, purity, loveliness, industry, thrift, what not. By surrounding this child with sunshine from the sky and your own heart, by giving the closest communion with nature...by giving it all that is implied in healthful environmental influences, and by doing all in love, you can thus cultivate in the child and fix there for all its life all of these traits.”¹³⁴ Burbank’s theories gave educators and reformers like Pease Hunt and Gosney the hope that children could be molded by their surroundings, that it was possible to nurture future citizens of good character, health, and strength through immersing them in a nature-filled environment and infusing them with fresh air.

¹³¹ Burbank, *The Training of the Human Plant*, 83.

¹³² Burbank, *The Training of the Human Plant*, 33.

¹³³ Burbank, *The Training of the Human Plant*, 31.

¹³⁴ Burbank, *The Training of the Human Plant*, 48.

Ezra Gosney was the longest serving chairman of the Board of Trustees at the Polytechnic, holding this position for twenty-five years until 1941. Throughout his tenure he donated time and service, and he repeatedly gave monetary donations that helped the school to continue during operational deficits.¹³⁵ He was a popular figure at the school and frequently gave inspirational talks in the assembly hall. According to an article in *Elementary Life*, “Mr. Gosney is a man who knows how to reach the hearts of the boys.”¹³⁶ In 1936, Gosney wrote to Dr. Max Mason, the President of the Board of Trustees who taught at Cal Tech, reflecting on the reasons for the school’s establishment: “First, to give each child in its ranks the best training possible for the development of sound, dependable character and successful citizenship; second, by the success of this school to help raise the standards of all elementary schools.”¹³⁷

Gosney had come to Pasadena as a health-seeker. After exhibiting symptoms of tuberculosis and hemorrhages in his lungs, he decided to migrate west to Arizona to live an outdoor life.¹³⁸ In Flagstaff, he became interested in ranching and livestock, herding sheep, and raising cattle. Through the language of husbandry, he articulated developing eugenic ideals: “Any common man will tell you that a herd of common, long-horn Texas or Mexican cattle can be converted to a high-grade Hereford or white-faced herd in three

¹³⁵ Henley, “Notes on Ezra Seymour Gosney,” 1942.

¹³⁶ Le Roy Johnston and Ralph Winston, eds., *Elementary Life*, Volume 1, Number 3 (1908), 31. Polytechnic School Archives.

¹³⁷ Correspondence, Ezra Gosney file. Polytechnic School Archives.

¹³⁸ Gosney was born in 1855 in Kentucky and spent his childhood there on a farm. He left Kentucky at 14, and headed to Texas, driving a covered wagon train. At 18, he went to Missouri to work his way through college. He earned a Bachelor of Science from Richmond College, Missouri and a L.L.B. from Washington University, St. Louis. He became a lawyer and then a banker, attempting to better himself from his impoverished Kentucky farm roots. “Remarks by A.B. Ruddock on Presentation of Mr. Gosney’s Portrait to Polytechnic School on April 8, 1958”; A.B. Ruddock, “Ezra Seymour Gosney”, The Twilight Club, Pasadena, Oct. 27 1942, with the aid of Grace Henley and Lois Gosney Castle. Polytechnic School Archives.

or four generations. Man falls under these same laws of heredity. The only difference is that we have mixed the breeds and failed to teach our children to...select their mates.”¹³⁹

In 1905, in search of an even milder climate and a better education for his two daughters, Gosney moved his family to Pasadena.¹⁴⁰ At 50 years old, he planned to retire in Pasadena, but instead it was the beginning of his most passionate endeavors. According to his daughter Lois, who wrote a biography of her father, the Polytechnic was his most prized accomplishment, just ahead of the Boy Scouts and the Human Betterment Foundation.¹⁴¹ Lois further claimed that, “under his leadership it has come to be recognized as one of the out-standing elementary schools of the United States eschewing pedantry, and emphasizing health, physical education, character building, and citizenship.”¹⁴²

In Pasadena, Gosney purchased a 320 acre citrus grove and became immersed in the citrus industry and the cultivation of prized citrus fruit. Gosney’s lemon ranch was

¹³⁹ Gosney also said: “I grew up on a Kentucky farm where we sterilized the defectives among all of our domestic animals, from the pigs to the race horses. The civilized portion of the human race is already deteriorating because of the high birth date of the defective and dependent, and the increasingly low birth rate of the strong and capable. Many of these defectives and their potential children need protection by conservative, selective sterilization which has been proved practical and humane by 28 years of experience here in the state institutions of California”. Gosney memo in Caltech files; Mike Anton, “Forced Sterilization Once Seen as Path to a Better World Decades of files on mental patients reveal how a group of noted Californians hoped to influence the fate of the human race,” *Los Angeles Times* (July 16, 2003). Polytechnic School Archives.

¹⁴⁰ His wife was Sarah Dearborn Gosney. His two daughters were Lois Gosney Castle who later settled in Pasadena, and Gladys Crick (nee Gosney) of Oregon. “Ezra S. Gosney Dies in Pasadena,” *Los Angeles Times* (Sept 16, 1942): 12.

¹⁴¹ Lois Gosney, “Outline of the Life of E.S. Gosney,” c. 1930. Caltech Archives. Other philanthropies he was involved in while in Pasadena included the Boy Scouts, the Young Women’s Christian Association, the Red Cross, and the city playground movement. His interest in eugenics also led to his membership with the American Eugenics Society, American Social Hygienic Society, American Genetics Society, and the Foreign Society for Human Betterment. As Gosney later recounted of the Polytechnic, “I have made many good investments in my life but I consider this investment to be the best I ever made.” Kyle Miller, ed. “A Call to Action: The Legacy of Ezra Gosney,” *The Paw Print* (April 18, 2008). Polytechnic School Archives.

¹⁴² Lois Gosney, “Outline of the Life of E.S. Gosney,” c. 1930. Caltech Archives.

said to be one of the largest and best in the world.¹⁴³ Citriculture didn't require heavy manual labor, so it allowed a relatively leisurely outdoor life; the "gentleman citrus farmer" was an attractive profession for wealthy transplants and health-seekers in Southern California.¹⁴⁴ Citrus growers wrote about how they had regained their health through their new careers, and citrus groves were described as vast sanitariums.¹⁴⁵ According to turn of the century Los Angeles journalist, William Andrew Spalding, growing citrus gave, "healthful occupation to the mind as well as the body."¹⁴⁶ Gosney won awards for his application of new scientific discoveries in citrus growing techniques. His specific interest was in the improvement of fruit strains and varieties. His theories about improving plant propagation and heredity outcomes were readily expanded to include ideas about cultivating children's health and development through their early educational environment. As an article in *The Citrograph* observed, "Through the adoption of the selection of the best of root stocks, and of the very highest quality of tree performance buds, Mr. Gosney has improved the quality and productivity of his fruit and trees."¹⁴⁷ One could easily read "root stocks" as parents and "buds" as children. Through his involvement with the Polytechnic and the Boy Scouts, Gosney placed his focus on the early stages of children's development to improvement the "quality and productivity" of the mature outcome.

¹⁴³ Henley, "Notes on Ezra Seymour Gosney"; Bobby Samuels, "A Summary of the life of Ezra Gosney," *The Paw Print* (Feb. 11, 2010). Polytechnic School Archives.

¹⁴⁴ Jared Farmer, *Trees in Paradise: A California History* (New York : W.W. Norton & Company, 2013), 240.

¹⁴⁵ Starr, *Inventing the Dream*, 143.

¹⁴⁶ Starr, *Inventing the Dream*, 143.

¹⁴⁷ Donald J. Thompson, "Facts about ES Gosney's 320 acre ranch; its founder-philanthropist. Interesting career of head of HBF and Development of extensive lemon planting," *The California Citrograph* (August, 1937). Five-eighths of his 320 acre citrus ranch passed to his eugenics foundation, the Human Betterment Foundation, upon his death.

In addition to appealing to progressive educators, Burbank's ideas about the "training of the human plant" widely appealed to an emerging population of eugenicists in California, such as Gosney. In the early twentieth century, eugenics, had become part of mainstream science and politics, and it was embraced as a socially progressive trend in California. Influential figures and groups established and financed an array of eugenic projects related to health reforms, education, intelligence-testing, and immigration policies.¹⁴⁸ There were essentially two types of eugenics: positive and negative. While the two approaches often went hand in hand, positive eugenics attempted to alter heredity through encouraging breeding of the "fit", healthy, and intelligent. Negative eugenics, on the other hand, sought to prevent the breeding of the "unfit" through segregation and sterilization, eliminating and excluding those deemed inferior from the population.¹⁴⁹ Positive eugenics, in the early twentieth century, focused considerable attention on "the health of the nation" realized through children. The drive for children's health and healthy school environments for children was intrinsically tied to nationalism and Americanization.

Eugenics was a popular topic—lectures were frequent in ethical and philosophical societies, schools and university campuses, women's clubs, and medical associations. Newspapers and popular magazines frequently published articles on these ideas.¹⁵⁰ It was a popular belief that parents couldn't directly improve their children's composition, so

¹⁴⁸ California State University Sacramento, "Charles M. Goethe: His Life and His Eugenic Vision." <http://digital.lib.csus.edu/exhibits/goethe/eugenics.htm>

¹⁴⁹ See Kevles, *In the Name of Eugenics*; Kevles, "Eugenics and Human Rights," *British Medical Journal*, v. 319 (7207), Aug. 14, 1999: 435-438; R. Wilson, "Eugenics: Positive vs. Negative," *Eugenics Archives*, Social Sciences and Humanities Research Council of Canada, September 14, 2013. <http://eugenicsarchive.ca/discover/connections/5233c3ac5c2ec500000000086>

¹⁵⁰ Daniel Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (New York: Knopf, 1985), 58.

adults tried to ensure that their children were reared in an optimal environment to guarantee their success. Contemporary eugenicist Michael Guyer described this theory in his book, *Being Well-Born*, “While parents can do nothing toward modifying favorably such qualities as are predetermined in their germ-plasm,” Guyer advised, “nevertheless, they must come to realize that a bad environment can wreck good germ-plasm...Their one sacred obligation to the immortal germ-plasm of which they are the trustees is to see that they hand it on with its maximal possibilities undimmed by innutritious, poisons, or vice.”¹⁵¹

Indeed, there were clear connections linking the mythic California landscape, progressive health reform, eugenics, and child rearing. Historian Douglas Sackman, in his book, *Orange Empire: California and the Fruits of Eden*, notes that “California’s most imaginative boosters envisioned the perfection of both plants and people.”¹⁵² California’s exotic location in the far west, its warm climate, its fruitful and productive landscape, and its celebrity as healing landscape, made it a place ripe for grand ambitions of social reform. Californians were on a “quest to create a Eugenic Eden” that was imagined through “prophetic conceptualizations”, scientific racisms, and agricultural wealth, writes historian John Paniagua in “California’s Cult of Human Service: Eugenics in California from Soil to Science.”¹⁵³ This “Eugenic Eden” or “California’s Arcadian promise” was an ingrained mythological image of California as a landscape where the

¹⁵¹ Kevles, *In the Name of Eugenics*, 67; Guyer, *Being Well-Born; An Introduction to Eugenics* (Indianapolis: The Bobbs-Merrill company, 1916), 194.

¹⁵² Douglas Sackman, *Orange Empire: California and the Fruits of Eden* (Berkeley: University of California Press, 2005), 61.

¹⁵³ John Paniagua, “California’s Cult of Human Service: Eugenics in California from Soil to Science,” *Argus-A Arts and Humanities* Vol. III No. 13 (July 2014), 17.

creation of the most perfect, healthful, and strong beings, plants and animals and people was possible.¹⁵⁴

California became the leading state in the eugenics movement, performing one-third of the total sterilizations in the country from its initiation in 1909 to the repeal of the law in 1979. This law authorized nonconsensual reproductive sterilization surgeries of anyone committed to state facilities for the “insane”, as well as state prisoners.¹⁵⁵ In California’s first twenty years of the law, from 1909-1929, California completed over 6,000 operations. By 1942, California had performed as many sterilizations as all other states put together, in part due to activities of Gosney’s Human Betterment Foundation.¹⁵⁶

Gosney’s eugenic ideals culminated in 1928 with the founding of the Human Betterment Foundation (HBF) in Pasadena, when he was seventy-two years old. Gosney’s work with the HBF, an influential organization that lobbied for (usually involuntary) human sterilization, is his most well-known contribution. Gosney was in charge of public relations, worked closely with state officials, connected interested and important parties, and financed conferences, studies, data collection, and publications on sterilization.¹⁵⁷ The purpose of the HBF was “to foster and aid constructive and educational efforts for the protection and betterment of the human family in body, mind,

¹⁵⁴ Paniagua, “California’s Cult of Human Service”; California State University Sacramento, “Charles M. Goethe: His Life and His Eugenic Vision.”

¹⁵⁵ The law passed on April 26, 1909. See Alexandra Stern, “STERILIZED in the Name of Public Health: Race, Immigration, and Reproductive Control in Modern California,” July 2005; 95(7): 1128–1138. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1449330/>

¹⁵⁶ Over thirty states would sterilize about 60,000 people, with one-third of the sterilizations, roughly 20,000, taking place in California. Paul Lombardo, a former professor at the UVA Center for Biomedical Ethics said, “What makes California special is the work of the HBF, how it shaped public policy and the links between major players in the private sector and state officials who carried out the work.”; A.B. Ruddock, “Ezra Seymour Gosney”; Mike Anton, “Forced Sterilization Once Seen as Path to a Better World”.

¹⁵⁷ Anton, “Forced Sterilization Once Seen as Path to a Better World”.

character, and citizenship in life.”¹⁵⁸ The Human Betterment Foundation included other members focused on children’s health and education such as Stanford Professor of Education Lewis Terman, who had also originally come to California in 1905 to treat his tuberculosis. Terman developed a popular version of Simon and Binet’s original IQ test, and in some open-air schools, Terman’s method of intelligence testing was administered to determine mental ability and identify gifted children. As historian Daniel Kevles argues, “Eugenicists identified human worth with the qualities they presumed themselves to possess – the sort that facilitated the passage through schools, universities, and professional training. They tended to equate merit with intelligence particularly of the academic sort.”¹⁵⁹ As part of these attempts to improve the “breed”, while nurturing and grooming intelligent and healthy children in open-air schools as part of positive eugenic practices, they were also championing negative eugenics by forcing sterilization of members of society with traits deemed less desirable.

The HBF’s publications on sterilization received national and international recognition and became primary texts for eugenicists. In 1929, Gosney and Paul Popenoe published the book, *Sterilization for Human Betterment: A Summary of Result of 6,000 Operations in California, 1909-1929*, documenting their research on sterilizations in California.¹⁶⁰ In 1935, leading eugenicist and Gosney’s close friend, C.M. Goethe, wrote to Gosney to tell him of his work’s impact on the Nazis:

You will be interested to know that your work has played a powerful part in shaping the opinions of the intellectual behind Hitler in this epoch-

¹⁵⁸ Ruddock, “Ezra Seymour Gosney”; Thompson, “Facts about ES Gosney”.

¹⁵⁹ Kevles, *In the Name of Eugenics*, 77.

¹⁶⁰ In 1938, the HBF published a follow-up book: *Twenty-Eight Years of Sterilization in California*. The 1938 book was an expanded analysis of 10,000 cases.

making program. Everywhere I sensed that their opinions have been tremendously stimulated by American thought, and particularly by the work of the Hunan Betterment Foundation...I want you, my dear friend, to carry this thought with you for the rest of your life, that you have really jolted into action a great government of 60,000,000 people.¹⁶¹

The Nazi's claimed the book offered "scientific" evidence to support their racist ideology. Today, the complex legacy of Ezra Gosney has been difficult for the Polytechnic, and its strategy thus far has been largely to avoid it. The school renamed Gosney Hall to Founders Hall in 2008 after appeals by students and community members for the Polytechnic to acknowledge Gosney's role as a eugenicist and advocate of sterilization.

For many early California eugenicists, Burbank inspired linkages between the perfection of agriculture, the rearing of children, and the importance of nature exposure. Like Gosney, other eugenicists saw children's environments as critical to their human betterment goals. Goethe, for example, supported the development of the Playground Association of America and encouraged nature study programs.¹⁶² The very investigations inspired by agricultural practices became fodder for their visions of how to perfect and protect the human race, notably through children—through heredity assessments, reproduction techniques, environmental analysis, and pest control. Burbank, however, did not share the racist ideas of most contemporary eugenicists, as Burbank thought the mingling of races would only make America stronger.¹⁶³ Burbank believed that those who were physically and mentally challenged should be supported by

¹⁶¹ Anton, "Forced Sterilization Once Seen as Path to a Better World"; Miller "A Call to Action: The Legacy of Ezra Gosney"; Henley, "Notes on Ezra Seymour Gosney".

¹⁶² California State University Sacramento, "Charles M. Goethe."

¹⁶³ Smith, *The Garden of Invention*, 190.

the government, and that instead of sterilization and better breeding programs, “what we should do is strengthen the weak, cultivate them as we cultivate plants, build them up, make them the very best they are capable of becoming.”¹⁶⁴ While Gosney indeed shared some of Burbank's positive intentions early on, Gosney's eugenic efforts became increasingly destructive after WWI when nationalism and racism were heightened, and he became a champion of discriminatory sterilization efforts.

This study of the Polytechnic introduced the multifaceted intentions of the open air schools and investigated the beginnings of the open-air school movement in California. While the Polytechnic was a model open-air school, it has had a long and complicated relationship with its founder, Ezra Gosney. Gosney's relationship to the HBF and his activities surrounding human sterilization did not directly influence the foundation of the Polytechnic. His ideas about negative eugenics and sterilization were still in their infancy during the initial founding and design of the Polytechnic, but they gained momentum over the twenty-five years he served as President of the school. For Gosney, theories about strengthening agricultural quality and the belief that a particular environment could improve heredity were a part of his emergent ideas for positive human eugenics, and these theories were likewise reflected in elements of the Polytechnic's design: optimal sunlight, fresh air, controlled outdoor exposure, exercise and nourishment regimens, the openness of the architecture, the fluidity with the outdoors, opportunities to meet mates through co-education, medical segregation, intelligence and fitness assessments, and the advancement of the gifted.

¹⁶⁴ Burbank, *The Training of the Human Plant*, 55.

Like Terman's IQ tests, marriage programs, and baby and breeding competitions, Gosney's involvement with open-air schools and the Boy Scouts were yet another tactic of positive eugenics. While these were not directly related to breeding, they were intended to alter the quality of the child and therefore, their offspring. In the case of open-air schools, this happened primarily through the creation of a specific outdoor environment and curriculum. The intention of progressive reformers like Burbank and Gosney was to mold young minds – either through a carefully designed nature-filled environment, or at the complete other end of the spectrum, through selective and destructive human propagation tactics. The connection between child rearing, school design, and extreme measures in the name of children's health becomes an important thread in the open-air school conversation. The story of the Polytechnic introduced the eugenic and nationalistic impulses of the open-air school movement and provides an initial reference point for open-air school projects, against which we can measure the concerns of other such schools regarding children's health and environmental design, illness and segregation, and reshaping of the human race.

This case study of the Polytechnic suggests the limits of a retrospective reading of history where only one historical moment in time is examined—the founding moment and peak of the open-air school movement. If we look at the longer history, we see how some of Gosney's initial ideas at the Polytechnic may have eventually connected to a larger, nefarious scheme of better breeding and eugenics that included forced sterilization. Gosney's initial ideas about cultivating children ultimately had a very problematic trajectory, or rather, a perverse counterpart, which can't be completely disentangled from the history of the Polytechnic.

While it is necessary to acknowledge a link between Gosney's destructive beliefs and actions and the longer history of this school, the Polytechnic's initial architectural and curricular innovations, are not defined by Gosney's later history. It is important to recognize the significant contributions by the architects, Hunt and Grey, and the founding principal, Pease Hunt, for their innovations in school design and care for children's health and wellbeing. Additionally, as witnessed, the children of the Polytechnic have played a critical role in shaping and promoting their educational environment. The Polytechnic popularized the importance of access to sunlight, fresh air, and the outdoors, the value of indoor and outdoor curriculum, and the benefit of multiple types of learning and growth for both mind and body. These very many innovations are incredibly significant for the course of California's educational landscape. It is important to highlight the merits of this compelling educational environment, because just as it did at the turn of the century, this school can serve as a model for school design today.

Conclusion

The Polytechnic became a key example for open-air schools. In terms of its immediate legacy, the Polytechnic inspired the development of California's open-air school movement – a movement that eventually changed the shape of its educational landscape. As persuasive physical structures and manufactured images, small progressive private schools, like the Polytechnic, encouraged public schools, often thanks to broader public pressure, to follow suit. "Scientific studies" and reports by "experts" about the tangible benefits of open-air education on children's health, the health of the local community, and the health of the nation were undertaken by early open-air schools

and served to convince public school officials of their merits. International open-air advocate Louise Goldsberry noted in her expansive collection of outdoor schools that there were many experimental private schools setting new educational trends in California.¹⁶⁵ In fact, California's open-air school design, with its rambling forms, expansive windows, lush garden courts, and exterior walks, popularized by the design of the Polytechnic, came to be enthusiastically referred to as the "The California Style" around the world.

The popularity of the Polytechnic's design was, in part, due to State Superintendent Hyatt's promotion of the school, as he highlighted, in various publications, design elements that should be used in open-air and new school designs throughout California. The Polytechnic was featured on the cover of the 1914 State Board of Education publication on exemplary California school architecture that placed great importance on open-air education. As is explored in chapter three, the Polytechnic's design was also used as a model for a standardized mobile tent school design promoted by the State Board of Education.

Following the model established by the Polytechnic, Hyatt advocated for the construction of one-story school buildings, arguing that in addition to ease of outdoor access and fire safety, the one story height had positive medical implications for the female students, "For hygienic reasons the girl students at least should not be subjected to too frequent climbing of stairs."¹⁶⁶ The Polytechnic's lighting and ventilation strategies became paradigms for school design standards across California and beyond. In the 1909

¹⁶⁵ Goldsberry Collection of Open-Air School photographs, Library of Congress.

¹⁶⁶ Hyatt, *School Architecture*, 13

state publication on school architecture, the school design requirements issued were based on the Polytechnic. California classrooms were to be no more than 25 feet wide and 32 feet long. Over 32 feet was too far for voice to carry, and over 25 feet wide did not allow enough light to reach the far side of the room.¹⁶⁷ The ideal spacing between windows was outlined in the publication, based on experiments at the Polytechnic: “The piece of wall between two windows should not exceed twelve inches, and a less width is better...Windows should be closely groups, forming as nearly as possible one large window.”¹⁶⁸

The 1909 state publication on school architecture also singled out the Polytechnic’s landscape as a precedent to be followed. Hyatt’s description of the ideal school grounds referenced elements of Hunt and Grey’s design and praised the value of the agrarian landscape they had crafted: “One corner of the schoolhouse is sheltered by a honeysuckle or jessamine, or a moon-vine has climbed to the gable. A neat fence of hedge or border is in front...” The perfect school landscape was imagined as a rustic, rural, setting, “Somewhere there is a shed for horses, and a long row of hitching posts and a water trough—with shade near by.”¹⁶⁹ In addition to the idyllic setting, Hyatt advocated for the provision of a protective outdoor shelter for exercise. In the same publication, Hyatt described an ideal gymnasium, similar to the one developed by Pease Hunt: “Under the clear skies of California, a gymnasium is better outdoors than in. Make it strong and rough so that the elements nor hard usage can seriously damage it. It is good to have

¹⁶⁷ Parker “Small School Buildings,” in *School Architecture and School Improvement in California*, Edward Hyatt (Sacramento: State Printing Office, 1909), 37-43: 41

¹⁶⁸ Keppel, “Judging Schoolhouse Plans,” 43, and Parker “Small School Buildings” in Hyatt, *School Architecture*, 37-43.

¹⁶⁹ Hyatt, *School Architecture and School Improvement in California*, 82.

such things as this in a sheltered space on a school ground, where the children can climb and jump and swing. It gives them more courage, and strength, deeper lungs, better muscles.”¹⁷⁰ Despite his emphasis on outdoor learning, State Superintendent Hyatt echoed the “clean” and “wholesome” philosophy promoted by the Polytechnic students. Hyatt wrote that girls should not be allowed to absorb “slatternly lessons at the school,” instead girls should learn neatness and tidiness from the school house and grounds. “Broken windows and unkempt surroundings” should not “infect” (as if school ugliness was a disease that the children would catch). “Unkempt surroundings” made pupils “shiftless” or lazy—hygienic, open-air schools made tidy women and tidy homes and motivated young men.¹⁷¹

Like Burbank and Gosney, State Superintendent Hyatt also called on the parallel between growing plants and the raising of children in his education visions for the state. Hyatt said,

But, farming or teaching, there’s a lot to be learned. They’re a lot alike. Planting good, viable seeds in fertile soil is the same operation, essentially, as planting knowledge and ideas in the receptive minds of children. There’s a time that’s just right for the planting and a method that’s right for the cultivating. The farmer fights insects, weeds, frost and hail—he has a thousand hazards—and the teacher fights superstition, idleness, disinterested parents, and all the rest of it. But either of ‘em can learn the technique of fighting and can make a good crop. Whether it’s plants or whether it’s children. They both have the gift, the infinite capacity for growing.¹⁷²

¹⁷⁰ Hyatt, *School Architecture and School Improvement in California*, 80.

¹⁷¹ Hyatt, *School Architecture and School Improvement in California*, 3.

¹⁷² According to Hyatt’s youngest daughter, Phyllis Gardiner, Hyatt made this speech at the Teacher’s Institute in San Diego, that was then reproduced in the *Golden Era*; Phyllis H. Gardiner, *The Hyatt legacy: The saga of a courageous educator and his family in California* (New York: Exposition Press, 1959), 91.

With Hyatt and Burbank's prominence in California, there was a clear connection fostered between the open-air schools and the strategic cultivation of the child.

Nostalgic for a rural America understood to be increasingly under threat, State Superintendent Hyatt established a "back-to-soil" movement in the schools that encouraged gardening and nature study programs across California, ensuring, just as the Polytechnic did, that students were more physically active even as they learned about business and finance matters while selling their crops.¹⁷³ In turn, teaching children to appreciate and cultivate nature aimed to ensure their upright behavior, since Hyatt saw a love of the land as a "safety valve for the spirit wherever [students] go, on land or sea," one that would "lead...them away from temptation and evil of every sort."¹⁷⁴ The presence of children's gardens in schools was seen as a measure of the advancement of education, and the school garden became so valuable that by 1911 legislation had been passed in several states requiring the teaching of elementary agriculture.¹⁷⁵

California architect William Hays cited the Polytechnic as an ideal example of an outdoor school because its simple and unpretentious environment was similar to the homes to which children were most accustomed: "Coming here to school, the child has no need of mental or spiritual readjustment; his day's activities continue as usual...During his hours at home his life goes on mostly in the garden, under trees, porch, or pergola; it is so, too, while he is attending school." The other school children are his

¹⁷³ Kenneth Campbell, "Back-to-Soil for the School Children Now. An Interview with Edward Hyatt," *The Sacramento Sun*, July 18, 1912.

¹⁷⁴ Edward Hyatt, "Nature Study," Box 1, Folder 4, Edward Hyatt papers (Collection 905), UCLA Library Special Collections, Charles E. Young Research Library, UCLA.

¹⁷⁵ Parsons, *Children's Gardens for Pleasure, Health, and Education*, preface; Benjamin Marshall Davis, "Agricultural Education," in *The Elementary School Teacher*, Volume XI, September 1910 - June 1911 (Chicago: University of Chicago Press, 1911), 470-473.

“broadened family circle...A teacher guides his studies and joins in his play—so would his mother or older sister, were he yet at home.” Hays saw special virtue in unpretentious school buildings like the Polytechnic and was worried that a “spiritual something, evasive and precious” was lost with monumental civic architecture that inhibited children’s enjoyment of the wider world around them.¹⁷⁶

This chapter underscored elements of the Polytechnic that are exceptional, while identifying defining issues and tensions that run across the subsequent development of California’s open-air schools. While the Polytechnic was an example of an open-air school that was a product of architectural innovation responding to local factors, other open-air schools were standardized designs constructed from an established kit of parts. This tension will be traced in the following chapters as we examine whether the open-air school was a laboratory for creative curricular relationships between architecture, landscape, and health, or whether the open-air school was simply a new type of envelope for conventional education. Likewise, the Polytechnic project has presented the conflict in open-air schools between social control and idealized utopian reforms versus openness, freedom, and individualism.

The Polytechnic’s design was unique to the culture and climate of Progressive Era California. It was a Southern California Arts and Crafts project and a space of maximum health. The design was also defined by a language of cultivation, where agricultural strategies for cultivating, tending, and perfecting crops and livestock were applied to the children attending the school. As discussed in this chapter, the open-air schools were a distinctly Californian project, developing and gaining strength from

¹⁷⁶ Hays, “One Story and Open-air school houses in California,” 9-10.

regional factors. Yet, at the same time, some open-air schools were products of ideas that originated outside the state. Taking into account how external influences blended with ideas developed in California, the following chapter explores the wide range of open-air school forms that emerged from the desire to increase fresh air and sunlight for the preservation of children's health and the curricular innovations enhanced by the inventive open-air designs.



Figure 1

Polytechnic School. Myron Hunt and Elmer Grey, Architects.

Architecture and Design Collection. University of California, Santa Barbara.



Figure 2

Sketch for Polytechnic School. Myron Hunt and Elmer Grey. June 1907.

Polytechnic School Archives.

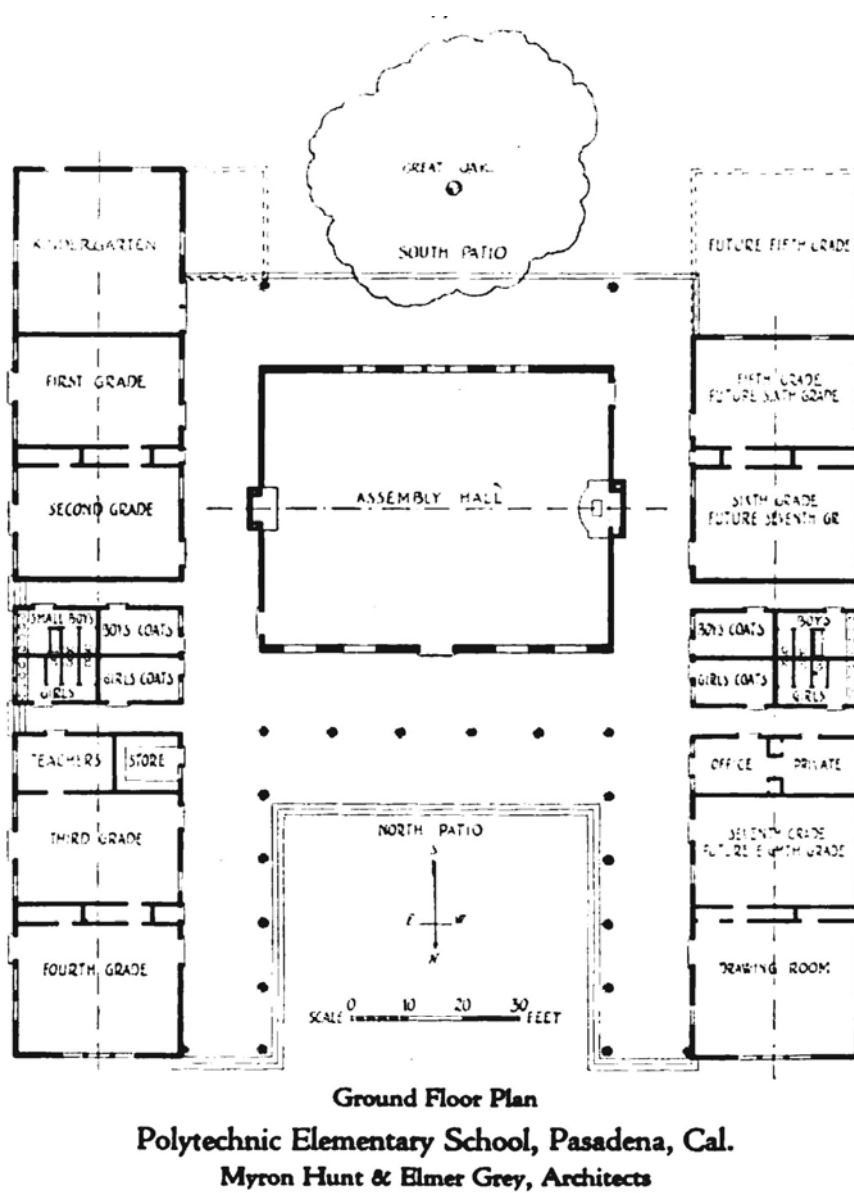


Figure 3

Ground Floor Plan. Polytechnic Elementary School. Myron Hunt and Elmer Grey.

(Original 1907 design.)

William C. Hays, "One Story and Open-air school houses in California," *Architectural Forum*, (July 1917): 3-12; William C. Hays, "One Story and Open-air school houses in California: Second and Concluding Paper" *Architectural Forum*, (Sept. 1917): 57-66.

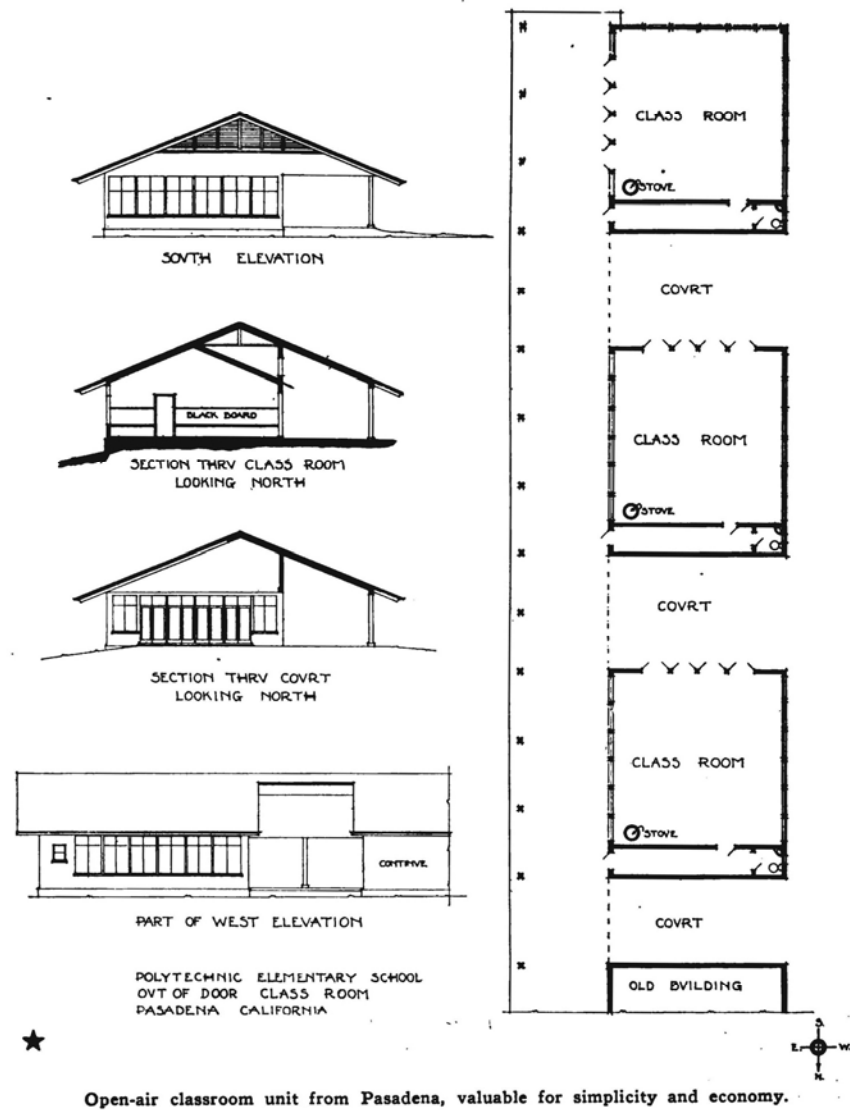


Figure 4

Ground Floor Plan. Polytechnic Elementary School. Myron Hunt and Elmer Grey.

(Additions c. 1912)

Hyatt, *School Architecture*, 7.



Figure 5

Outdoor class under oak tree at front of school. The two orange trees on the main entry axis are visible behind the group.

Polytechnic School Archives.



Figure 6

Polytechnic School. Classrooms opening onto porch.



Figure 7

Polytechnic School. French doors opening onto side court.



Figure 8

The Porch and the enveloping vegetation. Polytechnic School.

Architecture and Design Collection. University of California, Santa Barbara.



Figure 9

“Happiness is a perfume you cannot pour on others without getting a few drops on yourself.”

The Porch. 1907-1920. Polytechnic School Archives.



Figure 10

Fresh Air Study Hall on Patio (under canvas canopy). 1916.

Polytechnic School Archives.



Figure 11

Sloyd basketweaving on patio (under canvas canopy).

Polytechnic School Archives.



Figure 12

Sloyd basketmaking in open-air classroom. 1907-1920.

Polytechnic School Archives.

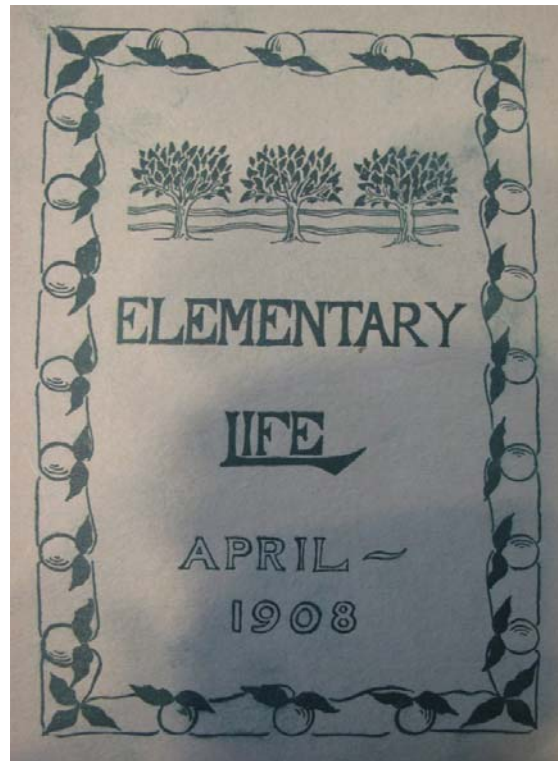


Figure 13

Elementary Life. Cover. April 1908.

Polytechnic School Archives. Pasadena, CA.

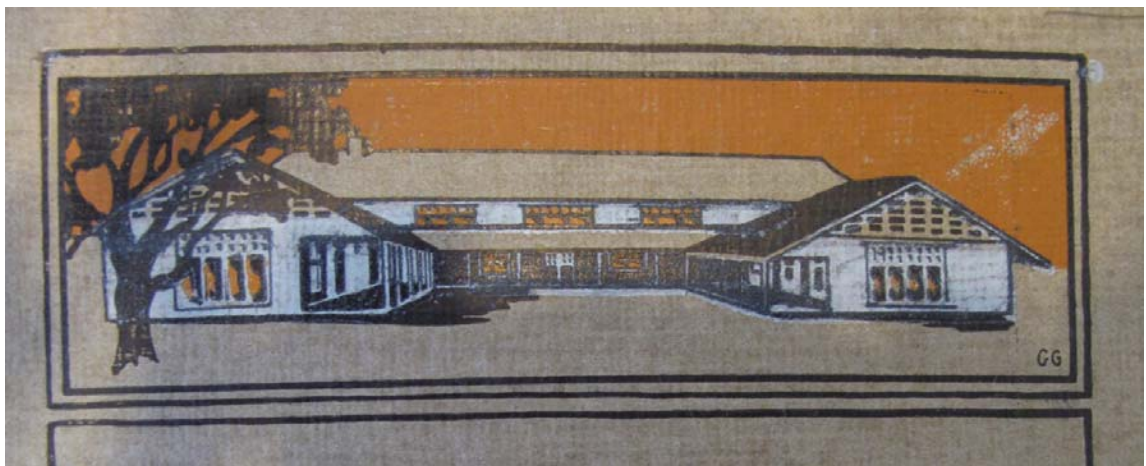


Figure 14

Elementary Life. Cover. 1911. Polytechnic School Archives.



Figure 15

Grand Oak tree at front of school. Cover. Polytechnic Elementary School Announcement, 1912-1913.

Polytechnic School Archives.



Figure 16

Kindergarten under the oak tree. 1908.

Polytechnic School Archives.



Figure 17

Gymnastics in the Orange Grove. 1909-1910. Polytechnic School Archives.

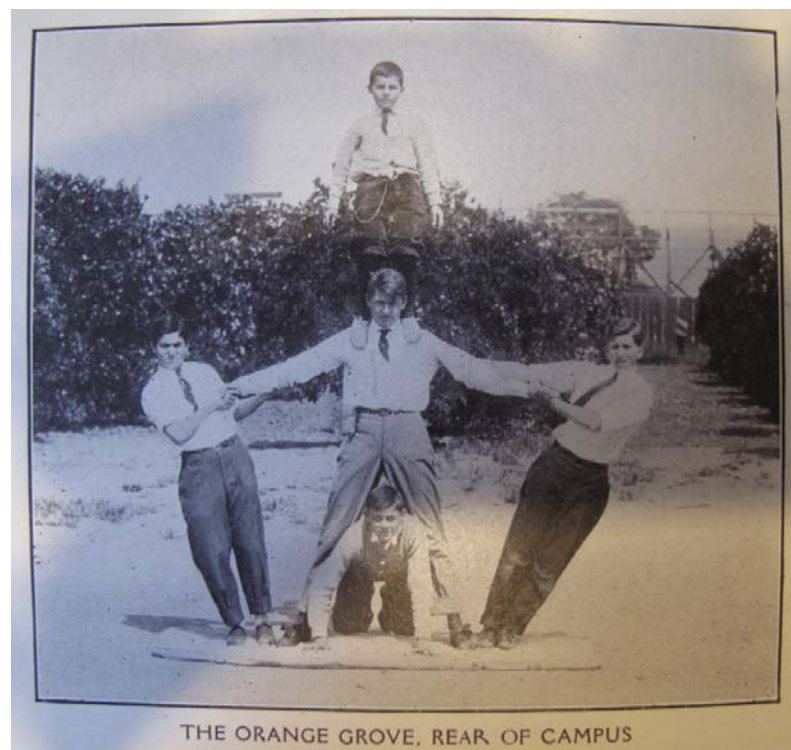


Figure 18

Gymnastics in the Orange Grove. 1909-1910. Polytechnic School Archives.



Figure 19

Polytechnic School Gardens. Polytechnic School Archives.



Figure 20

Polytechnic School Gardens. c. 1918-1919. Polytechnic School Archives.



Figure 21

New York Evening Journal.

Library of Congress.

Jane S. Smith, *The Garden of Invention: Luther Burbank and the Business of Breeding Plants*

(New York: Penguin Press, 2009), 188

CHAPTER 2

EXPANDING THE LUNGS AND THE MINDS: OPEN-AIR ARCHITECTURAL INNOVATIONS, LEARNING LANDSCAPES, AND CURRICULAR DEVELOPMENTS IN OAKLAND AND SAN DIEGO

Introduction

In the years just following the opening of the Polytechnic, there were a number of other experimental open-air schools that were established. The success of the Polytechnic, coupled with the publication of popular newspaper articles recounting the advancement of open-air schools on the East Coast and in the Midwest, as well as widely circulated books and reports such as Leonard Ayres, *Open-Air Schools*, from 1910, encouraged the construction of a wide variety of open-air schools. While the previous chapter drew connections between the open-air school movement and the cultivation of the perfect child, this chapter highlights how in California this task was accomplished across many distinctive types of open-air school designs. Despite often evangelistic appeals for open-air schools from educators, architects, and parents, the ideal physical form of an open-air school was not clearly defined. Yet regardless of the vastly different situations, the goal of the open-air schools was consistent, and this chapter looks in depth at how, in form and function, the open-air schools used fresh air, sunlight, and outdoor exercise, to create healthy bodies and productive citizens. This chapter examines three formative, yet very different, examples of open-air schools: the Fruitvale No. 2 Open-Air School opened in Oakland in 1910, the Dehesa Out of Doors School founded in 1911 in

San Diego County, and the Francis Parker School established in 1912 in San Diego. This study highlights the extremely rapid proliferation of open-air schools in California, an element of this history that is exceptional. The year 1910 is a turning point in this history, credited, not least, to Ayres's publication, *Open-Air Schools*, and to the founding of Fruitvale Open-Air School in August 1910. Dehesa Out of Doors School was founded shortly after in January 1911. It is also at this moment that the terminology "open-air" begins to be applied directly to these California schools, in contrast to the Polytechnic. This was a critical shift in the understanding of and approach to these new designs as they became recognized as a network of schools, making their similarities and differences increasingly significant.

In this chapter, I map the different strategies and the diversity of forms of California's open-air schools. I will foreground the connections across these schools and show their intersections, despite their differing forms and apparent agendas. The Fruitvale No. 2 Open-Air School for the Oakland Public School District, is an example of the recovery model of open-air school, which began in Europe and was designed to help cure ill and tubercular children. At Fruitvale, the focus was on improving children's physical health through the concerted infusion of fresh air into the classroom and into the children's lungs, as well as through the performance of specific physical fitness routines. Meanwhile, Fruitvale's students, who were perceived as disease prone, were publicly segregated from the normative population. Fears about dirt, dust, and disease fueled Fruitvale's design, a design inspired, in part, by tents used in hospitals to quarantine tuberculosis patients. Dehesa Out of Doors School, established by the San Diego County School District, represents an early case where a public school recognized the educational

value of open-air exposure even for healthy students, particularly because it markedly increased the students' focus and excitement about their school work. With the encouragement of the Superintendent, the Dehesa classroom was moved completely out of doors, where lessons were conducted under the shade of a nearby tree. Yet, traditional education and classroom structure persevered despite the entirely novel setting. At Francis Parker School, the environment reflected a more holistic view of children's welfare and the landscape drove the design. Natural elements, including the soil, were thought to purify the children, instilling wholesomeness, morality, and patriotism in the students, while improving their mental and physical health. Like the Polytechnic, the Francis Parker grew out of native California impulses, where regional cultural factors such as healthy living and progressivism and geographic features such as climate and topography influenced the school's design. The Francis Parker was an elaborate pedagogical and architectural private school experiment. More ephemeral and incremental efforts in the public schools, like Fruitvale and Dehesa, had varying levels of engagement with their new environment.

This chapter emphasizes the relationship between architectural innovation and pedagogical reform, using these three cases to identify the range of open-air solutions, from structures that had no impact on pedagogy to structures conceived as mechanisms for and in close dialogue with radical pedagogical developments. These examples are key in part because they represent different responses along a developing spectrum of open-air school designs. We will revisit Oakland and San Diego in the final chapter to trace the fruition of these experiments as these models were incorporated into the design of numerous schools in both cities.

Working the Body in the Bay Breeze: Oakland's Fruitvale No. 2 Open-Air School, 1910

Oakland's Fruitvale No. 2 Open-Air School was established as a medical experiment. It was constructed as an addition to one of the city's established public schools, which was a grand Victorian schoolhouse originally erected in 1895. In 1910, a small wood frame and canvas pavilion was erected at the rear of the playground, one hundred feet from the existing main building. The new open-air school was reserved solely for children judged to be of "weak" disposition. School medical personnel assessed all eligible children, and those who were identified as particularly susceptible to illness and disease were segregated from the heartier students in the open-air structure. The Fruitvale open-air school served dual purposes: one was to isolate "delicate children," who might readily contract and transmit sickness, and the other was to provide them the opportunity for rehabilitation. The school's goal was to "cultivate resistance in the physique of the child," ensuring that each student would be "toned up to the natural vibrations of health" and thus able to resist germs and disease.¹ Modeled after turn-of-the-century tuberculosis lunger tents and military hospital quarantine structures, explored in more depth later in the chapter, the open-air school enlisted architecture in the battle against ill children and the drive to create stronger youth. The school was designed by Oakland's school medical director, Dr. N.K. Foster, and by the Director of Physical Education, Professor Pfund, with support from the Oakland School Board.² A medicalized curriculum with specialized breathing exercises fundamentally influenced

¹ "School Children of Oakland to Recite Lessons in the Open Air: Health is Basis of Curriculum," *San Francisco Call*, August 2, 1910: 8.

² The actual architect of this project is not known, however, there is evidence that these gentlemen exerted some control over aspects of the design.

the structure's conception. The school was slated to be the first in a series of open-air schools installed on the grounds of Oakland's existing city schools.³ There was much excitement upon its opening, and the school received a full page article with many photographs in the *San Francisco Sunday Call*.⁴

From his initial appointment as Medical Director for the Oakland Public School District in August 1909, Dr. Foster set to work on creating an open air school in Oakland, which would be reserved for "weak and poorly nourished children...who lose ground in the ordinary school room."⁵ Dr. Foster was the former Secretary of the State Board of Health and had extensive experience with public health issues, particularly related to tuberculosis. While Director at Oakland schools, he remained on the advisory board for the state's tuberculosis commission, and his Oakland initiatives incorporated tuberculosis theories and treatments. Foster emphasized the importance of fresh air and abundant natural light as essential elements necessary to "building of life's foundation."⁶ Air and light, he believed, were able to actually disinfect the schools, places he, like other officials, saw as breeding grounds for disease. In addition to antibiotic properties, he claimed that the air and light would make superior children with cells immune to disease, giving "strength and vigor to the living cells, thus increasing the resistance of the child so

³ Following Fruitvale, there were other recovery open-air schools constructed adjacent to existing Oakland public schools, but they did not receive the same attention as Fruitvale, and it is unclear how similar they were in terms of program and form. In form, they shared some features, as they were also lightweight wood and canvas structures with a wainscoting base topped with a band of windows, but some of the subsequent examples appear to be rather simplified, resembling more the tent-style schools of the following chapter.

⁴ "R. Ellis Wales, "Fighting the White Plague in Oakland's Open Air School. The Corrective and Preventive Methods by Which It is Hoped to Accomplish Vast Benefits about Less Robust Boys and Girls," *San Francisco Sunday Call*, August 28, 1910.

⁵ "Open Air School Proposed by Physician," *Oakland Tribune*, February 9, 1910: 7.

⁶ "Health of School Children Subject is Demanding Increased Attention," *Los Angeles Herald*, Volume 37, Number 224, May 13, 1910.

that he does not easily fall a victim to disease.”⁷ Through his writings and public engagements, Dr. Foster’s aggressive approach to hygiene in Oakland’s schools and the important tangible relationship he saw between children’s health and the physical school environment was publicized across California.

Dr. Foster strengthened his case for Fruitvale’s open-air school by publicizing his school medical inspection reports in which he highlighted the “many defects present” in Oakland’s students, giving detailed counts of children with various medical issues. Dr. Foster’s campaign for open-air schools in Oakland was supported by Superintendent J.W. McClymonds, but it was also strongly backed by the Alameda County Society for the Study and Prevention of Tuberculosis, which was headed by Florence Sylvester of the newly designated Open Air School Committee.⁸ The committee was formed by the Society to research existing open-air schools and curative fresh air techniques and to lobby for the construction of open-air schools in the area. In 1910, when Fruitvale was conceived, medical administrators, such as Dr. Foster and Pfund, would have just read the recently published international survey of open-air schools by Leonard Ayres.

In 1910, American Leonard Ayres, wrote *Open-Air Schools*, a publication that was read and cited widely in California and across the U.S., even reaching audiences as far away as Japan and Scandinavia.⁹ Ayres was Associate Director of the Department of Child Hygiene for the Russel Sage Foundation, a New York based philanthropic

⁷ “Health of School Children Subject is Demanding Increased Attention.”

⁸ Just two years later, Foster appointed Sylvester as Oakland’s Instructor of Hygiene. Oakland Report of the School Board, 1911- 1912.

⁹ Leonard Ayres, *Open-Air Schools* (New York: Doubleday, Page & company, 1910).

organization dedicated to the improvement of social conditions.¹⁰ Through the Russell Sage Foundation and other similar philanthropic organizations he published numerous books on medical inspections of schools, physically and mentally handicapped children in schools, and improving school facilities.¹¹ Ayres wrote *Open-Air Schools* as an overview of the origins of the international project of open-air schools, focusing on the European-based recovery strand of open-air schools, and establishing a history for the spread of open-air schools from Germany to England to the East Coast of the United States. In the United States, he discussed the open-air schools' intimate connection to anti-tuberculosis campaigns, where the students, selected because of weakness in the lungs, were weighed and examined everyday by school nurses, wore specially-designed suits to keep warm in winter temperatures, and were served special meals. Ayres was regarded as such a reputable source on open-air schools that the city of Oakland selected Ayres in 1912 to serve on a special school board committee tasked with investigating the wide-spread implementation of open-air public schools, discussed in the final chapter. Ayres argued that, "the two greatest discoveries of recent times are the value of children and the virtues of an open-air life."¹² By 1910, when Ayres was writing, he declared that the open-air school movement was "to be reckoned with as an established feature of educational practice," as "few educational innovations have made so quick an appeal to

¹⁰ Founded for the "the improvement of social and living conditions" which focused on school reform and the implementation of "an outdoor life;" Ayres, *Open-Air Schools*, 4.

¹¹ Other books by Ayres: Ayres, *Laggards in our schools: A study of retardation and elimination in city school systems* (New York: Russel Sage Foundation, Charities publication committee, 1909); L. Gulick and Ayres, *Medical inspection of schools* (New York: Russel Sage Foundation, Charities Publication Committee, 1908); Ayres and M.A. Burgess, *School buildings and equipment* (Cleveland: The Survey Committee of the Cleveland Foundation, 1916); Ayres, M.A. Burgess, Cleveland Foundation, *Health work in the public schools* (Cleveland: The Survey committee of the Cleveland foundation, 1916).

¹² Ayres, *Open-Air Schools*, 8.

the popular imagination as did the open-air school.”¹³ Oakland, in particular, picked up on trends discussed in Ayres’ book, with its Fruitvale Open-Air School.

The idea that Fruitvale would be a school for “weak” children was inspired by the recent open-air schools in New York, Boston, Rhode Island, and Chicago, where anemic children, those with a predisposition for tuberculosis, or malnourished children, were sent to an outdoor school for rehabilitation. Upon witnessing the success of these makeshift open-air installments on rooftops and on ferry boats in the significantly colder climates of the Northeast and Midwest, these Oakland activists felt that their own rudimentary open-air school in mild California was guaranteed to succeed.¹⁴

Through its establishment of the open-air school at Fruitvale, the Oakland School Department was, according to an article in the *San Francisco Chronicle*, “keeping in touch with the advancement that is being made through the country for the betterment of the sanitation of educational institutions.”¹⁵ The national quest for school sanitation led not only to Oakland’s call for open-air schools, but also to an interest in the construction of bathhouses and showers in all existing public schools that could be used by children at all times.¹⁶ This drive for fresh air and bodily cleanliness stemmed from concerns about the spread of contagious diseases such as tuberculosis and the lack of sanitation in tenement housing and immigrant homes. As historian Suellen Hoy writes in *Chasing Dirt: The American Pursuit of Cleanliness*, the allies of tuberculosis were “dirt, dampness, and darkness,” and they were fought with, “cleanliness, pure air, and

¹³ Ayres, *Open-Air Schools*, 8, 5.

¹⁴ Clara Greening, “Nature Calls the Children. Beckons Pupils into Open as Panacea,” *Los Angeles Times*, September 24, 1911.

¹⁵ “School children to enjoy the open air. Oakland School Department Plans annexes and baths to benefit health of scholars,” *San Francisco Chronicle*, July 15, 1910: 4.

¹⁶ “School children to enjoy the open air.”

sunshine.” This pursuit of purity, realized through bathhouses and open-air schools, was also at times an attempt to Americanize immigrants: “By linking the toothbrush to patriotism, Americanizers clearly demonstrated that becoming American involved a total makeover of personal habits and loyalties.”¹⁷

Fruitvale’s students were singled out for treatment by the Oakland Schools’ Department of Health, Development, and Sanitation. However, the measures Dr. Foster and his team used to select the children were ambiguous. They identified children who were physically “below the average,” “who seemed most to need out-door life,” “who seemed to be for some reason below par,” who were “weak and poorly nourished,” or who were “lacking in vitality and [were] therefore susceptible to tubercular contagion.”¹⁸ While the emphasis here was on the purported benefit fresh air exposure might have on the students’ health and learning potential, the selection process also sorted, stratified, and exposed students. In the process, the district was also finding a way to redress overcrowding. When the Fruitvale addition opened, forty pupils were enrolled, from grades third through seventh, and Miss Lulu Beeler was selected as the teacher because she had prior experience working in an open-air school in the East.

Though its architecture was intentionally open, the school structure was described as a bastion against disease. In the newspaper article announcing its opening, the school was characterized as a warrior fighting an evil illness. A cartoon of a grim reaper, a skeleton cloaked in white, represented the white plague or tuberculosis. “Tuberculosis” was being speared by a muscular warrior man with a shield—for preventive protection—

¹⁷ Suellen Hoy, *Chasing Dirt: The American pursuit of Cleanliness* (New York: Oxford University Press, 1995), 89.

¹⁸ “School children to enjoy the open air.”

and an arrow—for offensive action (Figure 1). Fruitvale’s open-air school was employed as a preventative tool and a rehabilitating apparatus, demonstrating administrators’ and doctors’ confidence in the healing power of architecture. According to Dr. Foster, “The open-air school is the best thing we doctors know of to combat this disease in children, as our schools today are very poorly ventilated. ...Rich food and close quarters, such as most children have, will bring their crop of consumptives, and the open air school, at any rate for the delicate child, will do much toward guarding future generations.”¹⁹ Dr. Foster went so far as campaigning to make open-air school attendance compulsory, like vaccination, which suggested that architectural design was understood to be on par with other major contemporary medical innovations and preventative strategies.

To maximize the benefits of fresh air and hygiene in the open-air school, Dr. Foster and Pfund made precise design decisions. The square, wood frame school was raised to prevent underfloor dampness and allow for ventilation through cutouts in its podium base, since disease was believed to live in wet soil and stagnant water.²⁰ Each façade had a different treatment to reflect its solar orientation and relation to the San Francisco Bay, which at times brought heavy fog. The southern wall had tall windows that, when swung open, would essentially erase any sense of enclosure. But, the windows could also be closed when the bay breeze became too strong. The windows were topped with ventilation louvers, so that even when the windows were closed, the air could still flow through the structure. The east façade was completely open to the elements, with only a wainscoting base and a broad overhanging porch. A screen protected the students from insects, and a canvas awning could be lowered for shade or in

¹⁹ “Open Air Schools for Afflicted Pupils,” *Oakland Tribune*, March 30, 1911: 8.

²⁰ Hoy, *Chasing Dirt*, 61.

inclement weather (Figure 2). The north, which received the least sunlight, was covered with louvered shutters, but the louvers were operable and could be angled to moderate and direct air flow depending on the severity of the wind.²¹ Fruitvale's Principal Spencer acclaimed, "You cannot keep the air out of this building!" The *San Francisco Chronicle* claimed the school was "as free and open as a summer veranda."²² When the school bell rang, according to the *San Francisco Call*, the children "march directly into the school room [from the playground], unimpeded by swinging doors or doormats. When they seat themselves at their lessons they breathe the same air and recognize the odors of meadow, sea, and hillside, and enjoy the same benefits as when at play outside."²³ At Fruitvale, where the aim was the improvement of health broadly speaking, the school resembled, in principle and in form, a tuberculosis sanatorium.

This type of open-air school—a makeshift outdoor pavilion constructed of semi-permanent materials of wood and canvas—was likely modeled in part after tuberculosis recovery structures, referred to as lunger tents or tent houses, that were popular in California at the turn-of-the century. Fruitvale's open-air school design thus represents a fusion of contemporary medical directives with the educational environment. Tents were a common curative and preventative therapy for tuberculosis and would have been well-known to Dr. Foster, especially given his previous position on the State Board of Health. Tuberculosis tents were widely manufactured from 1900 to 1910, and many health-seekers embraced them as they searched for a better climate and more robust outdoor life

²¹ Wales, "Fighting the White Plague."

²² "School children to enjoy the open air."

²³ Wales, "Fighting the White Plague."

in the West.²⁴ The 1907 publication, *Gaining Health in the West*, announced that, “Living in a tent... is much in vogue, being frequently prescribed by physicians.”²⁵ Lunger tents, which were established in colonies, were the most convenient way to expose consumptives to fresh air, and many established California sanitariums grew out of these original tent colonies (Figure 3).²⁶ Beginning in the 1890s, tents were adopted by hospitals in the United States as an economical way of separating patients with infectious diseases from the main quarters. State authorities were also looking for quick and economical alternative shelters for the growing numbers of consumptives, attempting both to improve their health through exposure to the outdoors and to contain the disease. Just as the tuberculosis tents were intended to segregate populations, the designs of the Fruitvale open-air school also isolated and exposed the students it sequestered. Notably, there were several design similarities between tuberculosis structures and Fruitvale: a raised floor with openings for ventilation, a wood wainscoting base, a front porch, striped canvas roll-down shades, and a pitched roof with central ventilator at the peak (Figure 4).

The permeability of Fruitvale’s design meant that the interior of the structure, and the weak students contained within, were visible to their healthy peers on the exterior. Not surprisingly then, there was “vigorous objection” to the opening of the school, from the parents of the selected children and from the children themselves.²⁷ The parents did not want their children to be singled out, and the children were worried that the other

²⁴ Kristen Reynolds, *Well Built in Albuquerque: The Architecture of the Healthseeker Era, 1900-1940*, Thesis (University of New Mexico, 2011), 126-129.

²⁵ George Bacon Price, *Gaining health in the West (Colorado, New Mexico, Arizona)* (New York: B.W. Heubsch, 1907), 51.

²⁶ Katherine Ott, *Fevered Lives: Tuberculosis in American Culture Since 1870* (Cambridge: Harvard University Press, 1996), 147.

²⁷ Charlotte Canty, “Fruitvale open air school a success,” *Oakland Enquirer*, April 7, 1911.

students would tease them because they were “sick” and “kept in a hospital.”²⁸ The “normal” children at play on the playground could have seen the segregated children at work in their open-air school and would have been no doubt curious about their experience. The permeable open-air pavilion created a platform or stage that put these “ill” students doing their dances towards health on view. While the medical directors surveyed the students’ health and measured their bodies’ progress, there was also an act of inspection and voyeurism by peers as well. This public display and visualization of the children’s bodies was accentuated further by the fact that the students’ bodies were on display in photographs in the Sunday newspaper.

The initial fears of the parents and students were realized, and the teachers struggled with how to “combat the influence of the repeated taunts.”²⁹ Administrators attempted to make the open-air children comfortable with their new exposed environment. The initial solution was to give the open-air students “frequent talks” on the “advantages they were enjoying, assurances that they would have the laugh on the indoor children when the end of the term should prove the advantaged of open-air methods in giving them a better growth and development.”³⁰ The ultimate solution was to offer a prize to the child that gained the most weight and “from that time, the influence of the tormenting indoor children waned perceptibly.”³¹ Fruitvale established a competition between the indoor and outdoor students to see who could gain the most weight over the term. In the main school, the average gain was 2.36 pounds. In the open-air school, it was 3.7 pounds. The outdoor children were given no extra food, and the weight gain was

²⁸ Canty, “Fruitvale open air school a success.”

²⁹ Canty, “Fruitvale open air school a success.”

³⁰ Canty, “Fruitvale open air school a success.”

³¹ Canty, “Fruitvale open air school a success.”

credited all to exposure to the “pure, fresh air.”³² However, the focus on weight gain was just one element of the school’s extensive physical improvement program.

In addition to the unusual architecture, the school had a significant medical and physical fitness element in its curriculum, not unlike the Polytechnic. At the same time that the Oakland public schools were initiating medical inspections and developing the first open-air schools, they were also institutionalizing physical fitness. In 1908, the school district created the Oakland Public School Athletic League and the Physical Culture Department, the latter headed by Professor Pfund.³³ Pfund’s Physical Culture Department had three primary goals: improvement of bodily functions, especially those of the lungs and heart; prevention and correction of abnormal development, especially those caused by a sedentary school life; and the development of the body into a harmonious whole, that functioned through the complete control of will.³⁴ After Pfund was appointed, the roughly 20,000 pupils in Oakland schools performed regular breathing exercises.³⁵ His Physical Culture Department focused especially on improving lung function and posture, and these goals were markedly reflected in the practices at the Fruitvale open-air school.³⁶

The emphasis on physical fitness was supported by design modifications on the interior that ensured adequate acquisition of air and enabled specialized bodily training. The desks were on pivots, which allowed the students to rotate them based on wind direction. The height of the desk seats and the back supports could be adjusted for the

³² Canty, “Fruitvale open air school a success.”

³³ Oakland School Board Report, 1909-1910.

³⁴ Oakland School Board Report, 1911-1912.

³⁵ Wales, “Fighting the White Plague.”

³⁶ Oakland School Board Report, 1911-1912.

individual child. Since the desks were not bolted to the floor, as was the usual convention, they could be removed regularly and efficiently for “hygienic cleansing and fumigation.”³⁷ They could also be carried out of doors and installed in the school yard (Figure 5). In the *San Francisco Sunday Call*, two images of the same figure viewed from the front and the back function as an ergonomic study of a female student seated writing at a desk (Figure 6). A line sketched over her back and shoulders illustrates the poor curvature of her back when working at the desk: “All the weight is placed on left elbow, forcing left shoulder out of position, thus causing left lateral curvature of the spine. Pencil is in right hand, thus writing arm has no support.” The grave result of this traditional desk work: “This position brings about round shoulders, flat chest, weak lungs and possible ‘rotation’ of spine.”³⁸

The Fruitvale School became a sort of transforming gymnasium where the desks became the gym apparatus with which to work the body—stretching it, strengthening its muscles, and expanding its lung capacity. The architecture itself was a lung, opening and closing, breathing and infusing air into the children’s bodies as they performed their own breathing exercises. Directed by Pfund, the Fruitvale students regularly executed “chest expansion” exercises. The students, primarily female, sat on their desks with their hands behind their backs, arching backward and tilting their heads up toward the ceiling, opening their chests (Figure 7). The goal was to fight the “white plague” through increasing the volume of the lungs. The progress of each pupil was carefully documented and the results received praise. Frequently, school children increased their “expansion”

³⁷ Wales, “Fighting the White Plague.”

³⁸ Wales, “Fighting the White Plague.”

from 1.5 inches to 4.5 inches, sometimes up to 6 and 7.5 inches.³⁹ The students also did stretching and strengthening exercises for their back, sides, and stomach muscles.

Photographs show the students seated in their desks, anchored by the desk structure, they stretched out sideways, leaning with one arm raised straight and perfectly pointed fingertips (Figure 8). Fruitvale and the Polytechnic both shared an emphasis on physical fitness and health, but these two schools clearly inaugurated very different models of open-air education.

Women became particularly important receptors for such open-air treatments, as they were thought to be primarily responsible for the wellbeing of their offspring. In Mabel Potter Daggett's 1912 article, "Women: Building a Better Race," published in *The World's Work Magazine*, Daggett called for women to be the champions of health reform and better breeding: "The American woman is the leader of the awakened social conscience in a country-wide crusade that is cooperating to build a better race." Historian John Paniagua reflects on Daggett's article, arguing that Daggett "illustrates the primacy of the female body to positive eugenic thought by placing it at the center of a 'country-wide' crusade to build a better race."⁴⁰ The strengthening of women's bodies, as the vessels for unborn children, was employed as yet another tactic of positive eugenics. Mary Wood Allen, who wrote fashionable advice books for young women, asserted in her 1913 publication, *What a Young Women Ought to Know*, that "each girl's health is a matter of national and racial importance," because "evil traits and tendencies of mind or

³⁹ Wales, "Fighting the White Plague," 1910.

⁴⁰ John Paniagua, "California's Cult of Human Service: Eugenics in California from Soil to Science," *Argus-A Arts and Humanities* Vol. III No. 13 (July 2014), 5.

morals are transmissible.”⁴¹ It was popular belief that a wide variety of physical, mental, and behavioral characteristics were hereditary, and they were transferred, in particular, from mother to child. Therefore, by improving the quality of a woman’s body, mind, and moral integrity, it was assumed that superior offspring would result.

The strength, vitality, and morality of women and their children were thought to be improved by Pfund’s methods. Pfund said that he had found in every case, that the girls were weaker than the boys when the practice began, but later they surpassed them: “the girls are naturally softer and respond more readily to the treatment than the more hardened joints and muscles of the boys, whose muscles develop earlier.”⁴² The significant progress of the girls was a source of pride: “This is especially gratifying owing to the fact that the women are responsible to a greater extent for the future of our race...One can hardly imagine the great help this new open air school system will lend to our work, for it is really a labor of love, this scheme of making pure, sturdy youngsters.”⁴³

When young student Ruth White’s body was photographed and publicized in the newspaper to highlight her “perfect working system,” including her chest expansion of 6.5 inches, her private bodily functions became a valuable and commodified tool intended to secure the nation’s prosperity.⁴⁴ An image of Ruth shows her performing the breathing exercises in an ideal fashion. The image is of the profile of her body. She arches her back, her chest to the sky, hands on her hips. She wears a pure white turtleneck

⁴¹ Mary Wood Allen, *What a Young Women Ought to Know* (Philadelphia: Vir Publishing Co, 1913), 220; Harvey Green, *Fit for America: Health, Fitness, Sport, and American Society* (New York: Pantheon Books, 1986), 225.

⁴² Wales, “Fighting the White Plague.”

⁴³ Wales, “Fighting the White Plague.”

⁴⁴ Wales, “Fighting the White Plague.”

and a long skirt with her hair pulled neatly back into a curly ponytail (Figure 9). The caption read, “Graceful bending of the back (dorsal region) to strengthen weak back and develop lungs and chest and stomach muscles. Posture does not affect lower or lumbar region of spine hence there is no strain on kidneys.”⁴⁵ Ruth’s physical performance, lung capacity, perfect posture, and reproductive potential earned her accolades from the school medical administration, and it also gained her social popularity—she was “loudly acclaimed a favorite among a host of schoolgirl friends.”⁴⁶

Open-air advocate, Louise Goldsberry, noted in her international collection of outdoor schools that Fruitvale was a “pioneer for the Pacific Coast,” and the school was published internationally in T.N. Kelynack’s, *Year Book of Open-Air Schools and Children’s Sanatoria* from 1915.⁴⁷ In a 1911 article in the *Los Angeles Times*, Fruitvale was highlighted as promising salvation for children’s health: “No longer is the slow and backward child treated as slothful and disobedient, but rather as unfortunate and ill... The eyes, the teeth, the stomach are taken into consideration; adenoids and throat affections are looked after, and defective hearing investigated. All this had had its affect, and there is no doubt that a stronger and better race is growing up in consequence.”⁴⁸ The Fruitvale School marked the beginning of a new relationship between public health and the school system, the normalization of medical supervision of students, and the introduction of open-air principles in the public schools. The doctors’ integral role in the design of the structure, the structure’s relationship to therapeutic tuberculosis forms, the medicalized

⁴⁵ Wales, “Fighting the White Plague.”

⁴⁶ Wales, “Fighting the White Plague.”

⁴⁷ T.N. Kelynack, *The Year Book of Open-Air Schools and Children’s Sanatoria: A Companion Volume to “The Tuberculosis Year Book and Sanatoria Annual”* (London: J. Bale, Sons & Danielsson, 1915).

⁴⁸ Greening, “Nature Calls the Children.”

curriculum, and the architecture's role as complement to the physical fitness activities make Fruitvale a distinctive example of California's recovery model of open-air schools. In Oakland, the public school expanded its responsibility over children's bodies, and employed the building itself as a tool for protecting and controlling the students within and as a means of ensuring the success of the physical exercises and improving bodily conditions. We will return to Oakland in the final chapter to investigate the broader effects of this initial interest in open-air schools and children's health.

Patriotism Under the Peppercorn Tree: Dehesa Out of Doors School, 1911

In the same *Los Angeles Times* article from 1911, Fruitvale is pictured along with another open-air school, the Dehesa Out of Doors School from San Diego County. "Nature Calls the Children...California Schools With Plenty of Air...North and South are adopting the open or actual outdoor method of teaching," the image was captioned.⁴⁹ However, Dehesa Out of Doors School, which opened in the El Cajon Valley in January of 1911, was noticeably different from Fruitvale. At Dehesa Out of Doors School, classes took place outside, in an open space under the shade of a peppercorn tree that was adjacent to the existing schoolhouse, now vacant except the rare occasion when it rained. The children sat in two rows in fixed sleigh desks with one desk each attached to the next. The rigid desks were simply the same desks they had been using, only they had been moved outside. At Dehesa, there was no structure at all. The desire for fresh air was so great that the enclosing walls of the classroom had been removed completely (Figure 10). In San Diego, these early experimental open air schools were a way to

⁴⁹ Greening, "Nature Calls the Children."

appease fresh air and health advocates and relieve overcrowding while making San Diego look like a health conscious and fashionable region. Dehesa's minimal classroom furnishings were also evidence of the patriotism associated with open-air schools; when the classroom moved outside, they brought only the essentials—their books, their desks, and a large portrait of Abraham Lincoln draped in the American flag. Dehesa's teacher was Miss Marie Coates, and her desk, adorned with a vase of freshly picked flowers, was placed as the focal point of the "classroom" (Figure 11). The caption of the photograph read, "See this happy little San Diego County school studying under the pepper trees, where the fierce light is tempered by the shade."⁵⁰ While "nature called the children," it wasn't an unregulated nature at Dehesa and Fruitvale, nor at the Polytechnic; the sunshine, for example, was a healthful advantage, but it also had to be regulated—if not by a roof, louvers, or canvas fabric, then by the leaves of a tree.

Miss Coates, San Diego County Superintendent Hugh J. Baldwin, and the school children themselves were credited with creating Dehesa. The children were especially enthusiastic about the school and "worked earnestly for its success," a stark contrast to Fruitvale's early days where segregation and exposure caused concern and hesitation among students.⁵¹ The out of door class was first tested on January 1st. Superintendent Baldwin came to the school and asked the students at the end of the day whether they would like to continue to study in the school yard or go back into the building. The students voted unanimously to remain out of doors. They took ownership of their new open air class, helping to craft the space, moving old seats, refurbishing them, and arranging them in rows under the tree. Miss Coates reported to the superintendent that

⁵⁰ Edward Hyatt, *School Architecture in California* (Sacramento: Government Printing Office, 1914), 59.

⁵¹ Greening, "Nature Calls the Children."

the children were more “orderly” and had more “delight in their studies” now that they were out of doors. The outdoor atmosphere helped the students to focus and take more “interest in their work that was not apparent in the school room.”⁵² And most importantly, they were more productive: “I believe the outdoor school will accomplish more in eight months than the ordinary school does in ten,” Superintendent Baldwin surmised.⁵³

Dehesa was the first of eight such schools in San Diego County that abandoned the main school house and decided instead to hold classes in the open air. Superintendent Baldwin hoped that one day every school in the county would be conducted out of doors: “The day is coming when California will be known as the great open-air school of America” Baldwin claimed.⁵⁴ It is worth noting that Dehesa’s open-air arrangement was also the least expensive open-air solution possible.

Dehesa and Fruitvale were small public school experiments, and they existed within an accepted educational framework and traditional system. While Fruitvale could be an example of an open-air school design working towards new educational goals, at Dehesa, the function and arrangement of the open-air school remained the same as the previously indoor classroom, despite an entirely new environmental design. Though the quest for children’s health manifested spatially as openness, it did not necessarily encourage freedom. Although Dehesa’s students were completely outdoors, they were still restricted to traditional fixed desks, set in rows, facing a singular teacher and her desk. The potential for freedom, adventure, and wildness was now restrained by imaginary walls. Fruitvale had a conventional arrangement of desks, but the familiar

⁵² “First outdoor school successful in country. Pupils of eight county institutions abandon rooms for open air,” *San Diego Union*, April 7, 1911: 8.

⁵³ “First outdoor school successful in country.”

⁵⁴ “First outdoor school successful in country.”

classroom envelope and the interior objects were transformed. Desks were mobile and transformative, windows and louvers were added to walls, and walls were subtracted in order to enhance, but also to continue to control, outdoor exposure. While Dehesa no longer mediated the outdoors with a building, the weather was still tempered by the canopy of a tree. Fruitvale altered the classroom envelope and Dehesa removed the envelope, yet these two examples were hesitant to fully embrace the educational opportunities afforded by the new proximity to the landscape. This resistance to wholly engage with the exterior environment also prevented the spatial design from either evolving or innovating over time. Paternalism was also written into the establishment of both Dehesa and Fruitvale, and their singular focus on health and success. At these schools, children were positioned more as passive recipients rather than active agents in their learning, exploration, and bodily experience of the open-air environment, as they undertook orchestrated exercises in regimented rows. However, just one year later, also in San Diego, Francis Parker open-air school was founded, and it introduced a design approach that more wholly integrated the outdoors and created new educational practices and opportunities for children's active engagement through the importance of the landscape. Though Francis Parker was an experimental private school, it ultimately had an immense impact on the public school system.

At the Border of Indoors and Out: Francis Parker School, San Diego, 1912–14

The outdoor and in-between spaces offered by open air schools could become places for curricular creativity, even if this was not necessarily the case at either Fruitvale or Dehesa. In the hands of some open-air school proponents, the landscape could become

a laboratory and space of exploration, and the earth became a material that the students molded for their learning. At Francis Parker School, education and landscape were conceived holistically, and the students engaged productively with the soil. The school used playing in the dirt as a way to enhance progressive educational ideas and to aid in the absorption of American values, such as democracy, wholesomeness, and hygiene. The Francis Parker School was founded in San Diego in 1912 by Clara Sturges Johnson. Her husband, architect William Templeton Johnson, was credited as the designer of the structure, but it was his wife, Clara, who sought out and integrated progressive curricular ideas with open-air architectural innovations. California open-air schools took hold because of an agreeable climate, but motivated idealists, like Clara, were ultimately a more important factor in their success. The *American School Board Journal* noted that California was setting a new trend. Through the region's progressive culture, school architecture was being transformed: "The designers and buildings of the Pacific Coast have been unusually active, partly because they are blessed with an outdoor climate and partly because they are naturally of an experimental and ultra-progressive turn of mind."⁵⁵

The Johnsons had arrived in San Diego in 1911 from Paris, where William had been studying architecture at the Ecole des Beaux Arts. The Johnsons were concerned that the education system in San Diego was not sufficiently progressive for their four children, Winthrop, Arthur, Alan, and Katherine, so they decided to start a school of their own, hoping to help improve education in the community at large. The Francis Parker School officially opened on December 31, 1912, operating in a previously residential

⁵⁵ C.M., "An Open Air School for Healthy Children", *The American School Board Journal*, 1914: 25-26.

structure on the corner of Randolph and Fort Stockton (formerly Getti) Streets in the Mission Hills neighborhood. Classes were first held in the small bungalow remodeled to contain two classrooms with a large screened porch. Initially there were only three students, two of whom were the Johnsons' children. By 1913, the school had quickly expanded, moving into a new building of its own and enrolling twenty-six students. A new, purpose-built structure was dedicated on November 26, 1913. The new school was located in the same residential neighborhood on Randolph Street in between West Arbor Drive and Plumosa Way. The school was situated next to a scenic canyon overlooking Mission Valley. By 1914, there were sixty students and the school enrolled all grades, Kindergarten through twelve.

Like the Polytechnic, the Francis Parker was planned in phases to allow for growth. When the school was first constructed, only the west wing of the quadrangle was built, but by 1919, the structure would form a hollow square, with four bars enclosing a large courtyard one-hundred feet across (Figure 12).⁵⁶ The building was wood frame construction and clad in stucco. The school was one-story high for convenience and ease of access to outdoors, and also for fire safety reasons (Figure 13). A short staircase led from the street level to the entrance, which featured a wooden trellis (Figure 14). The front doors were comprised of large panes of glass topped with transoms, which made them unusually transparent. The glass doors allowed a direct view onto the courtyard interior, the defining feature of the school. The interior courtyard was surrounded on the sides by a covered portico, much like the Polytechnic (Figure 15). The four-sided portico

⁵⁶ In 1914, a south wing was added and a north wing was built in 1918. In 1919, the east wing was completed with a new auditorium, enclosing the courtyard. Ethel Mintzer Lichtman, *The Francis Parker School Heritage* (San Diego: Francis Parker School, 1985), 7.

at the Francis Parker meant there was always a leeward side free from wind and rain, so regardless of weather, children could study, work, or play out of doors and stay dry (Figure 16). All of the classrooms opened onto the portico and courtyard with a special folding-sliding door system. But the truly critical feature of the Francis Parker's open-air success was not the school's architecture, but the school's landscape—a lush central courtyard, expansive school gardens, and a natural canyon at the edge of the site.

Each school day at Francis Parker began in the courtyard with a hearty salute to the American flag. In an article in *The California Outlook: A Progressive Weekly*, entitled “Where Lessons Come from Real Things,” William discussed the new school.⁵⁷ The article was anchored by a photograph of some forty children of various ages clustered together and paying tribute to the nation. The patriotic group was convened in the courtyard framed by the low-lying Mission Revival structure, complete with red tile roof. The picture was captioned with an enthusiastic dose of American moralism: “That nation shall endure forever whose people have entered the path of self-control and world-wide sympathy” (Figure 17). This was the school's motto, selected by Clara.⁵⁸ As an institution, Francis Parker School moved well beyond the familiar mission of education and into hygiene, moralization, and Americanization. The school expressed the desire to produce efficient and patriotic citizens and to develop a regional history and culture. At a time of rapidly expanding immigration and the beginnings of World War I, patriotism was becoming an important theme.

⁵⁷ William Templeton Johnson, “Where Lessons Come from Real Things: The Parker School in the Open Air at San Diego, California,” *The California Outlook: A Progressive Weekly*, Nov 7, 1914, Vol. XVII No. 19, p. 8-10, reprinted from *The Survey*: 8

⁵⁸ Alan Winthrop Johnson, “Notes on Clara Delafield Sturges Johnson (1877-1969),” Francis Parker School Archives, 1992.

Clara founded the Francis Parker as a model school intended to help shape the future development of public schools in San Diego. Clara funded the school's establishment and supported it financially long after its initiation; for many years when the school was in debt, she used her own money to keep it afloat. A privately funded experiment, the school's curriculum and architecture were intended to inspire a more progressive approach to education across the city. According to the founders of the Francis Parker, "What Makes a Good School" included the following: "To create conditions and environment which will promote: 1. Health. 2. Independent thinking and use of initiative. 3. Correct mental habits. 4. Appreciation of beauty. 5. Democratic attitude toward fellow beings. Ultimate Goal - Good citizenship."⁵⁹ As at Fruitvale and the Polytechnic, health was a primary concern. The Johnsons felt that if a child was in "perfect physical condition, his mental and moral possibilities [were] correspondingly advanced."⁶⁰ The open-air design was critical for achieving this goal. Most of the school work took place outside, but even the classrooms were designed "to have the air as fresh...as it is out of doors".⁶¹ The Johnsons hoped that the architecture and the environment they created would inspire the transformation of public schools in San Diego. As Francis Parker's first principal, Adele Outcalt, asserted: "The founders of the Francis Parker School wished to maintain a school which should by virtue of its opportunities – environment, architecture, superior teaching force, freedom, small classes

⁵⁹ "A Good School," Francis Parker School Archives: 70A.

⁶⁰ William T. Johnson, "An Ideal Out Door School," *Normal News Weekly*, San Diego, April 30, 1914.

⁶¹ Johnson, "An Ideal Out Door School."

and advanced methods, be able to point the way for the Public Schools.”⁶² Remarkably, it was successful in this aim.

Clara Delafield Sturges Johnson

It was a combination of William’s passion for the outdoors and Clara’s ideas about Progressive education that helped to create the school’s exceptional physical environment. Clara and William Johnson had very different backgrounds. Clara came from a wealthy family with a long history of involvement in philanthropic efforts and social reform, including in the areas of mental hygiene, prison reform, founding homes such as Jane Addams Hull House, and education development at the University of Chicago.⁶³ Clara was the seventh child and youngest daughter in a family of nine children. As the youngest daughter, she was given less education than her older sisters which in turn drove her investment in education. Coming from Chicago, Clara was disappointed in the lack of progressive options in San Diego and felt that the schools were too “regimented”.⁶⁴ Clara’s sister’s children attended the Francis Parker School in Chicago, and this school served as an initial curricular model for the Francis Parker in San Diego.

Clara was passionate about many causes and used her wealth to increase her influence. According to her son, “Mother used money, social position and quiet persistence in one-on-one situations and in use of her lap-held portable typewriter to gain

⁶² Adele Outcalt, “Answers to Questionnaire from Mr. Caldwell, Lincoln School, NYC,” 1918, Francis Parker School Archives.

⁶³ A. Johnson, “Notes on Clara”.

⁶⁴ Clara married William Templeton Johnson in 1905, and they traveled together to Europe where Johnson studied architecture. The Johnsons decided to settle in San Diego where Clara had spent vacations with her family on Coronado. A. Johnson, “Notes on Clara”.

her ends.”⁶⁵ The development of the Francis Parker was fed by her enthusiasm and devotion to progressive causes; the school gave her a chance to promote and realize her idealized vision of American culture and democratic politics. As “a thoroughgoing idealist” she was “never a docile person” and “constantly worked to proselytize people to her current endeavor.”⁶⁶ The son recalled that, “[s]he was a one person clipping service,” showering relatives and friends alike with “things which ought to be of interest to you” or cajoling you to “be sure to write your congressman about this.”⁶⁷ This political and social drive was directly channeled into the founding and development of the Francis Parker School and into the education of the children in attendance. She was especially concerned about women’s movements and “[s]he bobbed her hair, learned to drive, and relished women’s new right to vote.” The socially progressive political bent that Clara infused in the school was controversial, however, and stirred tensions between a more neutral principal Outcault and a zealous Mrs. Johnson. In a letter to Mrs. Johnson in 1920, Outcault threatened her resignation as principal unless the school eliminated religious, social, or political propaganda. Outcault felt that the purpose of the school was “purely educational” with “open-mindedness to everything.”⁶⁸ But, Clara used the expressly crafted educational environment and curriculum as a way to promote specific political beliefs and policies, encouraging lessons in citizenship duties and democratic

⁶⁵ “The Beginnings of the Francis W. Parker School,” based on remarks of Alan Winthrop Johnson, April 25, 1987, Francis Parker School Archives.

⁶⁶ “The Beginnings of the Francis W. Parker School,” based on remarks of Alan Winthrop Johnson, April 25, 1987, Francis Parker School Archives; Bowles Parker School Critique (granddaughter of Sturges Johnson, class of 1949), Teaching Credential Term Paper at Cal Western, 1969-1970, Francis Parker School Archives.

⁶⁷ A. Johnson, “Notes on Clara”.

⁶⁸ Letter from Adele Outcault to Mr. and Mrs. Johnson, March 10, 1920, Francis Parker School Archives.

process, immigration and foreignism, American agrarian values, and California colonial history.

Historian Kevin Starr attests that as California expanded, women sought “an expansion of opportunity.” Their struggle “added to the cumulative reform sentiment gathering strength in California.”⁶⁹ At least for elite women, like Clara, their sphere of influence had expanded in the late nineteenth century from the home to include the “social good of families and children in many settings,” including schools, writes historian Kathleen Weiler.⁷⁰ Historian Sherry Katz notes that women participated in a type of “civic maternalism” and “child saving,” which included a focus on children’s health and an interest in well-fed and well-groomed bodies.⁷¹ These goals were often enacted through a molding of environments inhabited by children, where, at the Francis Parker for example, physical structures as well as formal and informal lessons reinforced both morality and personal care. In *City for Children*, architectural historian Marta Gutman argues that privileged women embraced architecture as a means to shape childhood.⁷² Though they were not architects, women, such as Clara and Virginia Pease Hunt, nonetheless, played significant roles in the shaping of the civic landscape. In *California Progressivism Revisited*, editors William Deverell and Tom Sitton argue that California’s Progressive Era history needs to be broadened to include powerful women actors. Clara is just such an actor and at the Francis Parker, she practiced her “civic

⁶⁹ Kevin Starr, *Inventing the Dream: California through the Progressive Era* (New York: Oxford University Press, 1985), 218.

⁷⁰ Kathleen Weiler, *Country Schoolwomen: Teaching in Rural California, 1850-1950* (Palo Alto: Stanford University Press, 1998), 11.

⁷¹ Sherry Katz, “Socialist Women and Progressive Reform” in *California Progressivism Revisited*, eds. William Deverell and Tom Sitton (Berkeley: University of California Press, 1994), 117.

⁷² Marta Gutman, *A City for Children Women, Architecture, and the Charitable Landscapes of Oakland, 1850-1950*, (Chicago: University of Chicago Press, 2014), 179.

maternalism,” using architecture and landscape design to initiate change in the public school environment and system.

At Francis Parker, Clara was responsible for carefully crafting the environment of the school, including the selection of personnel. She was determined to enlist only the best educators and to support their development of a progressive curriculum and atmosphere. The first principal, Adele Outcault, was a successful high school teacher in Los Angeles when she was offered a full salary to leave her position to direct their nascent school of only a handful of students. Outcault, who was at the time, President of the Federation of College Women, initially thought the offer “absurd.”⁷³ But, Outcault accepted the position the following year and was sent by the Johnsons to visit and study the original Francis Parker School in Chicago. She was also sent to the Berkeley Demonstration Play School, where she was introduced to Clark Hetherington, a radical progressive educator and notably, a physical education specialist and pioneer of the American play movement. Hetherington had published “Fundamental Education” in 1910, an important paper that encouraged educational development primarily through physical activities, activities that would develop the student’s physique as well as motor, mental, and social skills.⁷⁴ This emphasis on physical fitness dovetailed with the open-air design, as outdoor physical activity became a key focus of Francis Parker’s curriculum Clara helped to establish.

⁷³ Adele Outcault, “History of the Francis Parker School in San Diego (from Sept. 1913 – June 1920),” 1924, Francis Parker School Archives.

⁷⁴ Hetherington, “Fundamental education,” *Physical education III*, National Education Association of the United States, Journal of Proceedings and Addresses, 1910.

Francis Parker School Chicago

The philosophy and curriculum that Clara developed at the Francis Parker School in San Diego began with the ideas of Chicago educator, Colonel Francis Parker. Education historian, Lawrence Cremin calls Colonel Parker the “first home-grown hero of the progressive education movement,” who developed a distinctly American vision for twentieth century education.⁷⁵ Parker was the director of the School of Education at the University of Chicago and an inspiration to John Dewey, who regarded him as the “Father of Progressive Education.”⁷⁶ Colonel Parker established the Francis Parker School in Chicago in 1901. The three principles of the Chicago school became the mission of the San Diego school as well: “the needs of society determine the work of the school; the supreme need of society is good citizenship; the one purpose of the school is to present conditions for growth into ideal citizenship.”⁷⁷ The Johnsons, however, added one element to Colonel Parker’s initial statement: “that of adapting the architecture to the educational aims”.⁷⁸ While the Johnsons did not share Gosney’s negative eugenicist inflections, they too regarded the environment as critical to the shaping of the whole child, mind and body. In this case, the Johnsons understood the power of environmental design to shape children from the vantage point of current theories and practices in architecture, and they ensured that architecture and landscape was an essential component of their Progressive education techniques.

⁷⁵ Lawrence A. Cremin, *The Transformation of the school; Progressivism in American Education, 1876-1957* (New York: Knopf, 1961), 129.

⁷⁶ “Biography: Francis Wayland Parker,” Francis Parker School Archives.

⁷⁷ Johnson, “Where Lessons Come from Real Things,” 8.

⁷⁸ Johnson, “Where Lessons Come from Real Things,” 8.

Colonel Francis Wayland Parker was influenced by American pioneers, such as Horace Mann, and also by educators in Germany, where he had traveled.⁷⁹ As principal of a school in Massachusetts, he transformed the traditional curriculum focused primarily on standard readers and recitation and, instead, had students read newspapers, write their own books, take field trips to study geography, and pursue art and drawing as a way to develop manual skills. He developed a child-focused educational model, and his school was organized as a “model home, complete community, and embryonic democracy.”⁸⁰ Rather than discipline, he favored instilling a sense of responsibility in the students. Parker’s ideal school would develop children of bodily, spiritual, and mental perfection. While serving as an administrator in the public schools, based on traditional education practices, Parker felt restricted from fully enacting his radical ideas. So Mrs. Blaine, a wealthy philanthropist in Chicago, financed a new private school for him, the Chicago Institute, which was later renamed Francis W. Parker School. The Johnsons critiqued Francis Parker’s lack of concern for the school’s architectural design, but they shared his emphasis on exposing children to the outdoors. At the Francis Parker in Chicago, study periods “alfresco,” or out of doors, were regular.⁸¹ The school focused on outdoor exposure and nature study, including field trips to sand dunes to collect wild grapes, rose hips, and prickly pears to make jelly.⁸² Colonel Parker told the National Education Association in 1889, “The child is born a naturalist.”⁸³ Clara adopted these ideas and

⁷⁹ “Biography: Francis Wayland Parker,” Francis Parker School Archives.

⁸⁰ “History and curriculum of the Francis Parker School in Chicago,” Francis Parker School Archives.

⁸¹ “Biography: Francis Wayland Parker,” Francis Parker School Archives.

⁸² “History and curriculum of the Francis Parker School in Chicago,” Francis Parker School Archives.

⁸³ Peter J. Schmitt, *Back to Nature; the Arcadian Myth in Urban America* (New York: Oxford University Press, 1969), 77.

employed the school's architecture as a key component to further shape a curriculum focused on the environment and hands-on learning.

Clara also drew inspiration from Parker's colleague in Chicago, John Dewey. The relationship between environment and education was also critical to Dewey's philosophy. One of Dewey's ideas that inspired the Johnsons was his connection between education and daily life so that "the school is not a preparation but is life itself."⁸⁴ The Francis Parker brochure acknowledged the influence of Dewey: "Recognizing that childhood is in itself an important period of life and not merely a period of preparation, the school aims to surround the child with conditions that meet real needs which the child appreciates."⁸⁵ Principal Outcault likewise emphasized the importance of Dewey's educational philosophy:

The principle of learning by doing was to be applied to the bringing up of our citizens. Again, we followed Dewey's idea that the school should be an embryonic society to which each one should contribute his talents—to which he must recognize a sense of responsibility...The object of the founders originally was to found a school which, by its environment, its methods, its opportunities, would develop (the) young for participation in citizenship—the world's work.⁸⁶

Recalling Fruitvale's open-air school, the children were prepared for "the world's work," through directed development of their bodily health. However, at Francis Parker, the students were encouraged to nurture individual talents and embrace leadership through progressive education techniques and the cultivation of a profound relationship with the outdoors.

⁸⁴ Johnson, "Where Lessons Come from Real Things," 8; Outcault, "History of the Francis Parker School."

⁸⁵ Francis Parker School brochure, 6, Francis Parker School Archives.

⁸⁶ Lichtman, *The Francis Parker School Heritage*, 15-16.

The Johnsons and the Architecture

Like Clara, William was passionate about community affairs and became a civic leader in his own right.⁸⁷ In San Diego, he served as the President of the American Institute of Architects, the Parks Commission, and the Planning Commission, and he participated in other municipal organizations. Though William was an architect, his wide-ranging interests influenced his designs. As *The American School Board Journal* observed, “[William is] an architect who is not only a good designer of buildings, but very much a student of education, sociology, and public health.”⁸⁸ William’s interest in outdoor education and appreciation of the natural environment began early on, and he was known locally as an outdoor man and an active sportsman. William’s father died when he was young and he was raised by his mother and two aunts, one of whom was a botanist and botanical artist. They lived in a large house with an extensive yard that included an arboretum and fruit trees, which helped to instill a love of gardens and embrace of an out of door lifestyle.⁸⁹ In an essay, “An Open Air School in California,” published in the *Normal News Weekly* in 1914, William began with a quote by Robert Louis Stevenson: “Though we should be grateful for good houses, there is no house like God’s out of doors.” Direct access to the outdoors and outdoor educational spaces were critical to the conception of the Johnsons’ design. For the Francis Parker, the “architect’s goals” were: “1. To make the air in the class rooms as fresh and pure as the outer air. 2.

⁸⁷ Johnson (1877-1957) studied at Columbia University and married Clara in 1905, before moving to Paris to study architecture at the Beaux-Arts from 1908 to 1911. He is today a relatively unknown architect; however, he designed a number of important buildings in San Diego and was elected as a fellow to the American Institute of Architects in 1939. His other works include the La Jolla Athenaeum, his first public commission (1921); the Fine Arts Gallery in Balboa Park (1926); the San Diego Trust & Savings Bank (1928); and three American exhibit halls at the Iberian-American Exposition in Sevilla, Spain (1929). His most important commission was the Junipero Serra Museum on Presidio Park Hill (1929).

⁸⁸ C.M. “An Open Air School for Healthy Children.”

⁸⁹ “The Beginnings of the Francis W. Parker School.”

To construct a practical and efficient building at low cost. 3. To achieve artistic effect by good proportions and pleasing color rather than by the use of lavish and expensive ornament.”⁹⁰

The Craftsman Magazine regarded the Francis Parker as the opposite of an institutionalized city school, describing its environment as more residential: “There is nothing of the great, dull, prison-like severity of a city school. It looks more like a beautiful home...The children are free to move about at will and there are many play hours when they may dance, run about, shout and play.”⁹¹ Like the Polytechnic, Francis Parker’s design evoked domesticity with its residential scale, simple craftsman details, and proximity to gardens. The one-story open-air school allowed a freedom and ease of access to nature that was thought to enhance children’s appreciation of the natural world:

Education in an open-air school puts the child in possession of a knowledge, and therefore an appreciation of plant, bird, butterfly, and four footed animal-form, or stars and winds. They learn to observe and to enjoy all those myriad mysteries of Nature that are a closed book to most people. Their eyes read wonderful tales in leaves and stones, their ears hear melodies of tress and falling water, their hands know how to weave and to build, their feet to dance lightly or march sturdily and tirelessly.⁹²

The contrast in this last clause—“to dance lightly” or to “march tirelessly”—is also evidence of the opposing intentions in the open-air schools, a tension between child-centric freedom, play, and art and an assurance of national security and prosperity.

The architecture of the school took advantage of California’s climate, a local advantage that was heavily advertised in the school’s marketing materials: “The climate of California offers unlimited opportunity for out-door life, and a large part of the school

⁹⁰ Johnson, “An Ideal Out Door School.”

⁹¹ “Studying out of doors: an open air school that furnished a new ideal in education,” *The Craftsman Magazine*, Vol. XXX, No. 6 (Sept 1916), 539 -546: 545

⁹² “Studying out of doors”, 546.

work is conducted in the open air.”⁹³ For those parents concerned about too much time spent directly outside and the effects of weather, there was the important caveat that the school’s architecture mediated the natural environment by protecting the children from the “excesses of the weather” but still allowed the “buoyancy that belongs to life outdoors.” Through its architecture and its curriculum, Francis Parker offered an outdoor life, however, it was mitigated by interstitial spaces such as the covered portico and a dual sided ventilation system.⁹⁴ The Johnsons developed a special door mechanism for the open-air classrooms, a unique system of folding-sliding doors. The classrooms’ courtyard walls had large doors that folded accordion-style and then slid back into a stack in the corner or the room, allowing the rooms to open entirely to the exterior on one side. The accordion door system, was also used between classrooms, so neighboring rooms could open onto each other and expand the space (Figure 18). The opposite walls on the school’s exterior had wide French windows topped with operable transoms, allowing extra transparency and ventilation. The transoms could be opened in all weather, ensuring fresh air even in inclement weather. There was no central heat system, but the classrooms had small wood stoves which were very rarely used.

When deciding how to open-up the classrooms onto the courtyard, the benefits and drawbacks for learning with such an open plan were considered. The Johnsons debated whether or not the learning situation would be hindered by the noise of students traveling in the portico from one class to another. This was an important consideration as the doors were almost always kept open – for example, they were closed only twice during the 1914-1915 school year. They decided that the potentially noisy and distracting

⁹³ Francis Parker Brochure, 1914-1915, Francis Parker School Archives.

⁹⁴ Francis Parker Brochure, 1914-1915.

situation could be a learning experience in itself about respect and democracy, as the children would have to learn to be quiet and considerate, practice civility, and learn “the mores of a free but orderly society of cooperating individuals.”⁹⁵ The brochure confirmed the importance of these ideas: “the best education cultivates high ideals, self respect, and consideration for others.”⁹⁶ These considerations echo the elements of self-control central to the conception of the Polytechnic.

The climate-responsive architecture at Francis Parker supported a healthful and disease-free environment. Health was carefully monitored with a physical examination and mental testing, following Lewis Terman’s popular modification of Simon and Binet’s Intelligence Quotient test, was required of pupils each year. At Francis Parker, physical measurements were also regularly taken and recorded to help track the pupils’ physical conditions. Principal Outcault wrote, “Since a well body is a necessary tool for efficiency, the school purposes to create an environment which will help to conserve health.”⁹⁷ As at Fruitvale, the environment was a tool used to improve the children’s bodies, and both schools had distinct medical components that furthered this pursuit through the surveillance of bodies, physical and mental measurements, progress charts, as well as specific play and fitness routines. Both schools also employed innovative operable door and window strategies to infuse the children with air, rendering the architecture itself a breathing mechanism. In an act of persuasion, the Johnsons compared a count of contagious outbreaks at Francis Parker to those at the public schools in the hopes of convincing the public schools of the success of the open-air school model: “Results of

⁹⁵ “The Beginnings of the Francis W. Parker School.”

⁹⁶ Francis Parker Brochure, 1914-1915.

⁹⁷ Outcault, “Answers to Questionnaire.”

this healthful environment are shown by the fact that while in the public schools of San Diego there have been during the winter the usual number of cases of children's diseases (measles, mumps, etc.) there has not been a single contagious disease among about sixty children at the Parker School."⁹⁸

In addition to design strategies supporting children's health, such as responding to the local climate, the Francis Parker, designed in the Mission revival or Spanish style, reflected the regional culture and history. The low-lying simple stucco exterior of the Francis Parker recalled the Franciscan missions, such as the nearby Mission San Diego. Mission San Diego also rolled along a hilltop, the horizontality accentuated by the flat tile roof. Francis Parker and the Mission shared a similar plan—both were hollow square forms with main front façade and a large, interior court. The rooms of the mission opened onto the courtyard, as did the classrooms at the Francis Parker. In the case of Francis Parker, the mission revival style had three purposes: to create a California history, to bring the architecture closer to the earth by using simple materials and forms instead of lavish ornament, and to use hand craft and hand construction to encourage a less industrial, but more industrious, lifestyle. The mission style was praised for its closeness to the earth and its harmony with nature, fitting for open-air schools where children were educated in the outdoors.

The mission style gave isolated and remote California an idealistic style that was specific to the story of the place. In *The Craftsman* magazine, the mission revival exemplified the qualities of the Arts and Crafts, and was admired for its simplicity and reflection of the setting:

⁹⁸ Johnson, "Where Lessons Come from Real Things," 570.

Ornamentation was not often attempted. These buildings have also the beauty that rises from adaptation to environment. Balanced, unified, symmetrical, crowning gentle mesa or valley slope, they are of the never failing proportions that seem to multiply and melt into the mystery of the changeable hills beyond... Built of the earth, these old structures seem at times as if not made by man but by Nature. For they repeat in long stretches and long swells the contours of the girdling hills about them, and give back their color tones of buff and dun and tan and warm purple and rusty red.⁹⁹

Likewise, William's stated goal was to "achieve artistic effect by good proportions and pleasing color rather than by the use of lavish and expensive ornament."¹⁰⁰ According to *The Craftsman*, the missions represented the ideal architecture of California: "Beautiful and harmonious...built of humble materials, shaped with rude tools or handicraft, all planned in loving sincerity by unskilled builders who had joy and faith in their work."¹⁰¹ At Francis Parker, the students, who could be likened to "unskilled builders," helped craft portions of the school and grounds and were involved in the daily upkeep of the school.¹⁰²

The mission revival architecture of the school provided an essential frame for the open-air and outdoor activities of the school. At a time when field trips were uncommon, Francis Parker students visited local historic sites such as the Mission San Diego and the presidio, and they modeled these buildings using materials and methods that were used in the original construction.¹⁰³ For Francis Parker's Spanish pageant, the school became a multi-tiered indoor-outdoor stage where a total reenactment of an idealized missionary past was set in the idyllic context (Figure 19). The mission setting authenticated the

⁹⁹ Edwin Markham, "Traces of the Franciscans in California", *The Craftsman*, Vol. I, No. 5 (February 1902), 29-37: 37.

¹⁰⁰ Johnson, "Where Lessons Come from Real Things," 9.

¹⁰¹ Markham 37.

¹⁰² Francis Parker School, brochure, 25.

¹⁰³ Johnson, "Where Lessons Come from Real Things," 9; Francis Parker School, brochure, 19.

dramatization of Spanish rituals and stories, such as the Spanish pageant and the reenactment of the story of Docas, “the Indian Boy of Santa Clara.” The book of Docas, written in 1899 for Stanford’s university elementary school, was produced at the height of the romanticism about California’s missionary past. The purportedly didactic story, which claimed to be a true story of how Indians lived in California, recounted how Docas and his family and friends went to live at the mission, where they loved the white men for all they taught them, such as how to build houses out of clay bricks instead of brush and how to grow corn and thresh grain. At Francis Parker, the students read the book and acted out select scenes on their historicized grounds, further validating the veracity of the tale (Figure 20). As Abigail Van Slyck discusses in *Manufactured Wilderness: Summer Camps and the Shaping of American Youth 1890-1960*, Indian motifs and rituals were also often appropriated in places like children’s summer camps. Indian culture represented something closer to wilderness, and while the intention may have been to promote appreciation of Indian life, these activities reinforced white privilege and disguised the domination of Native Americans.¹⁰⁴

The mission revival style of the Francis Parker and many open-air schools in California, embraced a distinctly mythic vision of California and its history. Schools, like the Francis Parker, are an example of how children’s spaces served as a source of national and regional pride. In its architectural design and the activities of its students, Francis Parker evoked an idealized vision of California’s agrarian and Spanish missionary past. Indeed, State Superintendent Hyatt encouraged the use of the mission

¹⁰⁴ Abigail Van Slyck, *A Manufactured Wilderness: Summer Camps and the Shaping of American Youth, 1890-1960*. (Minneapolis: University of Minnesota Press, 2006), 208.

revival style in the design of new schools as a means of creating a coherent regional aesthetic, one with a “fine, distinctive, California flavor.”¹⁰⁵

Blooms and Bees: Outdoor Education at Francis Parker

The structure of the classes at Francis Parker took full advantage of the grounds, and much school work was conducted out of doors under a pergola, on the terraces, in the courtyard, or in the canyon beyond. The students were offered both formal and informal outdoor learning opportunities. The classrooms all had child-sized moveable tables and chairs instead of conventional desks. This allowed the furniture to be easily relocated within the classroom or moved to the exterior courtyard and portico. Francis Parker’s kindergarten had a large screened porch, and its own stairs led directly outside. In the kindergarten, each child had his or her own chair carefully crafted out of oak wood.¹⁰⁶ The chairs resembled blooming flower pots, where the chair base was a little clay pot, and when the child sat on the seat, the child looked as if he or she was sprouting from the pot (Figure 21). This is in stark contrast to Dehesa and Fruitvale where students sat in fixed rows of desks, designed to move easily for sanitation purposes or to be used as exercise structures, but not to fulfill the children’s own desires.

At Francis Parker, the outdoors empowered children to lead, in a space free from the constant gaze of the teacher, but protected by the school’s landscape. For example, children taught themselves arithmetic from the blackboard they hung on the courtyard column (Figure 22). At other times, students took turns reading out loud to a group while

¹⁰⁵ Edward Hyatt, *School Architecture and School Improvement; from the Twenty-third Biennial Report, Edward Hyatt, Superintendent of Public instruction: Prepared at the request of the Tahoe Convention of Superintendents* (Sacramento: State Printing Office, 1909), 5.

¹⁰⁶ Johnson, “Where Lessons Come from Real Things,” 10

sitting in the gardens (Figure 23). Students gathered on the front steps for meetings of school government, a key example of Francis Parker's focus on democracy. The courtyard served as the site for science experiments and a place to investigate current events. For instance, here the students constructed a scaled model of the newly completed Panama Canal. The Panama Canal itself was a grand display of America's power over dirt – specifically the ability to remove dirt and soil in the name of national progress. At a scale of 6 inches to one mile this model occupied a length of 25 feet in the school courtyard and was oriented in the actual compass directions of the canal (Figure 24). Manual training courses were conducted on a shaded terrace, overlooking the canyon, and curtains were hung there to protect the terrace in more inclement weather (Figure 25). Dancing lessons were conducted under a shady trellis (Figure 26).

Gardening was an essential activity at Francis Parker and this importance was reflected in the design of the school and its extensive gardens. The school employed a garden specialist, Mr. Carroll Scott, a graduate of Stanford University, to be the instructor in charge of Agriculture, Nature Study, and Science.¹⁰⁷ He was a vocal public advocate for school gardens, and gave educational talks on the importance of school gardens at the National Education Association conference.¹⁰⁸ On the north side of the courtyard was a robust kitchen garden where in 1915 the students planted thirty-eight beds of carrots, beets, cabbage, and corn.¹⁰⁹ In images of the children tending to their flower gardens, the plants as tall as they are (Figure 27). The harvest from the gardens provided the ingredients for the school's lunches. The lunches were prepared by students in a kitchen

¹⁰⁷ Francis Parker Brochure, 1914-1915.

¹⁰⁸ Scott, "How to Conduct a School Garden," August 20, 1915, N.E.A. Bulletin, Volume III, No. 7 (June 1915).

¹⁰⁹ *Parker Post*, April 1915, Francis Parker School Archives.

adapted for small children, and as they prepared the meals, they learned to cook while practicing reading and arithmetic. Pigeons, rabbits, chickens, kittens, and insects were raised as a means of first-hand exploration, and construction techniques were practiced when the children built a rabbit hutch.¹¹⁰ The students also raised bees and harvested the honey. In the *Parker Post*, updates about the school animals frequently appeared; one student carefully watched a bee go to twenty nasturtiums carrying, “the yellow dust from the flowers” (Figure 28).

The students themselves greatly enjoyed their study of nature, conducted outdoors in real life circumstances. One student, Winifred Perry, wrote in the school publication that, “Science and practice are combined.” The gardens had a “utilitarian purpose,” but also brought the students joy, “from working with living things and a more intimate contact with nature.”¹¹¹ The courtyard and the canyon became laboratories for experiments, including, for example, a project, conceived by the students, to preserve wildflowers and to repopulate them. There were lessons in soil composition, transplanting, plant breeding, crop rotation, succession and companion crops, how to combat plant diseases and insect pests, and how to cultivate garden helpers such as earth worms and bacteria (Figure 29). On Flower Day, children recited the names of all the wild flowers in the school court. The students also took advantage of their proximity to the canyon. Student Kate Phipps Benton recounted one particular trip down into the canyon to visit a bird’s nest. On the trip they “slid down a slide of fox-tail, wild oats and wild rye. It was so much fun... We got all full of stickers. After we slide down the slide,

¹¹⁰ Johnson, “Where Lessons Come from Real Things,” 8-9.

¹¹¹ Winifred Perry, “The Garden as a Laboratory”, *Gold and Brown*, 1921, Francis Parker School Archives.

we sat down under a lemonade berry bush and rested.”¹¹² Their unusual exposure to the outdoors was not lost on the students, and they appreciated their free access to the courtyard and canyon. The school song emphasized the positive effects of the architecture and outdoors, as well as the importance of efficiency and citizenship: “In your court are wild-flowers, which are always gay, And the birds there, how they sing, all thru the day, At your fountain, they are basking, In your pond the fish are playing, On your Mast Old Glory’s flying, In the breeze, Oh! The Parker School is just the place for me. And, to self-control, it’s given me the key...”¹¹³

At Francis Parker, biology and nature studies privileged the students’ interactions with the extensive crop gardens, and their “connection to nature” was enhanced by the fluid connection between indoors and outdoors.¹¹⁴ Through interaction with nature, the students “train their powers of observation and expression, develop self-reliance,” and were left with “an abiding love for the outdoors.”¹¹⁵ As William wrote, “An appreciation and knowledge of nature is gained through responsibility for living things. Gardening trains in observation and comparison, arouses the desire for information and develops consideration for plant life in all forms as well as for insect and animal life related to plants.”¹¹⁶ In addition to aiding emotional development, the outdoors taught the children practical lessons. Contemporary school garden advocates, like Henry Parsons, argued in 1910 that lessons taught in the garden about how to fight the pests, bugs, beetles, and grubs, would “soon be directed also against house flies, mosquitoes, bed bugs, lice, flies,

¹¹² *Parker Post*, June 1916, Francis Parker School Archives.

¹¹³ “Parker School Song,” Francis Parker School Archives.

¹¹⁴ Johnson, “Where Lessons Come from Real Things,” 9.

¹¹⁵ Francis Parker School, brochure, 21.

¹¹⁶ Johnson, “An Ideal Out Door School.”

rats, mice, and kindred carriers of disease and destroyers of wealth.”¹¹⁷ And in order to effect change, a whole community must learn: “For one man in a community to know this and do it is of no avail, where 100,000 do not. The conditions must be reversed. The 100,000 must do this.”¹¹⁸ The garden taught economy and thrift; while some activities led to production others led to barrenness.¹¹⁹ Gardening had appeal for everyone, advocates argued, even to railroad presidents; if children were taught how to make a path through a garden, then they would grow up wanting to build roads and infrastructure, as they learned it was easier to push a wheelbarrow over groomed path.¹²⁰ This agricultural focus served Francis Parker economically, followed Dewey’s progressive philosophy, and it also referenced California’s roots and agrarian nostalgia in the face of increasing industrialization. In *Architecture and Nature: Creating the American Landscape*, Macy and Bonnemaïson, argue that the early 20th century back-to-nature movement valued nature for its spiritual impact and that nature “held the power to uplift it also had the power to instill in men the best ideals from America’s rural democratic past.”¹²¹ Likewise, Laura Lawson argues that agrarianism was a social philosophy that was “considered the bedrock of American citizenship,” which encouraged values such as “independence, hard work, honesty.”¹²² These very lessons were central to Francis Parker’s curriculum. Francis Parker’s design and embrace of the outdoors satisfied a nostalgia for an ancient and agrarian lifestyle where education freely took place out of

¹¹⁷ Henry Griscom Parsons, *Children's Gardens for Pleasure, Health and Education* (New York: Sturgis & Walton, Co., 1910), 7

¹¹⁸ Parsons, *Children's Gardens*, 7.

¹¹⁹ Parsons, *Children's Gardens*, 5.

¹²⁰ Parsons, *Children's Gardens*, 5.

¹²¹ Christine Macy and Sarah Bonnemaïson, *Architecture and Nature Creating the American Landscape* (London: Routledge, 2003), 27.

¹²² Laura Lawson, *City Bountiful: A Century of Community Gardening in America* (Berkeley: University of California Press, 2005).

doors. *The Craftsman* called Francis Parker a modern solution to this reminiscence: “The Francis W. Parker School is a great step toward a perfect solution of the form of the modern substitute for those first schools under the trees with their slates of sand and books of leaves...Education, traveling ever forward, is now returning to its starting point—the open-air school. Trees and the sky were the first school roofs and the soft grass the floors.”¹²³

At Francis Parker, the crop gardens mingled with athletic fields overlooking Mission Valley (Figure 30). There were also extensive playgrounds. According to the school brochure, a variety of physical training activities were used for their “socializing influence as well as their value in physical development.”¹²⁴ Clara hired a special physical education instructor, Mr. Tahar, who was purportedly the son of an Arabian Sheik and had been an acrobat and circus performer.¹²⁵ To develop strength and coordination, as well as cooperation and trust, he taught students how to make human pyramids and how to walk on a tight-rope that was strung between posts in the courtyard (Figure 31). At the Francis Parker, the use of physical fitness was very different in execution than at Fruitvale. At Fruitvale, the students trained through medically appropriate exercises developed for the shaping of the body, rather than for play, enjoyment, or improvisation. At Francis Parker, physical education was thought to have many benefits, from therapeutic aims for physical ailments and enhanced muscular development to social skills such as cooperation. The open-air environment, with its extensive and accessible outdoor space and the variety of outdoor settings for all weather,

¹²³ “Studying out of doors”, 546.

¹²⁴ Francis Parker Brochure, 1914-1915, Francis Parker School Archives.

¹²⁵ Ethel Mintzer Lichtman, “The Zest for Learning,” San Diego History Center, July 1993. <http://www.sandiegohistory.org/journal/1993/july/parker/>

lent itself to intensive physical education and manual training. Educators across the U.S. were striving to increase the children's physical activity through increasing available open space as well as requiring sports and exercises with the goal of training strong, healthy citizens. National education expert, F.B. Dressler, wrote: "in addition to the physical well-being resulting from open-air sports, it must never be forgotten that the playground furnishes a most proficient exercise or that sense of justice, fair play, and unselfishness absolutely necessary in any worthy character...here afforded a very considerable part of that drill in democratic ways of thinking and acting essential to the proper training of every American boy."¹²⁶ This showed the focus on the strength of the boys in particular and on the importance of physical health and its relationship to democratic principles learned on playground.

The Francis Parker was designed to encourage active citizenship, stewardship of progressive causes, and promote democracy. Francis Parker was known publicly for its nationalistic spirit. Students at Francis Parker gave presentations on "Community Integration" discussing questions such as: "Who are our foreigners? Why do they come? What are their ideals and habits? How can we solve our problems? What is it to be an American?"¹²⁷ Another school program discussed, "The Ideal of the Home, State, Nation and World," as students debated how to participate as active citizens in the shaping of ethical and political ideals.¹²⁸ At Francis Parker, teaching patriotism became a design task. An article in the *San Diego Union* was entitled, "This School Makes American Citizens". The article told how the school: "expresses the very essence of American

¹²⁶ Hyatt, *School Architecture*.

¹²⁷ Lichtman, *The Francis Parker School Heritage*, 37.

¹²⁸ First Annual Commencement, program, June 17, 1920, Francis Parker School Archives.

ideals...Its whole work emphasizes the principles for which we are fighting in Europe..."¹²⁹ The Francis Parker curriculum focused on instilling democracy and initiating social reform. Principal Outcault wrote: "As a member of the group, the child is expected to assume his share of the responsibility for the welfare of all." The students would be "prepared not only for cooperation but for leadership," to develop the "child's moral nature," while also preparing the child for "citizenship in a democracy."¹³⁰ The Johnsons designed the school to reflect Dewey and Francis Parker's ideas of education and to encourage active participation and engagement of all the students. For example, the large central courtyard made assembling the entire school easy. The folding-sliding doors created a truly open atmosphere. The front steps were an informal podium and meeting space. As the emphasis of the school was on learning by doing, facilities were made easily accessible to children with child-sized equipment, such as low stoves and sinks for cooking. The children did woodworking for school construction projects, baked their own bread, churned butter, and gardened. The whole school participated in activities such as the school paper using the school's printing press and cooking for the school cafeteria with ingredients from the school gardens. The wide ranging activities at Francis Parker made for quite a different education than the traditional curriculum of reading, writing, and arithmetic followed by contemporary public schools, even compared to experimental public schools like Dehesa and Fruitvale.

In California, open-air schools encouraged their students to form varying relationships with the land. The Francis Parker had a very different connection to the outdoors than Fruitvale and Dehesa, and even to the Polytechnic. The physical landscape

¹²⁹ Lichtman, *The Francis Parker School Heritage*, 37.

¹³⁰ Outcault, "Answers to Questionnaire"

as a virtue—not merely sun and air—was integral to the success of Francis Parker’s open-air education. While Fruitvale’s design borrowed from hospital quarantine structures and segregating tuberculosis institutions, Francis Parker, on the other hand, recalled a familiar residential structure and recalled California’s idealized colonial history. The classrooms that opened onto the courtyard, the expansive gardens framed by the wings of the school, and the proximity to a natural canyon encouraged the children to engage with the environment. The activities and assignments likewise pushed students to explore and take full advantage of the surrounding landscape. Although Dehesa and Fruitvale purported to create a fluid and meaningful connection with the outdoors, the children’s engagement with the land was not activated by the design and programming of the school. These students were encouraged to feel the breeze and ingest the fresh air, but they were sheltered from the sun on their skin and were not encouraged to feel the earth with their hands. In fact, at Fruitvale, air and light were celebrated, while dirt was disparaged as distinctly unsanitary and un-American. Francis Parker also had the benefit of a wild canyon adjacent to the school that encouraged unhindered exploration and the broader study of nature. In contrast, the Polytechnic was situated across the street from a university in a developed suburban neighborhood interspersed with carefully tended gardens and orange groves. The Polytechnic’s gardening activities emphasized the cultivation of the children’s bodies; as the children tended the blooming flowers, they too blossomed. At Francis Parker, children cultivated crops for scientific education, to provide fresh food, and to engender national pride.

Conclusion

Despite their innovative techniques and noble aims, the Johnsons struggled at times to keep Francis Parker School alive. Tuition often did not cover the school's expenses, and Clara personally financed the school, sometimes with as much as \$28,000 in a year to keep it going.¹³¹ Eventually, when the school was failing during the Great Depression, Clara sold the school to parents of the students.¹³² Despite the financial struggles, the school became well-known as a leader in experimental education. From the very beginning, it was recognized by public school authorities, and attracted visitors from across the U.S. and abroad, including Maria Montessori.¹³³ Oakland school architect, J.J. Donovan, included the Francis Parker in his widely read book on *School Architecture*, in the section on the "Hygiene of Schools" and included a photograph of Francis Parker students at work in a classroom opening onto the courtyard. At the dedication of the school in 1913, though only some twenty students were attending the school at the time, the ceremony was attended by many major public figures of the area. Speeches were given by San Diego Superintendent of Schools, Duncan MacKinnon, Superintendent of Schools in Los Angeles, John H. Francis, the Mayor of San Diego, and President Hardy of the San Diego State Normal School. As President Hardy said upon the dedication of the new building, "The Francis W. Parker School will be to the public schools of San Diego what Stanford University has been to the University of California"—that is, an inspiration for educational advancement.¹³⁴ The Francis Parker

¹³¹ Lichtman, "The Zest for Learning."

¹³² "Bowles Parker School Critique."

¹³³ The guest book was signed with dignitaries from Chicago, Cleveland, Oakland, Los Angeles, Carmel, and London.

¹³⁴ Johnson, "An Ideal Out Door School."

was recognized across the United States as especially significant in terms of design development in school architecture. An article in the national *American School Board Journal* lauded it as a “splendid example of a California open-air school.”¹³⁵ The editor of *The American School Board Journal* wrote to the Johnsons of their school: “We have given a good deal of attention to the subject of school architecture during the past twelve years and I confess that your adaptation of the open air idea is not only a novel departure but the establishment of some principles which must become universally accepted...”¹³⁶ Many of the architectural and educational innovations introduced at Francis Parker were incorporated into public schools. As will be examined in the last chapter, in 1914, the city of San Diego constructed eight schools of the open-air style. The public schools, clearly inspired by Francis Parker’s innovations, had many similarities to the design: one-story, exterior circulation, large gardens, French doors, transoms, and one side of every classroom that was able to be completely opened to the outdoors.¹³⁷ Like the Polytechnic, though it began as a small private school, its effects were far-reaching.

This chapter framed the spectrum of open-air solutions in California, and highlighted significant distinctions between these new schools. At Fruitvale and Dehesa, the emphasis was on increasing contact with air and light and on the therapeutic potential of the open-air school. At the Francis Parker, a more inventive interpretation of the open-air school movement, there was a more extensive integration, both between building and landscape, but also integration between design and curricular innovation, far beyond the

¹³⁵ C.M. “An Open Air School for Healthy Children.”

¹³⁶ Johnson, “An Ideal Out Door School.”

¹³⁷ T.C. Kistner, “Seven Schools Built in Year: \$210, Spent on Open Air Structures of the most Modern Type,” *San Diego Union Tribune*, January 1, 1915.

more limited concerns of ventilation, light, sanitation, and health. The Francis Parker and the Polytechnic were significant in the sustained attention their founders and designers paid to architecture, as both designed environment and symbol. Through their distinctive architectural and landscape design, open-air schools revolutionized educational techniques and contributed to the creation of new forms of learning. The open-air school played an increasingly important role as an extension of the domestic realm and as a place to shape the nation. Often the open-air school was essentially a sanatorium, with the goal of curing and preventing illness in children, furthered by designs that drew directly from tuberculosis structures. In these open-air schools, non-architects—school board medical personnel, in the case of Fruitvale, and a wealthy Progressive woman, in the case of Francis Parker—used architecture and landscape design to further their goals for improving the health and learning potential of children and as a means of ensuring the quality and vitality of the nation's future citizens. Though ironically, most open-air schools were not actually about shaping children's bodies through the construction of a building, but rather, they were about the importance of the absence of building. These schools used structure only to frame specially crafted encounters with the exterior world. Although the solutions varied, they shared core aspirations of ensuring children's health. They reflect spatial innovations that were pioneering then and can be inspiring now.

The Corrective and Preventive
Methods by Which It Is Hoped
to Accomplish Vast Benefits Among
the Less Robust Boys and Girls

[illegible][illegible]

best example that reflects which is also the case with the author's selected paper. Mrs. Lulu G. Boster, the teacher of the mixed class in the "open air" school, has been in the school for 12 years. She was in the marine state and was placed in charge of these pupils because of her previous experience in the rough and teach individually, a large class representing many grades. In the five grades ranging from the third to the eighth, she has 100 pupils. At this time not being sufficient to care for the pupils, she has had to divide the pupils into groups to work under the supervision of the teachers. Although in the past, August 1, the school was closed for a week because of influenza. While currently in progress, a great deal for the interest and the health of the pupils. There are many many pupils who are in the school. The school is operated with the health department and the school is in the best of health. It is more "rigid" and broken in the past. The school is in the best of health. There are many cases of the school. There are many cases of the school. There are many cases of the school.



Out to the yard. The cot can be raised or lowered and the back adjusted to support perfectly the back of the child.



Interests of both our schools constantly for hygienic cleanliness were removed, was experienced.

[illegible]

MENT FOR
THE AIR SPARK
ARE TAKEN

"A child afflicted with ascosids is not right and is often an abject little man who is backward in his studies; he can not concentrate in his work, he is nervous and irritable, and he is not an efficient worker. And it allowed to grow in him, he will be a weakling. He will be to become deaf and be subject to the cold, which will cause him to be cleared toward infame the mastication, while you can see the ascosids on him, thus offering death and it will make the child appear stupid. This new kind of ascosids, growing as it does less of fire, pure air, it is the cause of the child's weakness. It will be more harmful to children, tuberculosis, and this method of killing ascosids. Children from the tropical climate, which for a time will have a habit to the end, institutions, are playing like when they can be taken against ascosids, like the

[illegible]

daily. The effect of this training in 1938 is shown in the actual number of the boys. During the last class expansion in the Lincoln, Ga. Co., Ray, Hinesboro, Peralta, J. C. and Lafayette, the following were the average scores: Ray, 2.82, 4.09, 4.13, 4.18, 4.21 and 4.27, respectively, gaining this from an average of about 2.00.

"I have found that in nearly one case the girls are weaker in chess than the boys. So far, chess is recommended, but at the end term's treatment they commence to lose interest and later far outstrip the boys. The reason, of course, is that the majority of the girls are naturally softer and spend more readily in the treatment of some of the social and domestic sciences of the home, whereas the boys are more ready to accept the more exacting studies of the sciences of the earth and the sciences of the life.

"The girls are responsible to a greater extent for the future of our race. One can imagine the great help that some air school system will lend

[illegible][illegible]

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Figure 2

Exterior of the school. The front porch faces east and is open except for a screen to protect from insects. The covered canvas awning can be lowered for shade or in inclement weather. The southern side is a band of continuous glass windows, topped with louvers for ventilation. There is also a ventilator at the peak of the roof. The base of the school has square opening for underfloor ventilation.

“School Children of Oakland to Recite Lessons in the Open Air: Health is Basis of Curriculum”, *San Francisco Call*, August 2, 1910: 8. Oakland History Room.

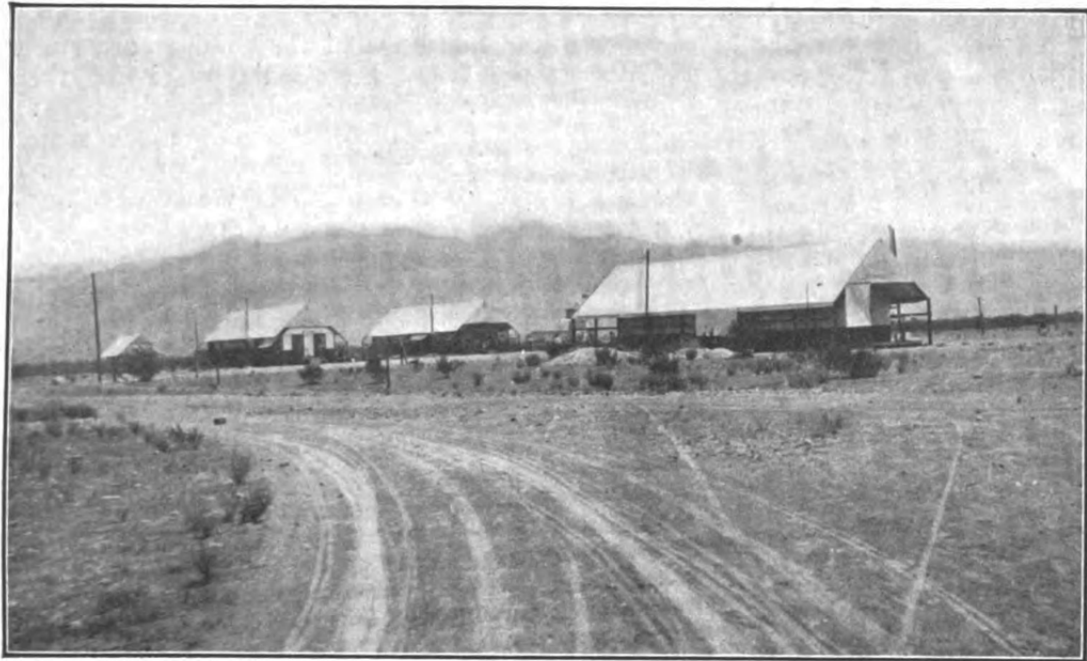


Figure 3

Lunger tent tuberculosis community in remote eastern California, from *Charities and the Commons: A Weekly Journal of Philanthropy and Social Advance*, v. 16, 1906: 559.

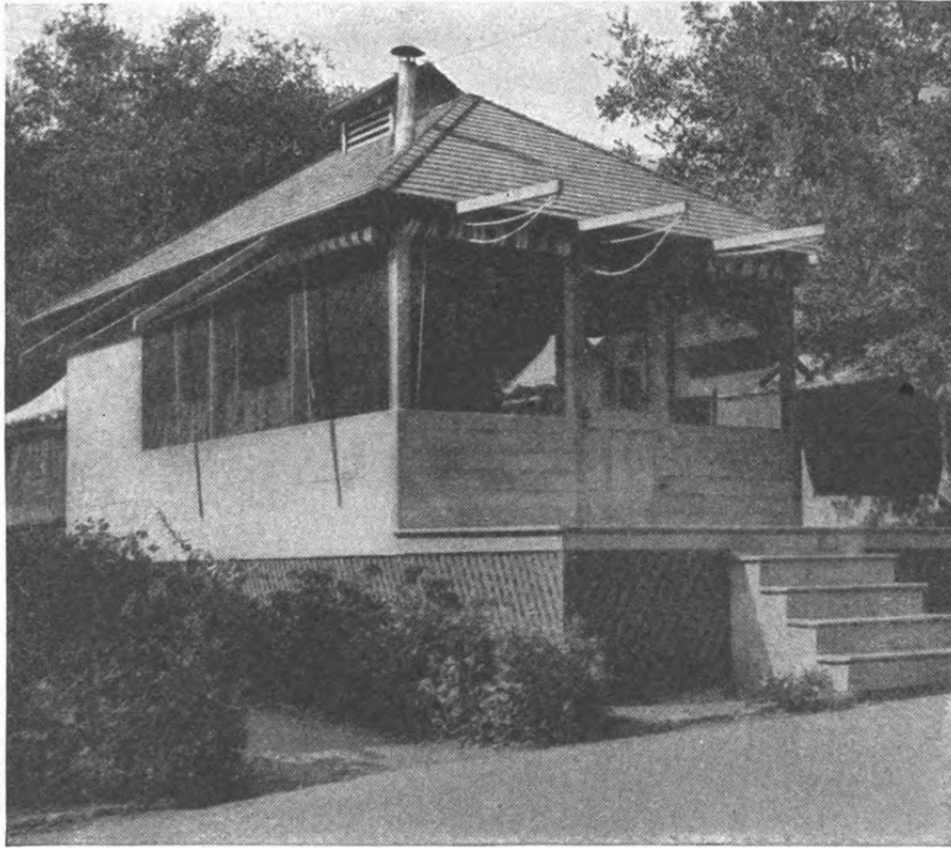


Figure 4

“A well ventilated cottage” described in Thomas Carrington, *Fresh Air and How to Use It* (New York: The National Association for the Study and Prevention of Tuberculosis), 157.



Figure 5

Fruitvale students take their movable and adjustable desks out onto the playground.

R. Ellis Wales, "Fighting the White Plague in Oakland's Open Air School. The Corrective and Preventive Methods by Which It is Hoped to Accomplish Vast benefits about less robust boys and girls," *San Francisco Sunday Call*, August 28, 1910. Oakland History Room.



Figure 6

Study of a women's shoulder angle and back curvature while at work at her desk.

R. Ellis Wales, "Fighting the White Plague in Oakland's Open Air School. The Corrective and Preventive Methods by Which It is Hoped to Accomplish Vast benefits about less robust boys and girls," *San Francisco Sunday Call*, August 28, 1910. Oakland History Room.



Figure 7

Women using desks as their gym apparatus for the “chest expansion” exercise. Fruitvale School.

R. Ellis Wales, “Fighting the White Plague in Oakland’s Open Air School. The Corrective and Preventive Methods by Which It is Hoped to Accomplish Vast benefits about less robust boys and girls,” *San Francisco Sunday Call*, August 28, 1910. Oakland History Room.



Figure 8

Regular class exercises for strengthening the body.

R. Ellis Wales, "Fighting the White Plague in Oakland's Open Air School. The Corrective and Preventive Methods by Which It is Hoped to Accomplish Vast benefits about less robust boys and girls," *San Francisco Sunday Call*, August 28, 1910. Oakland History Room.



Figure 9

The posterchild for the Fruitvale school, Miss Ruth White, performing her stretching exercises.

R. Ellis Wales, "Fighting the White Plague in Oakland's Open Air School. The Corrective and Preventive Methods by Which It is Hoped to Accomplish Vast benefits about less robust boys and girls," *San Francisco Sunday Call*, August 28, 1910. Oakland History Room.

NATURE CALLS THE CHILDREN.

*Beckons Pupils Into Open as
Panacea.*

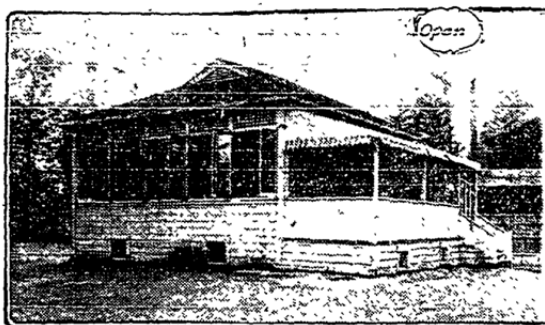
*Fresh-Air-School Movement
Making Progress.*

*Indoor Studies Giving Way
to Hygiene Plan.*

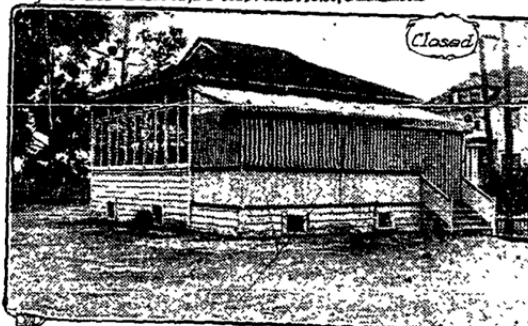
BY CLARA M. GREENING.

Gradually, so gradually that we scarcely feel the mighty impetus of its progress, is the movement for fresh-air schools creeping upon us. North, South, East and West, it is being indorsed by leaders in educational fields, by physicians, philanthropists; in fact, by all great lovers of humanity, and wherever it is tried the gain is so great in the physical, mental and moral welfare of the child, that there can be no going back.

A fountain cannot rise higher than its source, and no more can a nation rise above the standard of its men and women. Knowing, and realizing



Open-air school, Fruitvale No. 2, Oakland



Dehesa School, El Cajon Valley, San Diego county.

California Schools With Plenty of Air,

Showing that North and South are adopting the open or actual outdoor method of teaching.

Figure 10

Comparison of open-air school in the north and in the south. Fruitvale School shown "open" and "closed".

Clara Greening, "Nature Calls the Children: Beckons Pupils Into Open as Panacea," *Los Angeles Times*, September 24, 1911, II9, ProQuest Historical Newspapers.

Figure 11 (omitted)

Dehesa Out of Doors School, 1911, taking place under the peppercorn tree. Note the portrait of Abraham Lincoln and the American flag. The teachers desk is at the front of the arrangement with a vase of flowers.

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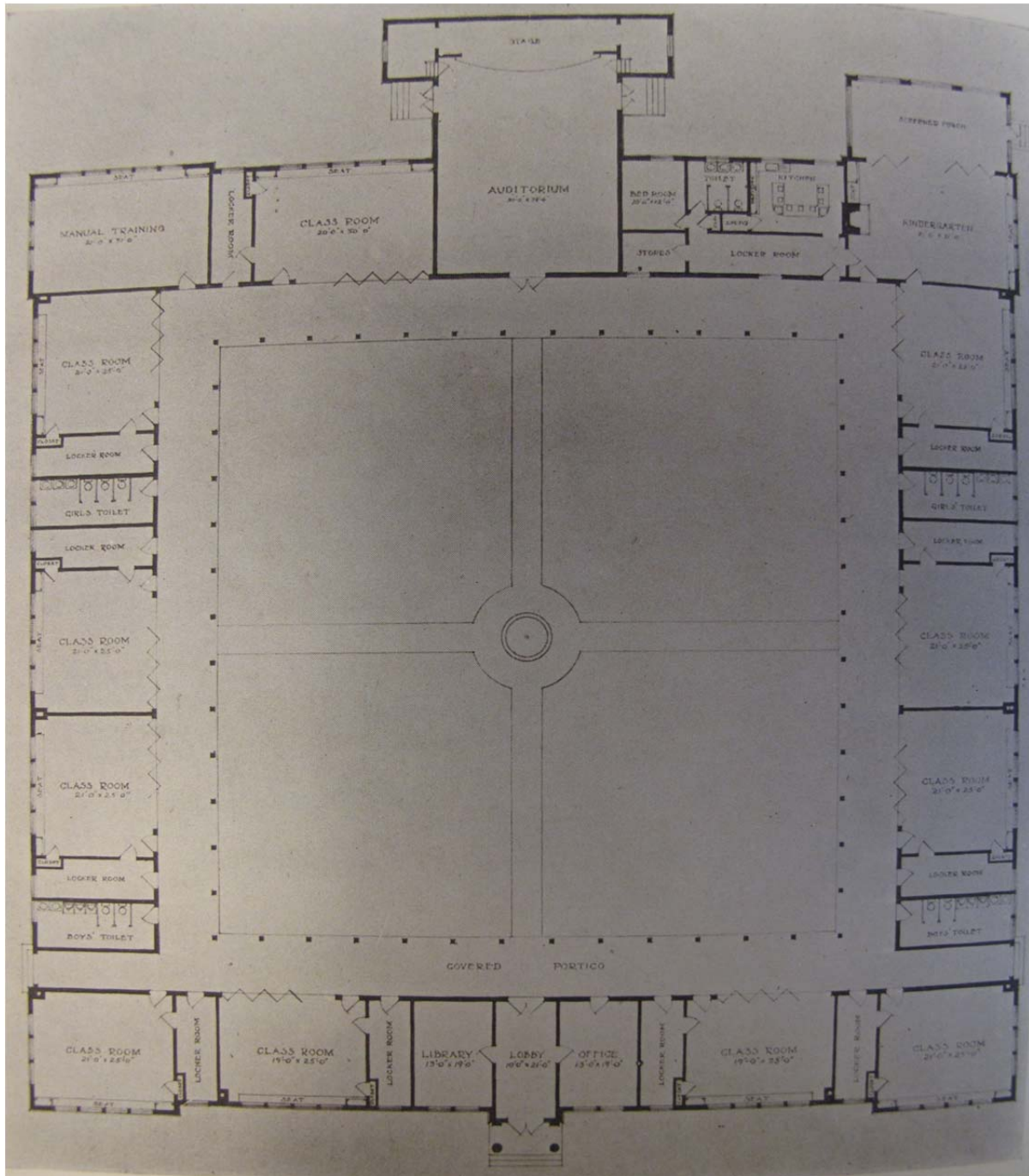


Figure 12

Francis Parker School, plan for completed school. Architect William Templeton Johnson and Clara Sturges Johnson.

Francis Parker Brochure 1914-1915. Francis Parker Archives.



Figure 13

Francis Parker School, rear of school, towards courtyard and portico. Note the open classrooms along the portico.

Francis Parker Brochure 1914-1915. Francis Parker Archives.



Figure 14

Francis Parker School, front façade. Entry is up the stairs, under trellis.

Francis Parker Archives.



Figure 15

Courtyard with wildflowers in bloom. Portico wraps around the courtyard.

Francis Parker Brochure, 1917-1918. Francis Parker Archives.



Figure 16

Students working on sewing projects under the shade of the portico.

Francis Parker brochure, 1917-1918. Francis Parker Archives.



Figure 17

Morning flag salute in the courtyard and caption of school motto. Francis Parker School.

Francis Parker Brochure 1914-1915. Francis Parker Archives.

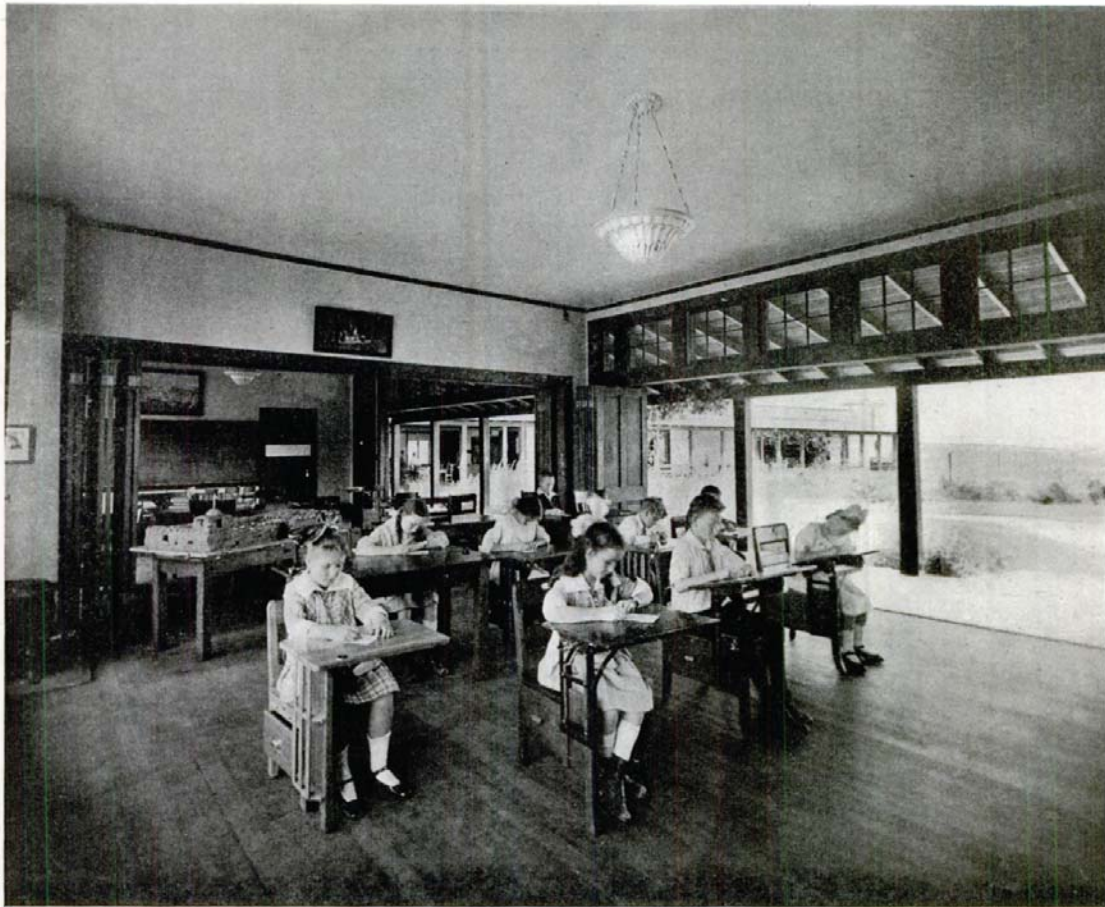


FIG. 190. — OPEN AIR CLASSROOM, FRANCIS W. PARKER ELEMENTARY SCHOOL, SAN DIEGO, CALIFORNIA.

Mr. Wm. Templeton Johnson, Architect.

Figure 18

Classroom interior with folding-sliding door system open. Doors open onto courtyard and also open onto neighboring room. Highlighted in Donovan's 1921 book, *School Architecture*, in the section, "The Hygiene of Schools."

John Joseph Donovan. *School Architecture; Principles and Practices*. (New York: Macmillan Co., 1921), 213.



Figure 19

Spanish pageant at Francis Parker, 1920.

Francis Parker Archives. Ethel Mintzer Lichtman, "The Zest for Learning: Founding and Early Years of Francis Parker School," *San Diego Historical Society Quarterly: The Journal of San Diego History*, (Summer 1993, Volume 39, Number 3), Richard W. Crawford, Editor: 188



Figure 20

Reenactment of the story of Docas. Francis Parker brochure 1914-1915. Francis Parker archives.



Figure 21

Kindergarten students seated in their hand-crafted flower pot chairs, making the child look like the blossom sprouting from the clay pot.

Francis Parker Archives.

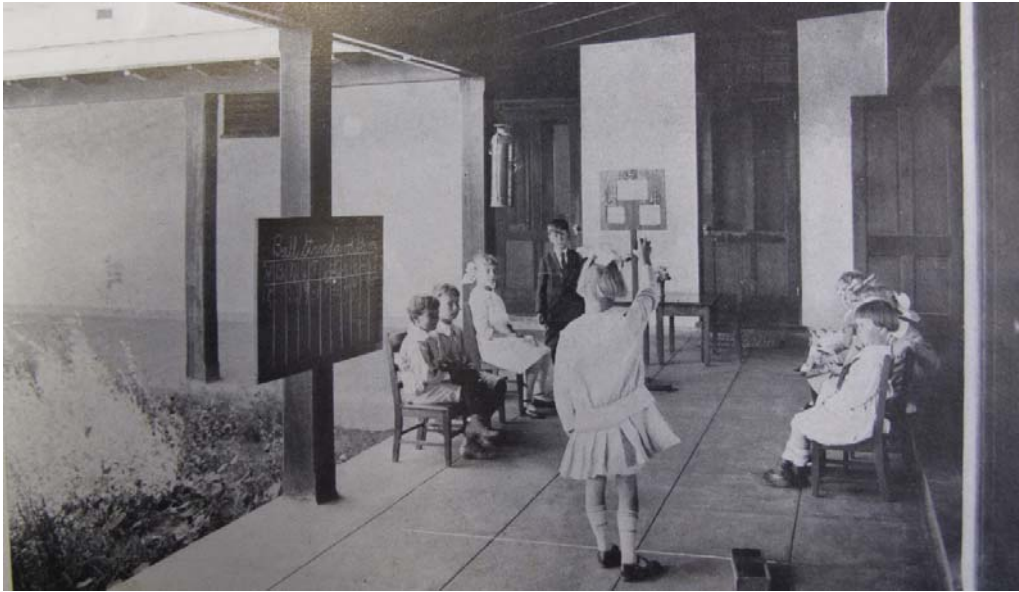


Figure 22

Children practicing arithmetic in the portico. They have hung a blackboard on the column and moved their chairs outside.

Francis Parker brochure, 1914-1915. Francis Parker Archives.



Figure 23

A student reads to the others in the garden.

Francis Parker Archives.



Figure 24

Scaled model of the Panama Canal built just north of the courtyard. Francis Parker archives.

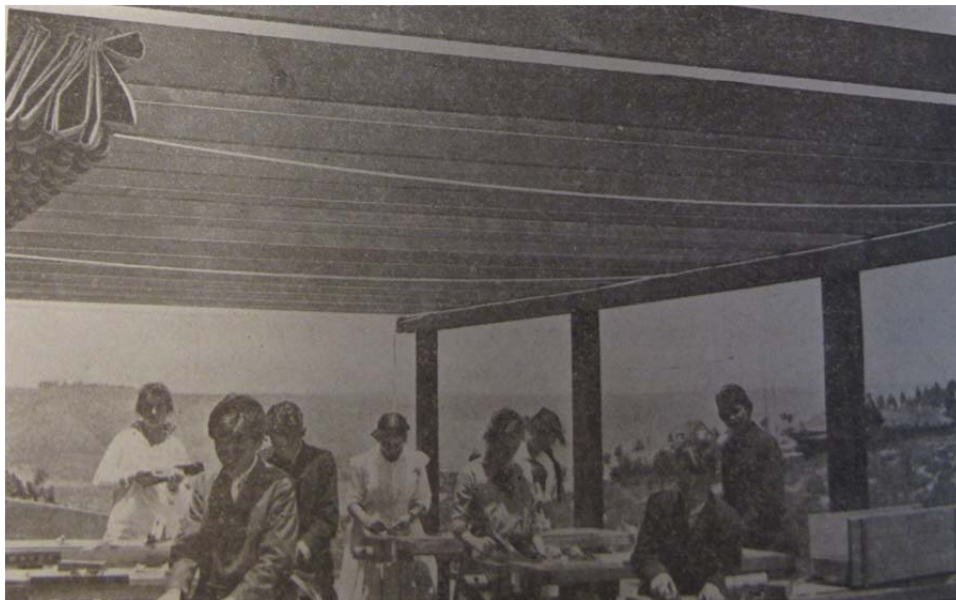


Figure 25

Manual training class on the terrace overlooking Mission Valley. Curtains can be pulled to enclose the space. Francis Parker brochure, 1914-1915.



Figure 26

Dance class under the shaded trellis. Francis Parker archives.



Figure 27

Children working in the gardens.

From Greetings Calendar to raise money for *Parker Post* publication, 1916. Francis Parker archives.

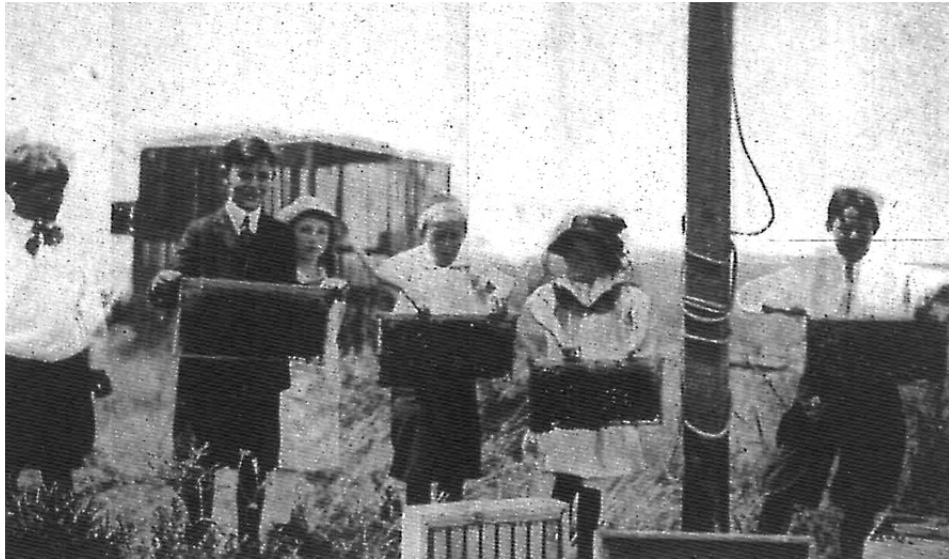


Figure 28

Students tending to their bee hives.

Francis Parker archives.

Francis Parker Archives.



Figure 29

Laying out the garden plots. Francis Parker brochure, 1914-1915. Francis Parker Archives.

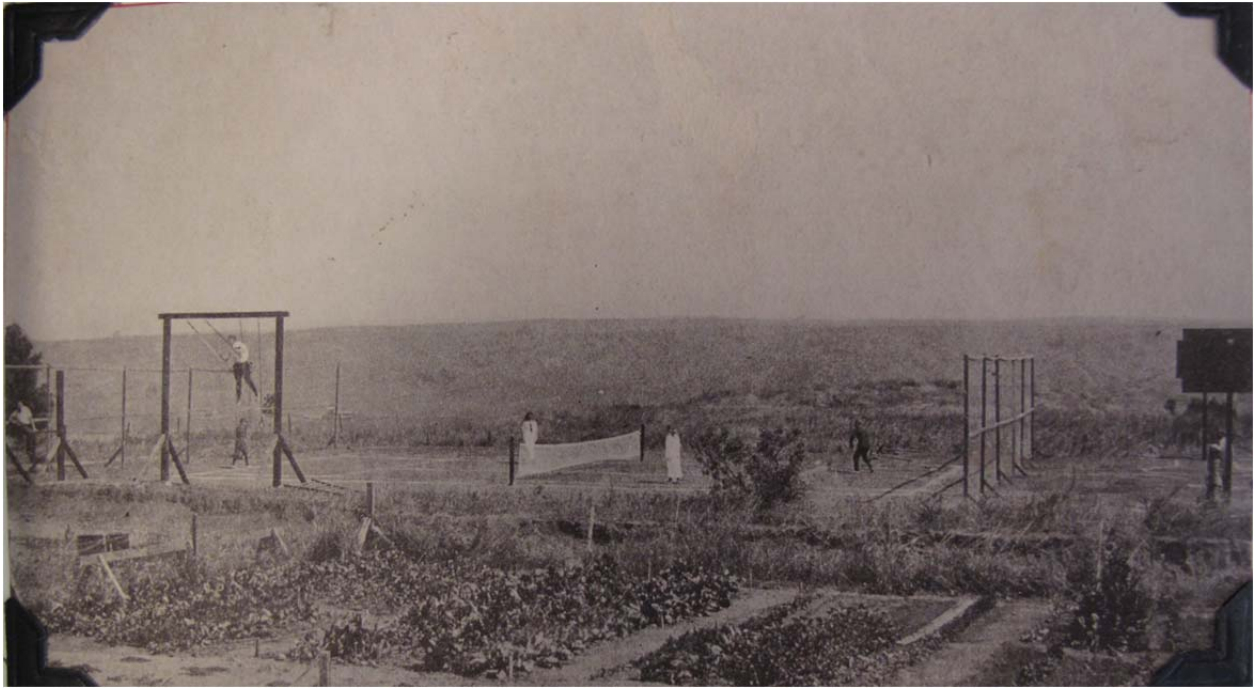


Figure 30

Gardens and athletic fields.

Francis Parker archives.



Figure 31

Students doing gymnastics.

Francis Parker Archives. Ethel Mintzer Lichtman, "The Zest for Learning: Founding and Early Years of Francis Parker School," *San Diego Historical Society Quarterly: The Journal of San Diego History*, (Summer 1993, Volume 39, Number 3), Richard W. Crawford, Editor: 188

CHAPTER 3

EPHEMERAL OPEN-AIR SCHOOLS AND INEQUALITIES IN THE

OUTDOOR IDEA:

RURAL FRESNO'S TENT SCHOOLS AND THE HOTEL DEL CORONADO

BEACH SCHOOL

Introduction

In 1913, a California state-issued *Conservation of Health Bulletin*, sponsored by the California Women's Christian Temperance Union, spotlighted the tent as a popular new kind of schoolhouse (Figure 1).¹ In the bulletin, "California Schoolhouse for \$500, Outdoor Schoolhouses at Fresno," State Superintendent Edward Hyatt championed these widely reproduced, impermanent, permeable structures, which were constructed of a base of wooden wainscoting topped with canvas windows. According to supporters like Hyatt, such tents were an economical and efficient method to bathe the expanding immigrant population in fresh air and American culture. As a result, the structure and design of the more permanent open-air schools in the affluent coastal areas were transformed for the working class and migrant communities of central California. While pragmatism and economics were central, architecture also proved critical to the agenda. Attention to craft was cultivated with detailed blueprints that were available to order from the state for 25 cents. The tents had fabric windows seven feet high, that were installed on a rope and

¹ Edward Hyatt, "California Schoolhouse for \$500: Outdoor Schoolhouses at Fresno", *Conservation of Health Bulletin*, Number 6 (Sacramento: State Printing Office, 1913); Edward Hyatt, *School Architecture in California* (Sacramento: State Printing Office, 1914).

pulley system that the teacher could control from the interior depending on sun angle and weather. When set in the agricultural landscape of the rural Central Valley, the tents were not entirely dissimilar from corrals for livestock. In this sense, they were consistent with the image Hyatt painted of children as “animals,” as a “breed,” and as “creatures” capable of cultivation to improve the overall stock. While this rhetoric of cultivation was similar to the Polytechnic, the environment was optimized for child rearing in quite a different way. What’s more, Fresno’s mobile and disposable structures allowed the school to move with the shifting population and thus reflected the precarious socioeconomic status of the region’s agricultural laborers. In a space only 20 x 30 feet wide, some 40 children would sit crammed in rows of bolted desks, focused on the teacher as they were rigorously fed an American curriculum developed over the past century. In these tent schools, the impermanence and mass-production left only the promotional language of the outdoors, but not the experience. While each child’s body was infused with new doses of air, sunlight, and health, the students’ minds were filled with the usual rote school subjects, and they were limited by familiar, restrictive discipline.

On the other end of the spectrum, however, the tent schools were also deployed as a tourist attraction, reserved for rich sun-seekers and their children on vacation. Fresh air was becoming a commodity and a highly coveted prize, and Californians were referred to as “fresh air faddists.”² Affluent urbanites across the U.S., even President Woodrow Wilson’s daughter, suspended their sleeping babies out of the window of their high-rise apartments with handy contraptions like the Boggins Open-Air Sleeping Compartment (Figures 2 and 3). In California, an article in a newspaper joked about an architect who

² “A Fresno View of Open-Air School,” *Modesto News*, March 7, 1912, 4.

had received a commission to design a house that had neither walls nor roof. If there was no architecture, what was he supposed to design? Just air! This, it was suggested, was what the clients wanted. The drive for fresh air caused phobias and desperation, with people avoiding traveling to large cities for fear that “they [would] be put to the discomfort of sleeping in the Palace Hotel!”³ These examples give a sense of the fervor and passion for air, and importantly, the way that the environment was thought to play a critical role in health and in status. Hoping to assuage nervous parents, the sumptuous San Diego-area Hotel Del Coronado supported the establishment of an open-air school to ensure the freshest air for visiting children. On the edge of the ocean at the ritzy hotel, four seaside huts with nautical striped roll-down canvas covers danced along the ocean edge, elevated slightly and connected by boardwalks so that high tide could wash underneath (Figure 4). Near a calm swimming area, the Beach School’s pavilions were organized around a flag-pole and set on the sand amidst play equipment such as slides and swings (Figure 5). Progressive Montessori coursework took place freely and fluidly between the interior and the seaside landscape, with the tents becoming loose, shaded shelters through which to come and go. The sand became a blackboard where giant relief maps were carved for geography instruction, while poems were written about the sandpipers scurrying past the children’s feet, with the environment molded for and invoked in the children’s learning (Figure 6). In this case, as we will see in greater depth, open-air education was sought after by wealthy vacationers for whom the open-air lifestyle seemed faddish, prestigious, and economically exclusive—the purview of progressive, educated families.

³ “A Fresno View of Open-Air School,” 4.

The appeal, forms, and experience of open-air tent schools varied dramatically from the Fresno model to the Beach School. While the actual forms of the schools were quite similar, the same design led to very different kinds of schools, depending on the site and the conditions of its implementation. Moving inland from the coastal towns of San Diego and Pasadena, the open-air schools promoted in the Central Valley also reflect regional differences and inequalities in the distribution of wealth and resources. Open-air schools reflected varying experiences of childhood and children's education. Even within the public school system, the landscapes of these schools highlighted social inequalities, as well as inequality in the funding invested in different groups of children by society. After all, there was not a singular childhood experience associated with these schools; rather, they were shaped by children's multiple and often extremely different lived experiences, ranging from those of poor immigrants to those of sons and daughters of the elite. In the affluent communities of San Diego and Pasadena discussed in the previous chapters, health-seekers developed open-air structures as private garden courtyard schools. In the meantime, in rural Fresno and the Central Valley, where swelling immigrant populations inspired xenophobic concerns about the loss of American values, inexpensive, temporary, and standardized open-air schools were implemented as a tool for improving hygiene and controlling overcrowding and as an instrument of Americanization.

“A School for \$500”: Central Valley Tent Schools, 1910-1913

From the start, the state-issued bulletin spotlighting the new tent schoolhouses emphasized their architectural features. The 1913 bulletin, “California Schoolhouse for

\$500, Outdoor Schoolhouses at Fresno,” included architectural drawings by State Architect J.W. Woollett from the State Department of Engineering.⁴ The materials in this bulletin were selected for publication in part because Hyatt’s State Office of Instruction had received many requests for ideas regarding economical and portable outdoor schoolhouses. While Hyatt recognized that there were other school models in Oakland and San Diego, he was, “so struck with the beauty and utility and the low price” of Fresno’s version that he decided to distribute information on the “famous Fresno Outdoor School that has been duplicated so many times in the State.”⁵ The Fresno plan originated in the ideas of Fresno’s Superintendent McLane and Dr. Snyder at the Fresno Normal School, who was also the State Commissioner of Vocational Education.⁶ By December 1914, the city of Fresno alone had ten tent schools in use, and the State Normal School in Fresno also erected similar structures to serve as temporary classrooms.⁷ The widespread construction of the tent schools was facilitated by the accessibility of the architectural blueprints—which could be mail ordered from the state for a nominal cost—as well as by an extensive itemized inventory of parts listed in the bulletin (Figure 7). These detailed instructions meant that the tent schools could be easily replicated across California. According to the bulletin, they could be built swiftly by “any carpenter or handy mechanic.”⁸ Neither an architect, nor highly skilled workers

⁴ J.W. Woollett (John W.) was an architect from Albany, New York educated at MIT. Around 1906, he moved San Francisco where there were increased opportunities for building after the earthquake. He began a practice in San Francisco with his brother William Woollett, Jr. In May 1912, J.W. Woollett was hired as California State Architect, though he resigned only one year later in August 1913.

⁵ Hyatt, “California Schoolhouse for \$500”, 1.

⁶ Harold Hughes, “What the Schools are Doing. Teaching Out of Doors”, *Popular Educator* (December 1914), 206-207: 206.

⁷ Hughes, “What the Schools are Doing,” 206.

⁸ Hyatt, “California Schoolhouse for \$500”, 9.

were needed for this pre-designed and standardized tent school. With its basic, mobile design, this tent school model was quite different than the Polytechnic School Hyatt also so strongly embraced. While Hyatt encouraged communities to construct the most expensive school that could be afforded, he also cautioned that schoolhouses could become quickly out of date, and a “hygienic,” impermanent school house, such as these may better serve the population in many cases.⁹

Despite the proclaimed temporary purpose of the tent schools and their inexpensive, lightweight materials of canvas and screen wire, the design of the schools was intended to ensure that each tent would last for several years. These details included “tight stretch[ed]” canvas and “screening well put on” in addition to a “substantial” frame, floor, and roof.¹⁰ The modular method of construction and light weight nature of the materials had the added benefit, Hyatt wrote, of being easily updated or replaced to keep up with advancements in educational theory and innovations in schoolhouse construction techniques: “In many cases it might be well to use these hygienic, low cost, temporary houses, replacing them when necessary, and changing them as our knowledge of schoolhouse construction advances.”¹¹

The bulletin included estimates for material quantities, types and colors, as well as costs in Fresno. The inventory listed the sizes and amounts of rough redwood needed for everything from mudsills and the baseboard to joists, rafters, and end lattice. There was also a special list of items, including sheeting, flooring, fascia, awning frames, and the chalk trough, that were to be constructed with a lighter wood such as fir or pine, to

⁹ Hyatt, “California Schoolhouse for \$500”, 1-2.

¹⁰ Hyatt, “California Schoolhouse for \$500”, 1.

¹¹ Hyatt, “California Schoolhouse for \$500”, 1.

preserve the brightness of the classroom. It was suggested that only light-colored woods with natural stain, such as boiled linseed oil, should be used. The bulletin cautioned against the use of dark-colored wood, such as redwood; if redwood had to be used, then it needed to be painted colors such as “deep cream, yellowish bronze, or a very light tan.”¹² There was also a list of essential hardware, including galvanized screen, rope, hinges, pulleys, and nails. Finally, the total cost of labor was estimated to be \$506.80.¹³

The entire structure was designed to be twelve feet tall. The tent school model had a base of five feet of wood wainscoting, surmounted by a row of canvas awning windows seven feet high, which were installed on a pulley system for ease of operation (Figure 8). The ropes were secured through eyebolts in the awnings’ frames and then threaded through pulleys attached to the ends of the exposed eaves. With three ropes per window, one in the center and one on each edge, the assemblage was rather complicated, and one critic noted that it was a wonder they didn’t get tangled.¹⁴ The ropes came together in the central rafter and emerged into the interior through a hole in the ceiling. Stay ropes were attached to the lower edges of the awnings and entered the room through holes bored in the baluster rail so that the teacher could adjust the awnings depending on the sun angle and weather. Knots in the ropes prevented the awnings from being raised too high. The pulley strings were draped from eave to awning like spider webs. The projecting eaves also shielded students from the sun, while wire screens kept out flies and mosquitoes, which were thought to carry disease. When all of the canvas awnings were open, the

¹² Hyatt, “California Schoolhouse for \$500,” 4.

¹³ Hyatt, “California Schoolhouse for \$500,” 6.

¹⁴ Harold Hughes, “Housing the Overflow: The Fresno Type of Open-Air School,” *The American School Board Journal* (June 1914), 21-22: 21.

only solid enclosure was the wainscoting panel around the bottom (Figure 9). In addition, to ensure ventilation, there was a ventilating duct that extended from floor to ceiling in the cloakroom vestibule, and a louvered grill on the gable ends that allowed air to circulate through the attic. The teacher's blackboard was mounted to the partition between the entry cloakroom and the classroom. The partition purposely extended only part way to the ceiling to ensure air circulation (Figure 10).¹⁵ If a storm was coming or if it was a cold winter, the canvas frames could be closed and the room could be heated with a central stove (Figure 11). If it was windy, stay ropes on the bottom of the awning frames could be fastened to prevent the frames from rattling against the sides of the structure. When all the windows were closed, there were clerestory windows on the two gable ends to continue to allow air to circulate.¹⁶

As in Fruitvale, the Fresno model tent design was also inspired by tuberculosis structures. The Tucker Tent was a popular tuberculosis tent, developed for the YMCA's Association of Health Farms, a series of resorts that featured access to clean air for those concerned about tuberculosis (Figure 12). The Tucker Tent, like the Fresno school style, had a wooden floor, wood wainscoting with canvas sides and a pitched roof. Both used canvas awning windows in wood frames to allow the inhabitants to mediate sunlight and temperature.¹⁷ In the 1914 publication by the National Association for the Study and Prevention of Tuberculosis, entitled *Fresh Air and How to Use It*, Thomas Carrington laid out the benefits but also the drawbacks of tent structures. Carrington was a critic of

¹⁵ Hyatt, "California Schoolhouse for \$500," 4.

¹⁶ Hughes, "What the Schools are Doing," 206.

¹⁷ Thomas Carrington, *Fresh Air and How to Use It* (New York: The National Association for the Study and Prevention of Tuberculosis), 133-134.

the ventilation they offered, describing the canvas tent as “hard to ventilate, for a strong draft is produced when the flaps are open,” and meanwhile, when the canvas was down, it was “impenetrable to currents of air.”¹⁸ It is ironic that a tent was inherently difficult to ventilate, but for the purpose of the open-air schools, tents were promoted as the ideal structure to introduce the freshest air.

To alleviate the ventilation problem, many modifications to tuberculosis tent structures were developed, as was evident in the design of Fruitvale. Fresno’s tent schools included louvered grills in the roof for ventilation and an interior ventilating duct extending from floor to ceiling. However, the design of Fresno’s tent schools did not include Fruitvale’s additional ventilation modifications such as operable inlets for air in the wainscoting near the floor and raising the structure on a platform for underfloor air circulation (Figure 13).¹⁹ These ventilating devices enabled the use of tuberculosis tents as health-giving spaces and were designed to “meet the need for a cheap, comfortable, and sanitary tent,” which evidently was neither comfortable nor sanitary before these intricate ventilation inventions.²⁰ This fallacy about easy fresh air circulation in tents begins to shed light on essential differences between the enthusiastic language of administrators and the children’s experience of these open-air schools.

Nonetheless, Fresno’s tent schools became nationally recognized and celebrated in articles in *Popular Educator* and *The American School Board Journal* in 1914.²¹ The *American School Board Journal* profiled the Fresno model as an ideal outdoor school and

¹⁸ Carrington, *Fresh Air*, 119.

¹⁹ Carrington, *Fresh Air*, 119-157.

²⁰ Carrington, *Fresh Air*, 122.

²¹ Hughes, “Housing the Overflow,” 21-22; Hughes, “What the Schools are Doing,” 206.

encouraged the widespread construction of this type of tent school. The Fresno example offered many benefits, the *Journal* wrote, “to make an economical unit of construction, to provide a maximum amount of fresh air and light, to provide protection in excessive cold or rough weather, to exclude flies, and to make a building that would be readily portable,” in case overcrowding shifted to another part of the city.²² In the case of these open-air schools, the first priority was cost, while the provision of fresh air and sunlight was a secondary concern. The tent schools were an efficient mechanism to deal with a rapidly growing school population that was surpassing available building funds and to allow existing schools to grow one room at a time. At the same time, administrators, like Hyatt, garnered support for the makeshift tent schools by flaunting their benefits in facilitating the study of nature and their alignment with popular progressive open-air and hygiene trends. According to Hyatt, “It is more completely an outdoor school than any other device I have seen...Observe that the children are living in the free outdoors, where they can feel the breeze and hear the birds and see the swaying trees.”²³ The open-air school idea was co-opted by state educators to resolve problems of overcrowding at relatively low cost, while aggressively promoting the appeal of the “portables” to a skeptical public.

The public appeal was further strengthened by the strong support of the California Christian Women’s Temperance Union (CWTU). The CWTU requested in 1911 that State Superintendent Hyatt issue a series of bulletins on the “conservation of health.” Under the auspices of CWTU President Sara H. Dorr and Secretary Anne E. Chase, the

²² Hughes, “Housing the Overflow,” 21-22.

²³ Hyatt, “California Schoolhouse for \$500”, 1-2.

bulletin, “California Schoolhouse for \$500,” was published by the state as sixth in the “conservation of health” series. It was the only bulletin in the series that dealt specifically with architecture. The bulletin positioned architectural design as an instructional, moral, and public safety and health tool, as important as preventing the consumption of alcohol or teaching how to safely cross the train tracks—topics of previous bulletins.²⁴ The inside cover of the bulletin recognized the women’s organization for its important role in the dissemination of this information: “It is therefore, appreciatively inscribed to the good women of that organization...those who make such a powerful influence for good in every corner of our commonwealth.”²⁵ Through efforts, such as lobbying the state for publication and wide-spread distribution of certain informational materials, the CWTU aimed to play a critical role in instilling appropriate morals in the public, as well as in initiating change in the landscape.

State Superintendent Hyatt and Saving the Breed

State Superintendent Hyatt’s concerns about children’s health, and the strength of future generations, led him to champion the implementation of open-air schools across California, particularly the tent-style open-air school. Like Ezra Gosney and Dr. Foster, Hyatt embraced open-air schools as the key to raising stronger, healthier children,

²⁴ The “Conservation of Health” series, requested by the Women’s Christian Temperance Union, also included bulletins titled: “The Public Playground: An Interesting Development in Education,” 1912; “Alcohol and Efficiency,” 1916; “What a pity: An aid to use in carrying out the law for all school children to be taught the effects of alcohol and narcotics upon the human system,” 1912, 1916; “John Barleycorn: A Message to Teachers of California,” 1914; “Safety First: Stop! Look! Listen!,” 1915; see also Marta Gutman, “Entre moyens de fortune et constructions spécifiques les écoles de plein air aux états-unis à l’époque progressiste (1900-1920),” in *L’architecture Scolaire: Essai d’historiographie internationale*, No. 102 (May 2004) edited by Anne-Marie Châtelet and Marc LeCoeur (Lyon: Institut National de Recherche Pédagogique, 2004) 172-178.

²⁵ Hyatt, “California Schoolhouse for \$500”, 1.

effectively saving the nation from the perceived threats of industrialization and immigration. Hyatt lamented declining physical labor in the U.S., particularly given the diminished centrality of farm life and culture: “Advancing civilization, increased wealth, labor saving machinery, have robbed our children of the things that have been giving them tough and strong bodies in the past... The chores and labor of the shop and farm and home no longer fall on the children of the household—no wood to chop, no butter to make, no swine to feed nothing in the world to do but just to walk about—and they do that on bicycles!”²⁶ Hyatt also simultaneously lamented children’s lack of interaction with the outdoors: “I see children go indoors at 9 o’clock, climb two pairs of stairs—and then never take a deep breath, never make a vigorous movement, never emerge into the outdoor air again for any purpose whatever until 3 or 4 o’clock at night! Could we raise good colts or calves that way?” To him, schoolchildren were “young animals, bloodless and starving for a house of running and skipping in the outdoor sunshine every day.” Open-air schools were necessary, or “down goes the race!,” he contended.²⁷

Importantly, Hyatt didn’t necessarily think that open-air and outdoor schools would always be comfortable and easy for students, but he did feel that enduring the elements was part of the challenge that strengthened the “breed” or the “race”: “The human animal is made for activity, for coping against and overcoming the difficulty of wind and weather—outdoor nature. It is this struggle that has evolved him, that has developed him, made him. If you remove from him the necessity of the struggle, or

²⁶ Edward Hyatt, Speech on Improving Children’s Bodies, Exercise, Playgrounds, Box 1, Folder 5, Edward Hyatt papers (Collection 905), UCLA Library Special Collections, Charles E. Young Research Library, UCLA.

²⁷ Edward Hyatt, Speech on Improving Children’s Bodies, Exercise, Playgrounds, Box 1, Folder 5, Edward Hyatt papers (Collection 905), UCLA Library Special Collections, Charles E. Young Research Library, UCLA.

work, he dies. Not suddenly, but slowly in a few generations, he fades away and a stronger breed takes his place.”²⁸ Likewise, the new tents were part of Hyatt’s broader project of rural school reform, a government-led effort to regulate small, one-room school houses that were run by teachers, who, because they were mostly single women, were purportedly “feminizing” the population. In her book, *Country Schoolwomen: Teaching in Rural California*, Kathleen Weiler asserts: “Because the overwhelming majority of rural teachers were women, whereas reformers tended to be men in positions of authority, the gendered subtext of this reform movement is not difficult to see. Rural schools were described at various times as unscientific, backward...unclean, disorganized, and significantly, presided over by untrained and ignorant women teachers.”²⁹ The tent schools, originating from medical directives, were scientifically sanctioned and sanitary. Open-air tent schools, with their variable climatic conditions, impermanent canvas walls, and perceived proximity to the land, were embraced for their distinctly masculine qualities. The fresh air and rough conditions they offered would toughen up the students as no female teacher could. Paper instructions for their construction could be easily delivered by mail, and the tents could be erected with basic materials and little skill in even the remotest of towns. This approach ultimately led to the successful implementation of new standards for rural school architecture. Such standardization was thought to simultaneously improve the quality of education and exert control over disparate and autonomous rural schools.

²⁸ Hyatt, Speech on Improving Children’s Bodies, Exercise, Playgrounds, Edward Hyatt papers, UCLA.

²⁹ Kathleen Weiler, *Country Schoolwomen: Teaching in Rural California, 1850-1950* (Palo Alto: Stanford University Press, 1998), 61.

The tent schools' standardized kit of parts and simple step-by-step assembly reflected industrial methods of factory-style production. Weiler writes that the concern with rural schools in the Progressive Era was in part to "rescue the agrarian values of traditional American society in a period of social change," but it also signaled, "demand for greater state and expert control over the work of teachers, as well as a belief that rural teachers were not benefitting from the methods of business efficiency that were transforming urban school systems."³⁰ Hyatt's effort to unify the architecture of rural and overflow schoolhouses reflected an emphasis on discipline and control that was "typical of school officials and educational experts in the Progressive period who were attempting to recast the educational bureaucracy on the model of business efficiency."³¹ A popular engineering journal from 1913 called out the importance of efficiency in the design of structures as in humans: "The Millennium will have been reached when humanity shall have learned to eliminate all useless waste... When humanity shall have learned to apply the common sense and scientific rules of efficiency to the care of body and mind and the labors of body and mind, then indeed will we be nearing the condition of perfect."³² This spirit of efficiency pervaded American life from architecture to wilderness conservation to municipal reform projects.³³ The tent schools reflected efficiency and conservation in their design and construction. In the small Central Valley town of Manzanita, its lone school house was constructed closely following the model publicized by Hyatt. The tent school, proudly sited at the center of town, represented

³⁰ Weiler, *Country Schoolwomen*, 61.

³¹ Weiler, *Country Schoolwomen*, 61.

³² *Cassier's Monthly*, July 1913, 44, I; Samuel P. Hays, *Conservation and the Gospel of Efficiency: The Progressive Conservation Movement, 1890-1920* (Pittsburgh, Pa: University of Pittsburgh Press, 1999), 124-25.

³³ Hays, *Conservation and the Gospel of Efficiency*, 265-266.

modern efficiency. But, Manzanita School also added a large bell tower to the tent structure, contrasting its economical materials with a recognizable symbol of small town prestige. Indeed, while the tent style school was designed as a modern and efficient structure, the town's addition of the bell tower also aimed to reassert traditional symbolism of the schoolhouse (Figure 14).³⁴

Importantly, the tent schools paralleled social reform strategies and efforts that emerged in response to the influx of immigrants in California. The Fresno school district gained 516 students in 1911 alone, which led to severe overcrowding. Many immigrants came to Fresno and other destinations in California at the turn of the century to work on the railroad and in the growing agricultural industry, or they arrived in search of religious freedom and safety. At the turn of the century, the Central Valley area was becoming increasingly ethnically diverse, with significant populations of Chinese, Japanese, Armenian, Mexican, Italians, Portuguese, Danes, and German-Russians. The population was "so varied in respect to nationalities that no country on the globe appeared to lack a representative," says California historian, Virginia Thickens. Fresno, in particular, was "one of the most cosmopolitan communities in the state."³⁵ At the turn of the century, Fresno experienced a boom of German-Russian immigrants. In 1900, only 734 German-Russians lived in Fresno, but by 1908, there were 3,000, and by 1920, there were 20,000,

³⁴ Manzanita's tent school lasted until 1925, when a fire destroyed it; American Association of University Women, and Fresno County *Public schools of Fresno County, 1860-1998*. (Fresno: Fresno Branch, American Association of University Women and Fresno County Superintendent of Schools, 1999).

³⁵ Virginia E. Thickens, "Pioneer Agricultural Colonies of Fresno County," *California Historical Society Quarterly* (University of California Press), Vol. 25, No. 2 (Jun., 1946), 169-177: 175-176.

though their immigration had mostly ceased by 1914 because of war.³⁶ From roughly 1900 to 1914, German-Russians settled a region of Fresno called Germantown. The Fresno School Board placed one of its first tent schools at Kirk Public School, located in Germantown on Belgravia Street. Simultaneously, Armenian immigrants were arriving in Fresno, first as farm laborers, but then they came to control the land and the businesses that grew and sold the produce, particularly in relation to the thriving raisin industry. In 1894, there were only 360 Armenians and they owned just 200 acres of farmland, but by 1906, Armenians owned 16,000 acres of the raisin growing farmland.³⁷ By 1920 there were 8,000 Armenians in Fresno.³⁸ The Armenians and the German-Russians lived in close proximity to one another in Fresno. The German Lutheran Church and the Armenian Holy Trinity Church were within one block of each other, and within one block of Emerson public school, where the School Board sited another of the earliest tent schools. Mexican workers, who held 5% of available farm jobs in Fresno County in 1910, made up 70% of the workforce by 1920, and the overall population increased from 37,862 in 1900 to 75,657 in 1910.³⁹

In this climate, Hyatt feared the public school was carrying the “burden” of educating and Americanizing foreign immigrants. “[T]he public school is like the camel,”

³⁶ “Germantown,” Fresno Historical Context, City of Fresno, Planning and Development Department, 2006; Sharon Hiigel, “Faces on the Land: A Selective Look at Fresno’s Ethnic Communities,” in Karana Hattersley-Drayton, *Architecture, Ethnicity and Historic Landscapes of California’s San Joaquin Valley* (Fresno: City of Fresno Planning and Development Department, 2008), 104.

³⁷ Berge Bulbulian and Elish Shekoyan, *The Fresno Armenians: History of a Diaspora Community* (Fresno: Press at California State University, Fresno, 2000), 55.

³⁸ Hiigel, 106.

³⁹ David White, “A New Crop: Immigrants and Transplants,” in *Fresno County: 150 years* (Fresno: Fresno Bee, 2006), 62.

he commented. “Load it on the camel if you don’t know what else to do with it.”⁴⁰ While he lamented this difficult task, Hyatt felt that Americanization was an important and essential goal, and he believed that the public school – particularly an economical school with open-air architecture – could be a good place in which to achieve it. A child in such a school, in fact, could act as a messenger of American values; the young immigrant would learn these values at school and then return home and educate the adult members of the family — those adults who didn’t “know enough yet to be a safe companion for us.”⁴¹ Such fears were a driving force behind the embrace of Fresno’s open-air school model. As foreigners who didn’t adopt an “American way of life” were thought to be dangerous, they constituted “an ever present peril, a dangerous menace, to our very life as a nation,” one that would be alleviated by an educational structure focused efficiently on Americanization.⁴²

At the Panama Pacific Exposition in 1915, the Fresno tent structures were featured in an exhibit on education. These structures were presented as part of a broader program for combatting the challenges posed by immigration. In a section of the exhibit titled, “What California needs to protect its babies,” the tents were featured alongside proposals to administer psychological examinations to all immigrants, to pass commitment laws for the “feeble-minded,” and to place legal restrictions on marriage for such individuals or for anyone with a sexually transmitted disease, tuberculosis,

⁴⁰ Edward Hyatt, “A New Profession,” Box 1, Folder 2, Edward Hyatt papers (Collection 905), UCLA Library Special Collections, Charles E. Young Research Library, UCLA.

⁴¹ Hyatt, “A New Profession.”

⁴² Edward Hyatt, “A New Profession.”

alcoholism, drug addiction, or mental illness.⁴³ The tent schools were presented at the Exposition as a solution to such xenophobic and eugenic concerns.

It was also no coincidence that the tent schools appeared in Fresno at the same time as the Fresno School Board passed a list of School Rules, which included “attention to personal neatness and cleanliness.”⁴⁴ This drive for sanitation was coming straight from the top, as Hyatt declared that “Cleanliness is next to godliness” and lamented that, “Every working superintendent knows a dozen schools or more where the growing children of the neighborhood are *steeped* in slovenliness, filth, and immorality during a large part of their waking hours. Now there’s a dragon worth fighting—slovenliness, filth and immorality are foes to progress, to civilization.”⁴⁵ The “filth”—especially rural filth—was thought best combatted through improvements in the school environment. As open-air advocate Fletcher B. Dresslar wrote in *School Hygiene* in 1916, “If every rural school-teacher could and would set to work, wisely and courageously, to make the school environment completely wholesome and pure, and to teach the children the facts relating to personal and community hygiene, country life would soon make rapid strides toward health and salutary living.”⁴⁶ With the publication of the tent school bulletin, Hyatt placed his faith in the sanitizing power of the open-air structure.

The tent schools offered many benefits: they could be rapidly constructed, they were economical, they maximized fresh air and sunlight while protecting students from

⁴³ Carson W. Ryan, *Education Exhibits at the Panama-Pacific International Exposition, San Francisco, Cal., 1915* (Washington: Government Printing Office, 2016), 32.

⁴⁴ Fresno School Board Minutes (Jan 12, 1917), 529.

⁴⁵ Edward Hyatt, *School Architecture and School Improvement in California* (Sacramento: State Printing Office, 1909), 77, 80.

⁴⁶ Fletcher B. Dresslar, *School Hygiene* (Mass: Norwood Press, 1916), 4.

the cold, and they kept out pests such as flies. Importantly, the tent schools were also easily portable, which allowed them to be moved as the city's population increased.⁴⁷ In this way, the rural one-room schoolhouse was reinvented as a temporary, disposable structure that was mobile and deconstructible — an architectural expression of the migrant population's labor status. The fact that these schools were quick and easy to construct, coupled with their perceived potential to acculturate and improve hygiene, ensured their appeal. Consequently, the tent schools were established, beginning in 1910, not only in Fresno proper but also in many towns up and down the Central Valley.

An Idealized Vision Versus Reality: The Children's Experience of the Tent School

The cover image of the popular bulletin showcasing the Fresno model featured a pleasantly rendered sketch of an open-air tent school, printed with brightly colored highlights. The charming tent school was set amongst green trees in a field of green grass, and the base of the exterior was lined with red flowers. The front door was open, and a teacher stood close to a student with a warm expression. The detailing on the structure's exterior was highlighted by red and green trim, so that the school resembled an Arts and Crafts bungalow (Figure 1). It was this type of structure that Hyatt described as “more wholesome than the proudest structure in the State.”⁴⁸ Likewise, in articles about the Fresno tent schools, the interior was promoted as a “beautiful place, full of light, the air, the soft breezes, the swaying branches, the freedom of all outdoors.”⁴⁹ The light from the canvas panels was described as “more perfect and more agreeable” than

⁴⁷ Hughes, “Housing The Overflow,” 21-22.

⁴⁸ Hyatt, “California Schoolhouse for \$500,” 1.

⁴⁹ Hughes, “Housing The Overflow,” 21.

any glass windows.⁵⁰ The *American School Board Journal* remarked that, “the room is as well lighted as a photographic studio.”⁵¹ In the Central Valley town of Colton, the tent school, or the “Pretty One-Room Bungalow”, had fabric windows that could be lowered down like the latest and greatest “method used in many street cars.”⁵² And importantly, with the free flow of the breeze, “Garlic, as a staple article of diet, loses all terrors. The deadly schoolroom smell disappears.”⁵³ While a seemingly silly comment from Hyatt, the smell of garlic was at times referenced as a sign of foreign origins. For example, the President General of the National Society of the Daughters of the American Revolution revealed just such xenophobia at the organization’s Continental Congress in 1919, asking: “What kind of American consciousness can grow in the atmosphere of sauerkraut and Limburger cheeses...Or, what can you expect of the Americanism of the man whose breath always reeks of garlic?”⁵⁴

Despite the promise of bright light, clean air, and fresh smells, it is easy to imagine how such a tent, set in an agricultural landscape, would also seem like a corral, an outdoor pen to contain livestock or, in this case, children. In fact, as previously discussed, Hyatt often referred to children as “animals,” as “livestock,” as a “breed”, or as “creatures”.⁵⁵ While the children of the Polytechnic and Francis Parker were encouraged by the design of their open-air schools to explore the outdoors, in the tent

⁵⁰ Hyatt, “California Schoolhouse for \$500”, 1.

⁵¹ Hughes, “Housing The Overflow,” 21.

⁵² “From the Nearby Towns,” *San Bernardino County Sun*, July 25, 1911.

⁵³ Hyatt, “California Schoolhouse for \$500”, 1.

⁵⁴ *Daughters of the American Revolution Magazine*, National Society, Twenty-eighth Continental Congress, May 1919, Volume LIII, No. 5: 283; Edward Hale Bierstadt, *Aspects of Americanization* (Cincinnati: Stewart Kidd Co., 1922), 114-5; Lawrence A. Cremin, *The Transformation of the School: Progressivism in American Education, 1876-1957* (New York: Knopf, 1961), 68.

⁵⁵ Edward Hyatt, “Open-air Schools for Subnormal Children,” Box 1, Folder 5, Edward Hyatt papers (Collection 905), UCLA Library Special Collections, Charles E. Young Research Library, UCLA.

schools, the children were simply contained within the tents, discouraged and prevented from interaction with the landscape. Even at Fruitvale, where the form of the canvas and wood structure was similar to that of the Fresno tents, the extended porch and the mobile children's desks attempted to increase children's experience of the outdoors. Although Fresno's tent schools varied widely in their relationship to their setting, they were often erected in a field, adjacent to agriculture, where the tent became a sort of garden shed or greenhouse for the children. These references to livestock and agricultural crops made children seem as if they were a consumable possession, a commodity capable of being tamed and improved or a crop that could be "grown" by adults.

Although the canvas enclosure and operable windows of the tent schools were new, the interior configuration of the schoolroom remained unchanged. Despite the canvas awnings flying in the breeze, the environment was still unyielding. The students sat at their bolted desks, arranged in rows facing the teacher's desk. The chalkboards, running along the wainscoting, were nearly five feet tall. The height of the blackboards allowed the teacher to just barely see outside the classroom while preventing "outside scenes from attracting the attention of the children," as an article *Popular Educator* magazine recounted.⁵⁶ This rigid and austere interior structure was further emphasized in a photograph depicting one poor student standing, for punishment, with his head against the chalkboard (Figure 15). Instead of fostering a sense of openness and connection to the landscape, the interior was crowded and inflexible.

The teachers themselves also felt misgivings about the architecture of the tent schools, protesting against the temporary nature of the structures. They may have felt that

⁵⁶ Hughes, "What the Schools are Doing," 206.

the schools' impermanence suggested that their jobs were similarly ephemeral. Hyatt had to reassure these teachers, saying, "don't worry...because when warm weather rolls around the teacher of the open air room is an object of envy and there are none of the others but would gladly change place with her."⁵⁷ Nevertheless, Hyatt was on a mission, seeking the support of students and teachers alike: "Teachers and children seem to prefer it to the regular class room. They can study better. They don't have so many coughs and colds. In this climate, it seems to be more wholesome, more healthful, more conducive to good work and good temper...."⁵⁸ Yet with inadequate airflow, congested interiors, limited views, restricted access to the outdoors, and distraught teachers, there was clearly a significant disconnect between Hyatt's idealized claims about the tent school model and the reality as the tent schools were implemented.

A Tent School Campus

Recognizing that there would be some instances when more than a single classroom was needed, State Architect Woollett proposed a design combining individual tent units into a school campus. This larger campus, still made of ephemeral materials, could be easily relocated, renovated, or enlarged. The idea was so popular that it was reprinted in 1917 with a fully rendered image in Kingsley and Dresslar's U.S. Department of Education publication, *Open-Air Schools* (Figure 16). The design of the tent campus was based almost exactly on the 1907 Pasadena Polytechnic Elementary School. Hyatt knew about the Polytechnic and celebrated its design in his school

⁵⁷ Hughes, "What the Schools are Doing," 206.

⁵⁸ Hyatt, "Open-Air Schools for Subnormal Children," Edward Hyatt papers, UCLA.

architecture publications from 1909 and again in 1914. The pavilion classrooms of the more permanent Polytechnic school were simply mimicked in the form of tent rooms. The tents were lined up along courtyards with an assembly hall at the center of the sprawling complex. An overhang or “porch” created a continuous corridor connecting the tent units. In this way, the tent school complex was a simplified and impermanent version of the Pasadena bungalow school. The tent school campus was a less expensive solution. Here, the grand oak tree was replaced with a lone flagpole, and the particulars of place—including climate and vegetation—were no longer relevant. The tent campus stood in stark contrast to the elite Polytechnic, where the rich vegetation enveloping the school and the quaint orange grove that surrounded it made it look as if it was part of a long-established, mythic landscape. By contrast, the tents could be set on any “sanitary” site, or any flat gravel plot, and the temporary nature of the structures further discouraged sustained integration with the land. Meanwhile, the difference in construction costs – \$6,000 for the tent school campus in 1913 versus \$37,000 for the Polytechnic in 1907 – was proof of the economic and social differences between the two regions where the schools were located.⁵⁹

The tent schools were a markedly short-lived experiment, especially when compared to the longevity of open-air schools like the Polytechnic and Francis Parker. Between 1915 and 1917, the open-air tents would become less popular. The canvas would be replaced with glass, as the canvas did not transmit light and air as well as was originally thought, leaving the rooms dark and stale. In an image of children outside a one-room outdoor school in Sacramento from 1915, the similarly designed structure had

⁵⁹ See Gutman, “Entre moyens de fortune et constructions spécifiques,” 172-178.

been made slightly more permanent with the addition of glass windows, fabric curtains, a flower bed planted around the perimeter, and sheeting on the roof (Figure 17). The options for ventilation in the tents, which were essential to the original design, would also prove problematic; when the canvas awnings were open, disruptive gusts of wind were channeled through the classroom. The school board would eventually begin describing the tent structures as merely “emergency buildings,” with no mention of their open-air qualities.⁶⁰ In the meantime, however, similar canvas-walled tent schools were developed in very different contexts, such as the elite Hotel Del Coronado outside San Diego.

Studying in the Sand at Coronado’s Beach School, 1913

In 1910, Janet Owers, the wife of a judge, opened a small school in her home in Coronado. Her school became popular, and like many other small, private, progressive schoolmasters in California, Mrs. Owers sought to harness architecture as a means of improving her pupils’ health and generating further interest in her school. As Mrs. Owers was up-to-date on the latest educational techniques and children’s health measures, she took steps in 1913 to establish her own open-air school. Leasing land from the Hotel Del Coronado’s beach, she opened a school that summer, which was largely out of doors, only a few feet from the sea. Initially, the school was comprised of two wood frame structures covered with vertically striped canvas. The school was known as The Beach School and open to male and female students of all ages (Figure 18).⁶¹

⁶⁰ Minutes of the Fresno School Board, January-August 1915.

⁶¹ See advertisement, “Hotel del Coronado, Coronado Beach, California, Summer in Name Only,” *Riverside Daily Press*, June 21, 1913, 10.

Children staying at the hotel attended the school, but it was also very popular with the Coronado elite, who chose to send their children there instead of the local public school. Perhaps unsurprisingly, this new attraction seemed to help increase the hotel's popularity; in 1914, the season after the Beach School opened, the hotel welcomed a record-breaking number of visitors. With travel to San Diego and Coronado increasing because of advertising in the East and Midwest that marketed Southern California as a health mecca, as well as hotels partnering with newly opened railroads to offer discounted rates during a time when the war had halted most leisure travel to Europe, the open-air school only enhanced these existing draws. Many well-known families and famous guests came to stay at the hotel for several months during the winter, trading a cold season closed-up indoors for warmer weather with outdoor living. The hotel advertised that they offered an enlarged school on their grounds with a new beach building for sewing and domestic science studies. The beach school was seen as an opportunity for families to keep their children's academic learning on schedule in the healthiest setting possible, complete with fresh sea breezes. Upon the opening of the school in 1913, the *San Diego Union* announced: "No longer does the 'poor little rich girl' who has to live in a hotel, need our sympathy. No longer need she feel that she is in the way or that all the other children will be ahead of her when she returns to school. No longer must the winter trip to California mean the separation of families, for how every need of the children, whether for work or for play, is provided for."⁶² And of course, in addition to academics, children did exercises in the sand. They held hands and followed

⁶² "Pupils Find Play in School Work. Children Enjoy the Montessori System Ideals. New Out-of-Doors Institution at Hotel Del Coronado Notably Successful with Little Folks; Study on Sands and Present Plays in Shade of Palm Trees," *San Diego Weekly Union*, December 7, 1913, 6.

the teacher, doing their physical exercises “under the healthiest conditions imaginable”.⁶³

In this period, the school was used as a backdrop for tourists’ photographs, hotel postcards, and publicity images. One image of a model posing in a bathing suit on the beach even has the Beach School structures as its scenic background (Figure 19). While the Beach School ensured children’s health and academic growth, it also became one of the hotel’s key aesthetic features.

The openness of the school, with its light frame and canvas architecture set right on the beach, likely drew inspiration from Coronado’s famous Tent City, which was founded in 1900 and lasted until 1939. Tent City, owned by the same owners as the Hotel Del Coronado, offered a camp-style destination of “canvas homes” and an amusement park-like atmosphere.⁶⁴ Several hundred furnished tents with vertically striped canvas covers or wooden huts with broad thatched roofs stood in orderly rows along a long beach. Every one hundred feet along the main avenue a flagpole flew an American flag that waved in the sea breeze (Figure 20). A postcard from Tent City shows the canvas tents superimposed on a sea shell; to the Coronado visitor, the tents were as much a part of the sea shore as the sea shell (Figure 21).

Tent City was developed, as its advertisement announced, for both “health and pleasure seekers.”⁶⁵ In this constructed seaside landscape, visitors could experience the many benefits of the “bay and ocean, climate and scenery, art and engineering, here

⁶³ *El Patio*, September 11, 1920, 9.

⁶⁴ *Coronado Tent City*, program, 1904; Janine Zuniga, “Tent City lured visitors to Coronado for 40 years,” *San Diego Union Tribune*, October 23, 2010.

⁶⁵ *Coronado Tent City*, program, 1904.

combined to goodly purpose.”⁶⁶ Doctors “sung the praises of this harbor of restoration.”⁶⁷

Their expert medical advice about the curative properties of open-air life on the shores of Coronado carried much clout. Dr. Abbot, of Pasadena, is quoted in a 1904 brochure:

It is the well and strong who enjoy Coronado beach and its environments to its greatest advantage; its boating and swimming, its golf links, riding to hounds, fishing and hunting, its level bicycle paths, its dances and the whirl of social gayety. Yet those who appreciate the blessings of Coronado most are they who feel from day to day returning health. It is they who most deeply breathe the refreshing salt air, who bask in the warm bright sunshine with keenest delight and who most thoroughly enjoy the quiet rest by the restless sea.⁶⁸

In a tent at Tent City, the visitor was “blessed by Nature’s choicest gifts, which, with the aid of art, blooms mature and serene.”⁶⁹ At Coronado, nature’s gifts were for the whole family, and Tent City paid special attention to attracting children. There were weekly gatherings, donkey rides, a merry-go-round, monkey cages, an ostrich farm, and seal tanks.⁷⁰ There was also a special shallow, but enormous, Children’s Bathing Pool, that was 100 x 175 feet and only one to three feet deep. The Beach School, established at the peak of Tent City’s popularity, took advantage of its established clientele and the novelty promised by beach tents and a beach school. The popularity of Tent City ensured a ready audience of travelers open to having their children educated at the Beach School—a similar form in a similar culture and climate.

⁶⁶ *Coronado Tent City*, program, 1904.

⁶⁷ *Coronado Tent City*, program, 1904.

⁶⁸ *Coronado Tent City*, program, 1904.

⁶⁹ *Coronado Tent City*, program, 1904.

⁷⁰ *Coronado Tent City*, program, 1904.

Beach School Architecture, Site, and Curriculum

Even more than other open-air schools in California, the Beach School was integrated into the landscape, as it was dwarfed by the wide beach, the open ocean, and the grand hotel. Set out on the sand in front of the hotel, the children spent their days in and around the structure that was closest to the ocean on the hotel property (Figure 22). The school's four open pavilions were different sizes, with striped canvas flaps that gave the school a marine aesthetic. The structures were mostly open-sided except for a few feet of wood paneling around the base and a broad roof. The low-lying pavilions with their pyramid roofs barely poked out of the sand. The school was located just behind a rock jetty that protected the hotel and the school from the large waves, creating a calm swimming area. A flag pole, slides, and swings dotted this educational landscape. In an image from a family photo album, two fancily dressed girls, in fluffy white dresses with bows in their hair, played on the swings in front of the Beach School (Figure 23). The sandy open-air setting was perfectly consistent with the school's progressive Montessori curriculum.

The school's approach to the Montessori system was led by three teachers, Mrs. Nellie Wattawa, Ms. Caroline Balch, and Mrs. Peddicord. Under their tutelage, the students learned a variety of subjects, many of which were not taught in the public school, such as art, cooking, carpentry, and French. The school organized festive celebrations, including for Valentine's Day and May Day, during which the children dressed up and paraded in front of guests assembled on the hotel's back terrace (Figure 24). As at Francis Parker, the students started the day with a flag salute at the center of

the campus, though in this case, they were on the beach. On one occasion, while the students conducted their morning flag salute, two dogs joined in on the fun, hanging out in the center of the flag circle. Most importantly, however, the Montessori curriculum animated the open-air concept, by allowing the students to move effortlessly between indoor and outdoor learning. The curriculum was based on daily experiences, art and beauty, and appreciating natural phenomena. Similar to Francis Parker, the landscape was fundamental to the education and the structures were used more to frame the opportunities available in the outdoor environment, than to contain the children. Often the structures at the Beach School served simply as storage rooms for the students' materials, as the children carried their Montessori materials out onto the beach, and the real work took place outdoors adjacent to the tents. In fact, the children were usually found "at work under the palms," solving their math problems in the sand, as was the case with student Albert Sturges (Figure 25).⁷¹ A newspaper reporter witnessed one little fellow working outside with red and blue sticks to learn how to count, while two girls learned how to lace, button, hook, and braid using frames with each fastening device inside them. Another gentleman was being "trained for peaceful bachelorhood" as he learned to sew on his own buttons. All the while, these activities were conducted in French, with the teacher a native Frenchwoman.⁷²

⁷¹ "Pupils Find Play in School Work," *San Diego Weekly Union*, 6.

⁷² "Pupils Find Play in School Work," *San Diego Weekly Union*, 6.

Conclusion

These two case studies represent different approaches to the design process—they exemplify the difference between top-down and ground-up approaches to design. The Fresno tent schools are an example of top-down design, where an elite education administrator, from his office in Sacramento, published the plans for a pre-designed school. This standardized design served, with minimal effort, to control the growing rural population and to assure educational conformity across remote rural school districts. The tent school design privileged minimum cost and ease of construction. The particulars of the site were irrelevant, except for ensuring that the site was “sanitary” and that it was free of rubbish, dampness, or dead animals. In contrast to other open-air schools, there was no consideration for the structure’s response to the site, the children’s experience of the site, or the opportunity for the curriculum to take advantage of the site. In one instance, a tent school was squeezed between two permanent buildings, where the walls of the adjacent structures were so close that little cross breeze would have been possible, nor would the students had any view of the landscape beyond the classroom (Figure 26). In another example, tent schools were set up in a line on a flat dirt lot (Figure 27). While the language of health and the great outdoors was passionately employed to encourage the construction of these schools, the actual lived experience of the outdoors was clearly absent.

At the Coronado Beach School, the tent structures succeeded because of their specific site. Their design reflected their location on the beach. It would have been difficult, if not impossible to build more permanent structures on a beach, where the high

water table, the constantly changing tidal conditions, and the weathering from the salt water and wind would have undermined the stability and durability of a permanent structure. The tent was a response to the properties of the site, a ground-up response to the local geographic and climatic conditions. The first public school on Coronado Island even employed the same enclosure system—in 1887, the public school was a large flat-wall tent. The Beach School was also a local response to local culture, as the project was conceived by a Coronado woman, someone who recognized the health and leisure appeal that the beach had to tourists and locals alike. She had witnessed the success of beach tents first hand at Coronado's famous tent encampment, Tent City, booming in the early years of the twentieth century. The history of Coronado's health and pleasure seekers, the appropriateness of the tents on the beach and in the marine climate, the lightness of the construction materials and the ability to update weathered materials all contributed to the success of the tent school at this site. The Beach School grew out of the particulars of the place. The Beach School was also about choosing health. It was a conscious, open engagement with the air and the land. This was not necessarily the case in the rural tent schools and these divergent case studies represent a fundamental rift between the first public and private open-air schools.

Mrs. Owers's progressive Beach School ultimately gained substantial recognition for its fresh air methods. The school lasted for twenty-eight years, until 1941, when the largest of the three school buildings became a war ration stamp center. The school's longevity relative to that of the Fresno tent schools is itself a testament to the very

different conditions under which the two cases developed. In Coronado, the city was determined not to be outdone by the hotel school and was pressured by local residents to construct its own open-air school. The public open-air school, also built in 1913, cost \$80,000. It was nearly the length of a city block and became one of the largest open-air schools in the state. The regal and rambling open-air school was built in an elaborate Spanish style, complete with a grand central dome (Figure 28). Its T-shaped plan embraced two outdoor playground spaces where the students did exercises in the open-air (Figure 29). Like the Francis Parker, its classrooms opened directly onto the landscape with large French doors. Large awning windows topped the French doors. The central auditorium, with arched doorways marching along both longitudinal sides, could also be completely opened up to the outdoors (Figure). The design of Coronado's public open-air school reflected contemporary developments in open-air public school construction in other cities in California, like Oakland. The adjacent city of San Diego was also working on their own open-air designs for the public schools that followed a similar model. These designs are the subject of the following chapter.

In rural Fresno and the Central Valley, overriding xenophobic concerns fueled the development of the tent school. These inexpensive, temporary, and standardized open-air schools were implemented as a tool for improving hygiene and controlling overcrowding and as an instrument of Americanization. Ever-increasing immigrant populations fueled fears about the dissipation of American values and open-air schools were seen as a means of resolving this problem. The tent schools were inherent products of social inequalities in public education and health care. This remained true despite the schools' structural and

design roots in the more permanent open-air schools of the affluent coastal areas, and despite the attention to craft inherent in the architectural design of the schools themselves. This distinctive, evanescent architecture and the varied relationships it created with the surrounding landscape raises important questions about public health and school design, particularly because these structures gave form to specific social and cultural beliefs about race, class, and conceptions of childhood. Despite this inequity, tent schools were a popular, vernacular, adoptable, and adaptable innovation. With merely \$500, an enterprising superintendent, doctor, or philanthropist could install a tent—sometimes with no investment at all, other than giving over a portion of his or her backyard. The ease of construction made this type of open-air school a pervasive grassroots, Progressive-Era project. Despite the impermanence and ephemerality of the tent structures, these very qualities helped them to instill open-air principles in the public school system. The tent schools contributed to the broader reshaping of California's educational landscape, by advancing new ideas about children's health while initiating a permanent shift in spatial form.

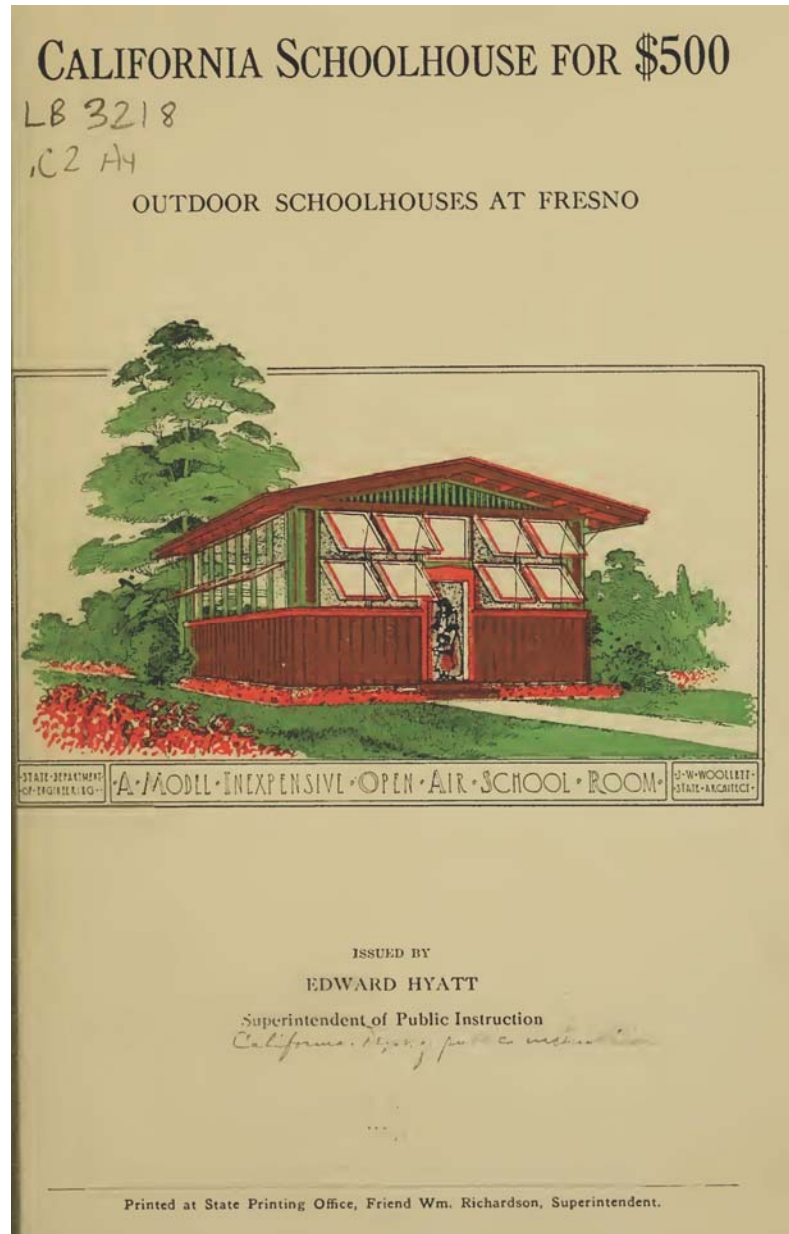


Figure 1

Cover image of tent-school bulletin.

Edward Hyatt, "California Schoolhouse for \$500: Outdoor Schoolhouses at Fresno", *Conservation of Health Bulletin*, Number 6 (Sacramento: State Printing Office, 1913)

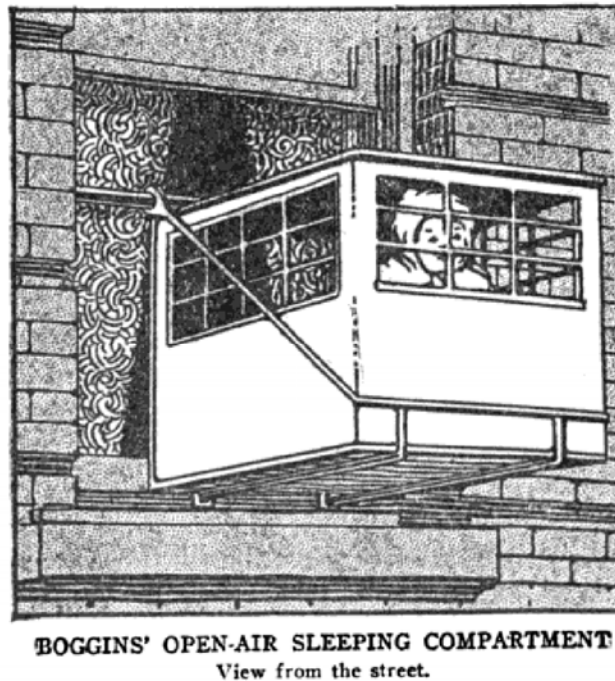


Figure 2

Boggins' Open-Air Sleeping Compartment

Dr. Louis Fischer, *The Health Care of the Baby* (New York: Funk and Wagnalls, 1920, first published in 1906), 6



Figure 3

Baby McAdoo's Open-Air Bed, Woodrow Wilson's Granddaughter's window crib on the East Coast. Library of Congress.



Figure 4

Beach School structures with connecting boardwalk. Coronado Historical Association.



Figure 5

Beach School morning flag salute circle, with swings and slide at water's edge. Coronado Historical Association.



Figure 6

“School is in Session”. Students writing in the sand with dowels in front of the Hotel.
Los Angeles Public Library.

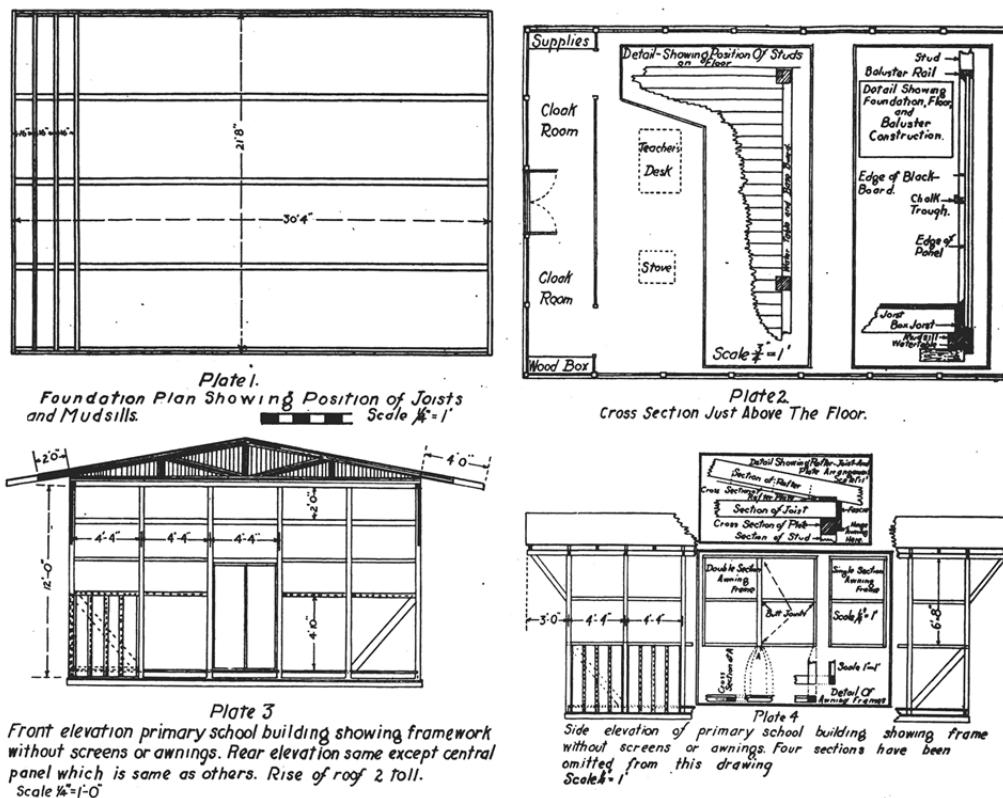


Figure 7

Architectural drawings for the construction of a tent school from the state bulletin. Republished in Hughes, "Housing the Overflow: The Fresno Type of Open-Air School," *The American School Board Journal* (June 1914): 22.

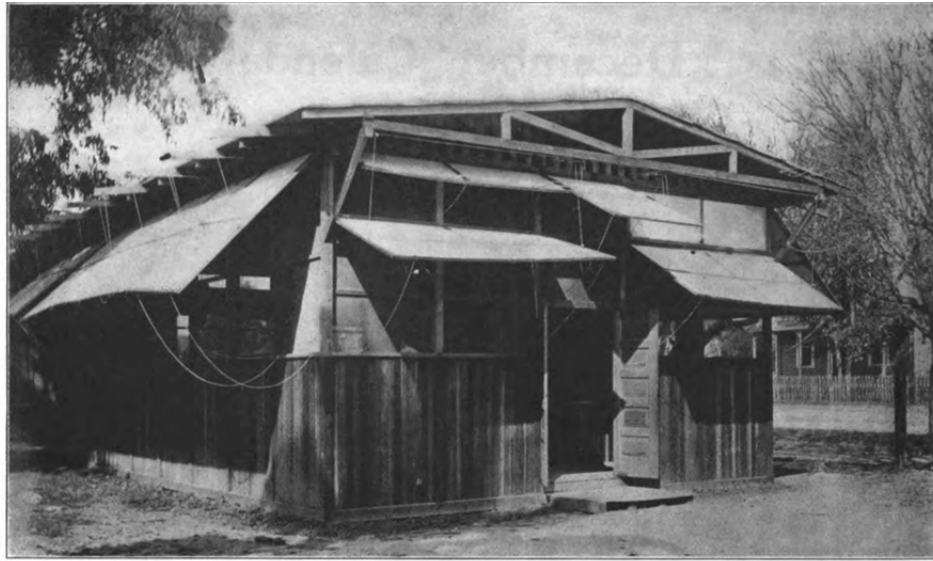


Figure 8

Exterior of Fresno tent school with canvas awnings and ropes.

Harold Hughes, "What the Schools are Doing. Teaching Out of Doors," *Popular Educator* (December 1914), 206-207: 206.

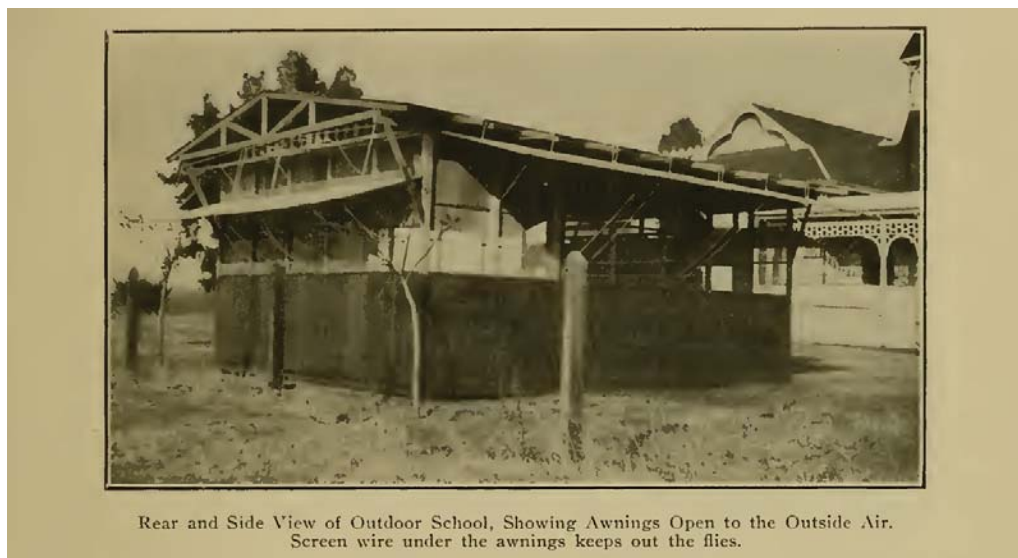


Figure 9

Exterior of Fresno tent school with all awnings open.

Edward Hyatt, "California Schoolhouse for \$500: Outdoor Schoolhouses at Fresno", *Conservation of Health Bulletin*, Number 6 (Sacramento: State Printing Office, 1913), 3.

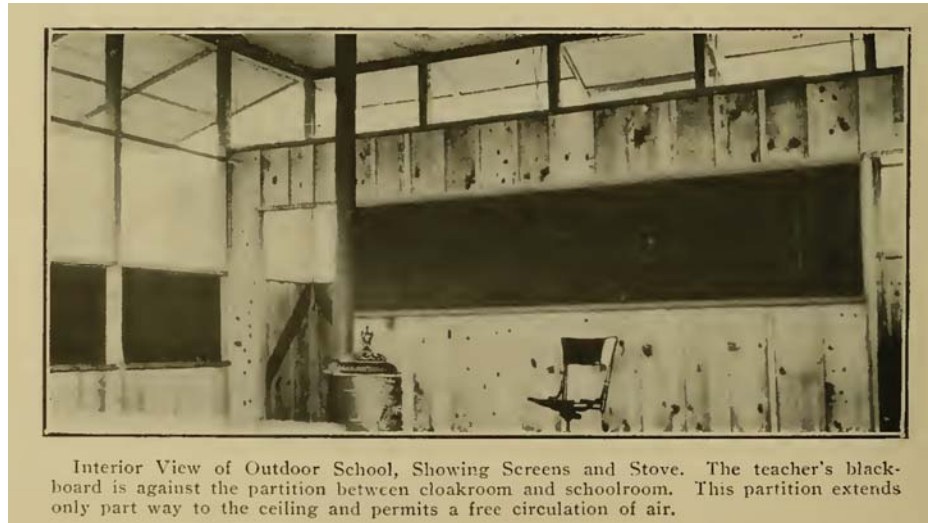


Figure 10

Interior of tent school showing black board partition with ventilation space above.

Edward Hyatt, "California Schoolhouse for \$500: Outdoor Schoolhouses at Fresno", *Conservation of Health Bulletin*, Number 6 (Sacramento: State Printing Office, 1913), 4.

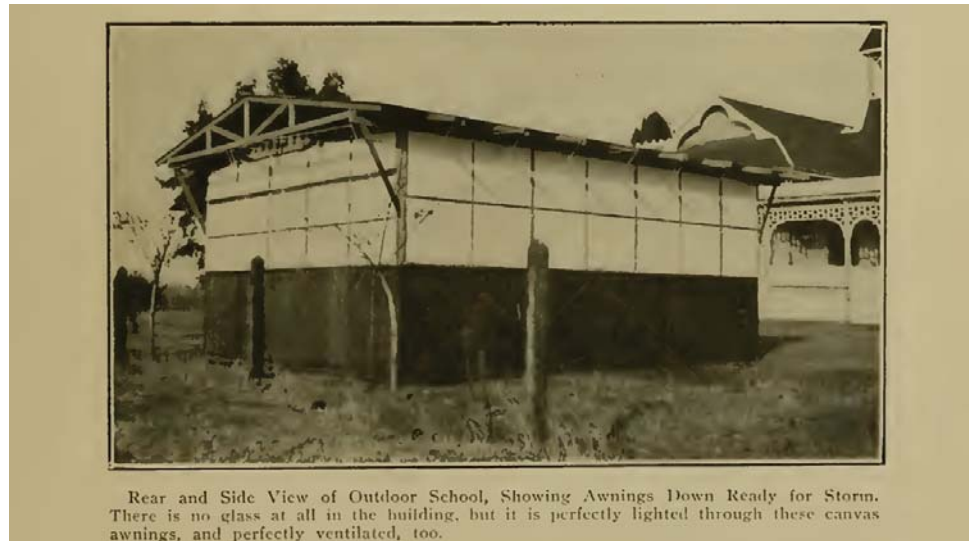


Figure 11

Exterior of Fresno tent school with all awnings closed, ready for a storm.

Edward Hyatt, "California Schoolhouse for \$500: Outdoor Schoolhouses at Fresno", *Conservation of Health Bulletin*, Number 6 (Sacramento: State Printing Office, 1913), 3.



Figure 12

The Tucker Tent with wooden base and canvas sides, including operable canvas awning windows.

Thomas Carrington, *Fresh Air and How to Use It* (New York: The National Association for the Study and Prevention of Tuberculosis), 133.

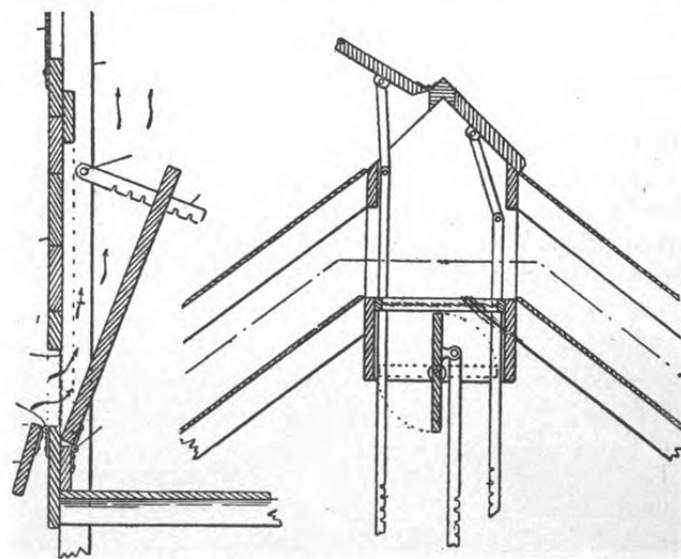


Figure 13

Special ventilation strategies for the Tucker Tent including an inlet for fresh air near the floor (left) and a ventilator at the roof peak for stale air (right).

Carrington, *Fresh Air and How to Use It*, 133.



Figure 14

Manzanita School, a tent school with bell tower. Image from 1922. Eastern Fresno County Historical Society.



Figure 15

Crowded interior of tent school classroom with no views outside and student with head against blackboard.

Harold Hughes, "What the Schools are Doing. Teaching Out of Doors," *Popular Educator* (December 1914), 206-207: 207.

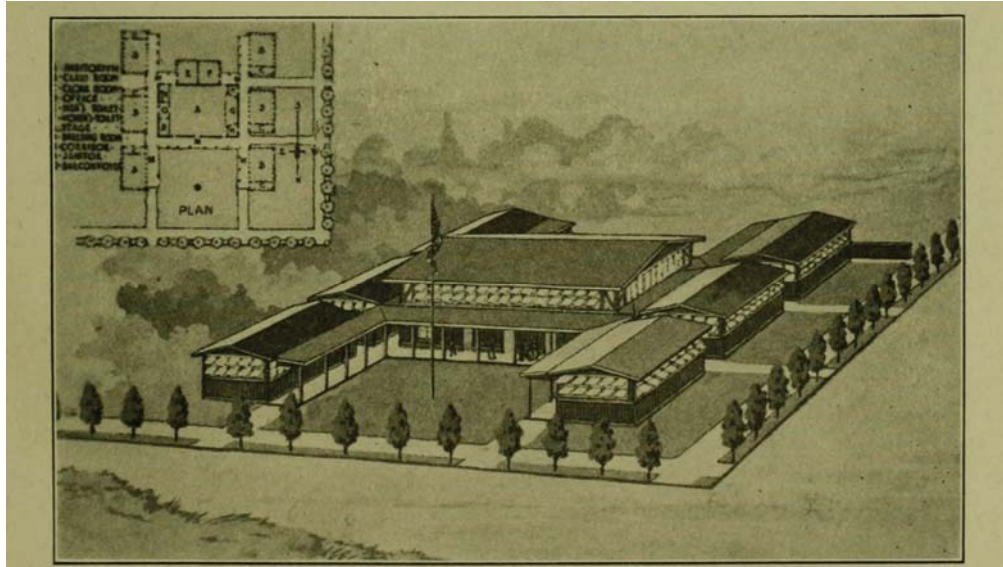


Figure 16

Plan for a model tent school campus.

Edward Hyatt, "California Schoolhouse for \$500: Outdoor Schoolhouses at Fresno", *Conservation of Health Bulletin*, Number 6 (Sacramento: State Printing Office, 1913), 11.



Figure 17

Sacramento "portable" outdoor school, c. 1915. Goldsberry Collection, Library of Congress.



Figure 18

Aerial photograph of Hotel Del Coronado showing beach school on the sand (front right corner of image) at the edge of the jetty. Coronado Historical Association.



Figure 19

Beach School structure behind model. Coronado Historical Association.



Figure 20

Tent City's canvas tents, thatched huts, and main avenue lined with flagpoles.

<http://hoteldel.com/timeline/tent-city-opens/>



Figure 21

Postcard for Tent City. <http://www.welcometocoronado.com/>



Figure 22

Ocean elevation of Hotel Del Coronado with Beach School visible on the sand just behind protective rock jetty. Coronado Historical Association.



Figure 23

Girls on swings at the Beach School. Coronado Historical Association.



Figure 24

Beach School parade for hotel guests. Coronado Historical Association.



Figure 25

Student Albert Sturges writing out math problems in the sand with a dowel. Los Angeles Public Library.



Figure 26

Tent school at Fresno State Normal School. January 1916. Copyright Pop Laval Foundation.

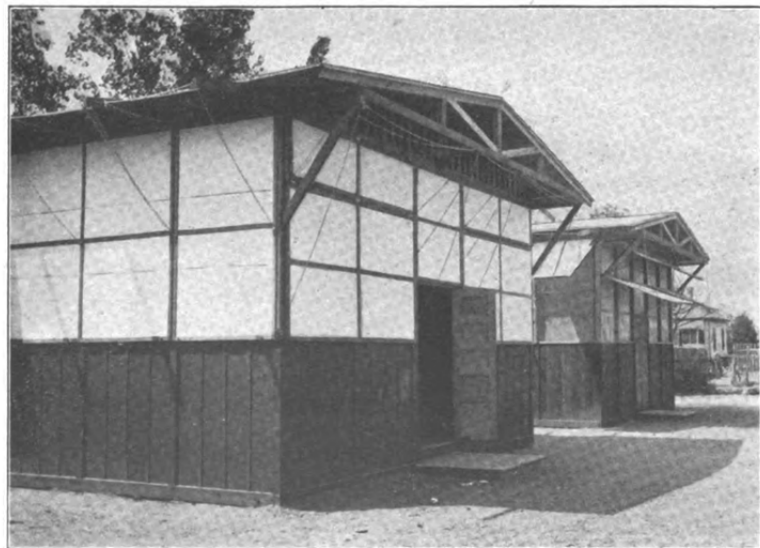


Figure 27

Fresno tent schools on a dirt lot in a row.

Harold Hughes, "Housing the Overflow: The Fresno Type of Open-Air School," *The American School Board Journal* (June 1914): 21.



Figure 28

Coronado Grammar School, constructed 1913.

Coronado Public Library via Online Archive of California.



Figure 29

Children doing exercises outside Coronado Grammar School. Coronado Public Library via Online Archive of California.

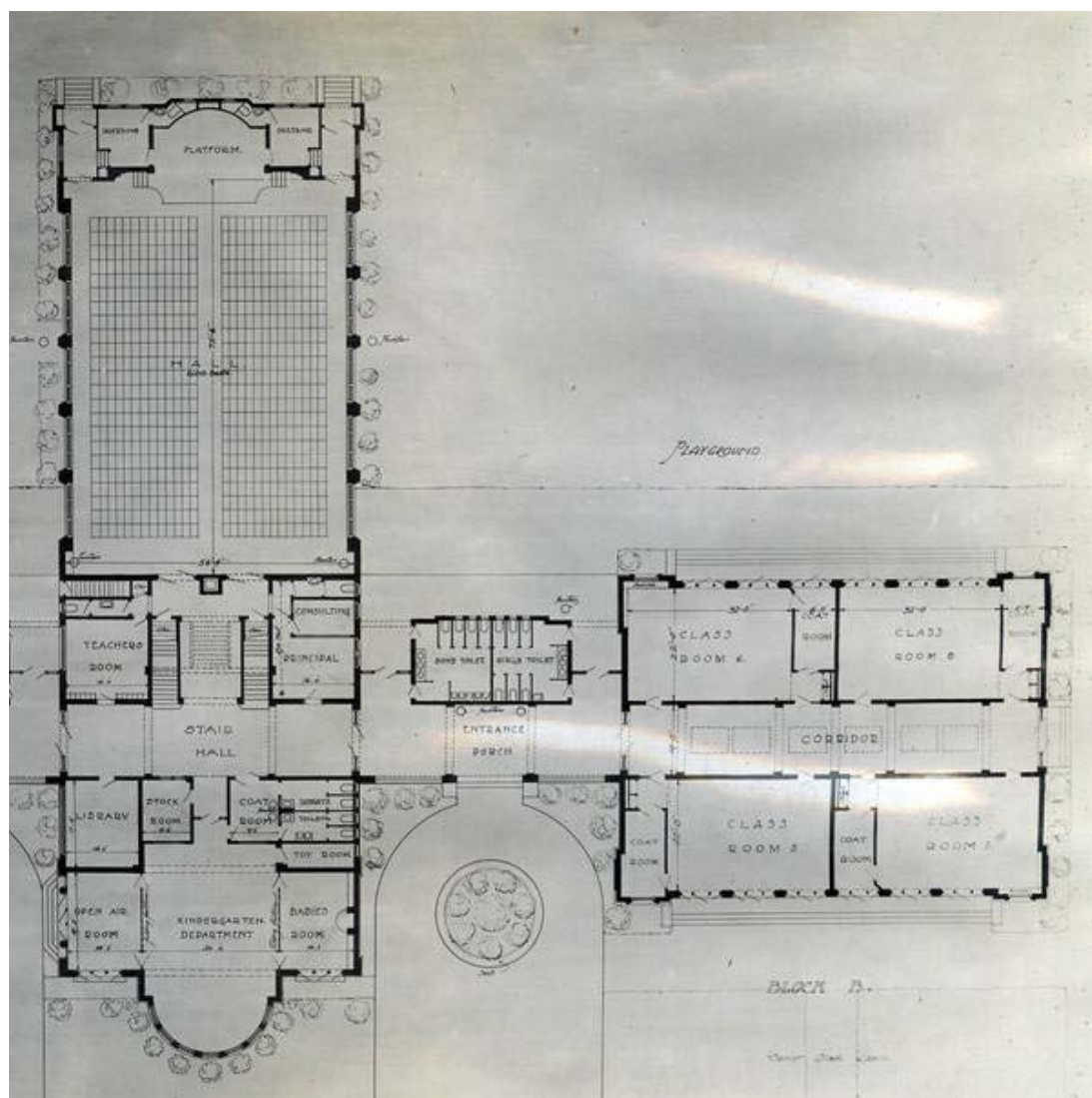


Figure 30

Plan of Coronado Grammar school. (This only shows half of the T-shaped plan).

Coronado Public Library via Online Archive of California.

CHAPTER 4

AIRING OUT THE PUBLIC SCHOOL LANDSCAPE: MUNICIPALITIES REQUIRE OPEN-AIR SCHOOLS

Introduction

A young school girl named Rosie was crying in the hall one day when her teacher, Miss Chamberlain asked her why the tears. Rosie replied, “Please, teacher, Mary can go on the roof and I can’t.” “Why can’t you go?” Miss Chamberlain asked. And Rosie, between sobs replied, “Because I am too well!” Rosie’s sister, Mary, had been declared ill and was required to attend the open-air school held on the roof. When Mary would return home she would tell stories of how wonderful her open-air school was and Rosie grew envious, wishing she too were sick. During the early nineteen-teens, it became the mission of philanthropists, educators, medical officers, and architects, to make open-air schools available to all students. The students themselves, like Rosie, also served as advocates for increasing their exposure to the outdoors. This story was used as an appeal by the Red Cross to encourage the purchase of Christmas Seals, the sales of which went to furnishing more open-air schools, that could in turn reach a broader population of children, not just though who were deemed ill.¹

Sherman Kingsley, philanthropist and national open-air school proponent, lauded the success of open-air schools for tubercular children and argued that these quality teaching and learning environments should be available to all students: “Some of our best lessons in teaching have come from the schools of the feeble-minded; we have learned the

¹ Phillip Jacobs, National Association for the Prevention of Tuberculosis, “When it pays to be sick,” 1917.

value of sunshine and fresh air from consumptives. How sick or abnormal must children continue to be to get their rights?”² From 1911 to 1913, open-air schools became less makeshift therapeutic experiments and more established educational environments. Kingsley previously received letters of skepticism about open-air schools asking “Don’t the children catch cold?” and now the letters instead asked “what kind of foot covering is best?” suggesting that the skeptics were being replaced with open-air supporters and enactors.³ Progressive open-air advocates, such as Kingsley and State Superintendent Hyatt, called for a shift in focus from the few to the many: “The open air school is an appeal and a challenge for the fresh air rights, for the sanitation and hygiene rights of every one of the twenty million school children.”⁴ Employing statistics, advocates appealed to the general population—in 1913 only one percent of students graduated from college, seventy percent left school before completing the eighth grade, and only six percent finished high school—arguing that open-air schools had the power to keep students interested in their education and enabled them to complete their studies. Hyatt believed that California could develop a unique type of school architecture benefiting all students, ensuring their academic success, and befitting the state’s landscape and climate, “a type distinctly California and characterized by its tendency towards the great outdoors.”⁵ Hyatt’s premonition was proving accurate. California’s open-air schools received international recognition. Professor Leo Burgerstein from the University of

² Sherman Kingsley, *Open Air Crusaders: The Individuality of the Child Versus the System*, together with a Report of the *Elizabeth McCormick Open Air Schools* (Countway Medicine Elizabeth McCormick Memorial Fund: 1913), 19.

³ Kingsley, *Open Air Crusaders*, 111.

⁴ Kingsley, *Open Air Crusaders*, 19.

⁵ Edward Hyatt, “Open-Air Schools for Subnormal Children,” Box 1, Folder 5, Edward Hyatt papers (Collection 905), UCLA Library Special Collections, Charles E. Young Research Library, UCLA.

Vienna published an article in the *San Jose Evening News* titled: “Health of School Children Better Protected Here than Abroad,” writing that he had witnessed the United States becoming, “the zenith...of progressive education,” and he attributed the success of the open air schools in part to the interest in them displayed by “people of wealth” and the focus on improving hygiene in school buildings.⁶ At the same time as these passionate calls to protect children’s health and expand open-air schools, the young state of California was experiencing significant growth. As California’s population exploded from 2.4 million in 1910 to 3.4 million in 1920, it enabled the passage of multiple bond issues for public improvements, such as new schools, and facilitated the integration of open-air designs into the developing public school landscape.

This final chapter examines the institutionalization of open-air schools in the public school system where the key elements of open-air school architecture became regular components of California’s public school design, as cities across California ultimately wrote regulations into their school construction policies. We return in this chapter to San Diego and Oakland, which in 1912 led the charge for city-wide open-air requirements in public schools. Other examples of city-wide transitions include those that occurred in San Jose, Santa Clara, Sacramento, and Berkeley. Urban elementary schools at the turn of the century were commonly multi-storied edifices with punch windows and enclosed hallways. There were limited exits to the outside and little development of the school’s landscape. From these kinds of massive, interior schools, in California, in particular, the international open-air school movement quickly transitioned from targeting

⁶ “Health of School Children Better Protected Here than Abroad,” *San Jose Evening News*, October 3, 1913.

only tuberculous children through private makeshift means to establishing purpose-built public schools that were intended to grant access to air, sunlight, outdoors, and health to many children.

This chapter considers the factors that enabled the creation of open-air schools for public school children. As open-air school design dovetailed with the installation of medical principles and care in the school system, this chapter will consider what role school medical interventions played in the refashioning of these educational environments and why children's spaces were understood as essential to this intervention. This chapter also touches on how open-air schools were used as propaganda to attract residents to California as a place of healthy living, offering year round physical training, gardening, and outdoor exposure. After promising results from temporary open-air school experiments and progressive private schools, larger institutional systems avidly embraced the open-air school form and its values. This transition in public school design became a system-wide initiative that relied on the input of scientific experts and medical directors, school administrators, and designated architects of the school board. This meant that trained architects, employed as board of education architectural experts, were able to exert considerable influence on sets of new schools, rather than the smaller scale development of the previous chapters. Nevertheless, while administrators and architects were critical, the advocacy work of citizens themselves played a significant role in this history. Citizens actively participated in initiating open-air schools, by lobbying authorities, publishing reports and articles, holding conferences, donating funds, founding their own schools, and enlisting architects. In this chapter, special attention is given to

women's participation as medical personnel, members of tuberculosis organizations, and parents and community members.

Health in California's Schools

California's emphasis on school hygiene drew from an exceptionally strong public health program, first established in 1870. The state had the advantage of building off of and learning from other established state health programs in the East. By 1916, California's state board of health had seven bureaus and three laboratories and was the largest and most successful program in the nation.⁷ School health was a priority of the California state board of health from the start and at the first meeting, the board established a permanent committee on schools. The first reports of the board focused on diseases in California's schools. This strong structure of state public health administration encouraged the development of the state's hygiene programs in the schools, where public health initiatives were thought to be most effectively implemented. For example, the majority of Americans were vaccinated by 1900, and this was ensured through regulations in the school system.⁸

On a national level, the American School Hygiene Association was formed in 1906 in New York and held thirteen conferences until 1921. The School Hygiene Association promoted public health instruction in schools, school medical services, and a healthful school environment and passionately supported the development of open-air schools. Many additional efforts to protect children's health were undertaken during these

⁷ John Duffy, *The Sanitarians: A History of American Public Health* (Urbana: University of Illinois Press, 1990), 152, 230.

⁸ Duffy, *The Sanitarians*, 182.

important years. The American Association for the Study and Prevention of Infant Mortality was founded in 1908 to prevent child death. President Theodore Roosevelt called the first White House Conference on the Care of Dependent Children in 1909, in response to social activists like Jane Addams, Lillian Wald, and Grace Abbott.⁹ Likewise, the U.S. Children's Bureau, founded in 1912 by Julia Lathrop and authorized by President Taft, was the first governmental agency that focused exclusively on improving the lives of children and families, addressing issues including children's health, infant and maternal death, child labor, and child abuse.¹⁰ In these public health and welfare crusades, children were often used as catalysts to change public behavior, and the school house was the most important institution for popularizing health.

In 1916, national open-air advocate F.B. Dresslar, discussed the important relationship between health and education in his book, *School Hygiene*. Dresslar was a Professor of Health Education at the Peabody College for Teachers in Nashville, Tennessee and noted specialist in school hygiene, essentially the “the branch of this science which has to do with the conservation and development of the health of school children.”¹¹ The book was a survey written for the general public regarding all elements related to school sanitation and hygienic living and siting and construction of school buildings including open-air school construction, playgrounds, desk styles, bathrooms, clean water supply, drinking fountains, janitorial duties and disinfectants, pure air and ventilation, humidity levels, and common children's health and development issues like eye and teeth defects, stuttering, and fatigue.

⁹ Charles R. King, *Children's Health in America: A History* (New York: Twayne Publishers, 1993), 119.

¹⁰ <http://www.acf.hhs.gov/programs/cb/about/history>

¹¹ Fletcher B. Dresslar, *School Hygiene* (Mass: Norwood Press, 1916), 1.

In *School Hygiene*, Dresslar underscored the importance of fresh air for children and compared the freshness of the air between city and country. He used images of tree leaves to demonstrate the graveness of the issue of the lack of fresh air: the tree leaves had been covered in soot and half the leaf was wiped clean to show the accumulation of pollution. Dresslar used this study as a persuasive visual tool to convince the reader of the dire need for fresh air for children.¹² Furthermore, Dresslar used the soot-soaked tree leaves as a metaphor for a weakened and dying child, “If the reader expects the children to still become ‘clean, strong, vigorous, and healthful,’ despite the air quality, then you expect more of them than the trees can accomplish.” But unlike children, he continued, trees have “no sense of smell to trouble them, no lungs to catch and hold myriads of bacteria line and nauseating filth, and no ear drums to split. Moreover they get more baths than children, and yet they soon weaken and decay and never reach full maturity. When the storms come, they are crippled and maimed, and sooner or later, prematurely die.”¹³ As Dresslar intently argued, health was essential to the “happiness” of the child, but also to the “final usefulness of the individual.”¹⁴ School hygiene had become a critical arm of the Progressive Era’s health reform program, and the school was positioned as essential for the welfare of the child, but also for the welfare the nation:

We hear much in these days about conservation of natural resources, but we generally have in mind those material things that nature has lavished upon us, such as fertile soil, forests of valuable times, and mineral deposits of great value. These are very important considerations, but conservation means more than this. When applied to human life in its broadest sense, it means the intelligent care of the health and vigor of our people,

¹² Dresslar, *School Hygiene*, 9.

¹³ Dresslar, *School Hygiene*, 9.

¹⁴ Dresslar, *School Hygiene*, 1-3.

intellectually, physically, and morally...School life must therefore be organized and directed to strengthen and conserve these powers, else the highest interests of all cannot be protected and maintained...else our intellectual progress will cease and moral delinquency will increase at a rapid rate.¹⁵

The ability to cultivate strong children hinged on the school environment and experience. As Dresslar argued, through environment and action, these factors could increase the vigor of the cell or degenerate it: "Teachers must come to see that they are not simply dealing with individual children for their own sakes, but they must have in mind future generation...The great importance of eugenics is beginning to appeal to the world with a new emphasis, and the general truth that it is of tremendous significance to be born of good stock and of virile parents means more to-day than ever before."¹⁶ As Dresslar noted, as did Dr. Pfund at Fruitvale, this was especially important in regards to the girls: "The freedom granted American girls to play and to be in the open air is much in our favor and will count as a valuable element in the preservation and strengthening of the stamina of our people."¹⁷ Dresslar encouraged "Girl's Games", such as housekeeping, jumping rope, and playing with dolls, to take place outdoors. Beyond outdoor exposure, to further ensure children's health, medical inspection systems were implemented in the schools.

The introduction of medical inspection systems reflected a growing emphasis on improving children's health and a belief in the curative power of the environment. In 1900, when school superintendents across the state gathered for their annual conference

¹⁵ Dresslar, *School Hygiene*, 2.

¹⁶ Dresslar, *School Hygiene*, 14.

¹⁷ Dresslar, *School Hygiene*, 11-12.

in Chicago, there was not a single mention of hygiene. Previously reserved only for specialized caretaking institutions, the school's systematic assessment of and response to children's health was just beginning. In 1900, only eight U.S. cities had medical inspection programs in their public schools. By 1915, there were close to seven hundred cities with medical inspection programs, with more than one hundred cities having dedicated school doctors, nurses, dentists and general medical inspectors. A full school health department consisted of a medical director, medical inspectors, an optometrist, ear, nose and throat specialist, a dentist, psychologist, and several school nurses. This shift was significant for American education and was recognized by Bakersfield school medical officer Dr. S.C. Long: "[T]he American common school has ceased to be merely a place where for a few brief years our children shall acquire useful information. Instead it has entered upon a new role, in which it is destined to reach, and to reach profoundly, the whole of every child."¹⁸ In California, printed bulletins were distributed to introduce parents to the idea of medical inspection, its importance, its effects, and how to remedy any illnesses discovered. Dr. Ernest Bryn Hoag distributed the bulletins widely to cities across state. One pamphlet included discussion of "nose, throat, and ear troubles in children" and warned that children with diseased tonsils tended to contract tuberculosis more easily, while crooked teeth were a sign of adenoids and adenoids resulted in "actual stupidity".¹⁹ These examples were meant in part to sway, or scare, parents into supporting school medical inspections. By 1918, the national government requested that

¹⁸ S.C. Long, City Health Officer, "Medical Inspection in Schools by SC Long, Health Officer," *Bakersfield Californian*, April 13, 1915.

¹⁹ Luther Halsey Gulick and Leonard Porter Ayres, *Medical Inspection of Schools* (New York: Survey Associates, 1913), 80-83.

every child under six be given a complete physical exam and that the result, including the health report with weight and height, be filed with the children's welfare bureau. The systematization of assessing student's health meant that all students' private bodies and family lives became subject to public scrutiny and that the schools asserted their influence over children's physical well-being, as well as intellectual development.

In 1913, an article in the *San Diego Union* recognized this shift towards the school's charge of children's medical care. The article was titled: "The City School: How it Aims to Care for the Health of the Children." The article discussed the schools' recent focus on medical interventions and the thousands of dollars spent on improving the health of children through the public schools. Doctors, scientists, and so-called "experts" were employed to improve results. Educators were rallying around the idea that "normal mental progress" was not possible from an "unsound body," and thus an intelligent population was integrally tied to the physical health of the population. There was also new recognition that the state had a responsibility for children's well-being; the state ensured that children had adequate food, clothing, education, as well as medical and dental treatments. For example, around this time schools began supplying individual toothbrushes to each child to discourage the sharing of toothbrushes within families.²⁰

Medical supervision and assessment in public schools was in part a reaction to the perceived threat of increased disease in the school system, which was often tied to concerns about increasing numbers of immigrants and mandatory education requirements. An underlying concern was that compulsory education for all meant that

²⁰ Frederic J. Haskin, "The City School: How it Aims to Care for the Health of the Children," *San Diego Union*, December 21, 1913: 4.

the schools had to accommodate increasing numbers of new arrivals.²¹ The *San Jose Mercury News* described the mass influx of immigrants as “America’s Great Horde of Imported Humanity.”²² Elites perceived these newcomers as impoverished and unhealthy. As Dr. Long noted, “The state to provide for its own protection has decreed that all children must attend school...which gathers in the rich and the poor, the bright and the dull, the healthy and the sick.”²³ A study, publicized in 1915 at the Panama Pacific Exposition’s Education Exhibit, listed findings from Oakland medical officers who had gone into homes and surveyed children and their family life. The statements were racially charged and offensive, drawing unfounded connections between ill health, low intelligence, and race. Some of the notes from the home medical inspectors about families they visited included:

One paralytic, hereditary blood disease; Father drinks, mother feeble-minded, children many and subnormal; utterly dirty and irresponsible. Bad tonsils, poor eyes. A good little business man. Artistic Italian hands; Tiny, monkeylike moron. Mother dying of syphilis. Ignorant Portuguese. Drunken, careless parents. Extreme malnutrition. Being saved by manual training.; Colored, subnormal epileptic. Two epileptic truant brothers. Careless. tainted family.; Subnormal mother. Brutal father. Feeble-minded sister.; Father alcoholic, tuberculous. Father's sister epileptic. Child deformed, epileptic.²⁴

²¹ “Compulsory education under our modern city conditions meant compulsory disease,” Dr. Long lamented,” Long, “Medical Inspection in Schools.”

²² John Paniagua, “California’s Cult of Human Service: Eugenics in California from Soil to Science,” *Argus-A Arts and Humanities*, Vol. III No. 13 (July 2014), 4.

²³ Long, “Medical Inspection in Schools.”

²⁴ Carson W. Ryan, *Education Exhibits at the Panama-Pacific International Exposition, San Francisco, Cal., 1915* (Washington: Government Printing Office, 1916), 28.

This type of medical inspection became a system of social surveillance as the campaign for healthy children was deeply connected to concerns about racial and class contamination.²⁵

New architectural designs, including open-air schools, were employed to combat disease attributed to the increased diversity in the school population. With dust-free and spotlessly clean rooms, pure drinking water, fresh air and increased ventilation, as well as purifying and plentiful sunlight, “compulsory education shall no longer spell compulsory disease, but rather compulsory health,” wrote Dr. Long.²⁶ Additionally, the open-air school’s disease-free environment was also thought to provide an incentive to immigrant families to send their children to school instead of relying on them to provide income for the family. As open-air advocate Leonard Ayres wrote,

To the foreign parent who is apt to regard his son as a potential wage-earner and to resent any claim upon him after his fourteenth year, the open-air school must be presented upon an economic basis. IF he can once be convinced that the only way in which his son will ever be anything more than a burden to the family is to strengthen him against disease through his school years, he may become a strong advocate of fresh air as a curative agent.²⁷

Open-air designs could more readily convince immigrants of the importance of attending school and receiving an American education.

Members of the Bay Area Young Women’s Club discussed the economic challenges posed by unhealthy children and the importance of an open-air school from a financial perspective. The club organized a public lecture on “Tuberculosis and the

²⁵ See Veronica Strong-Boag and Cheryl Warsh, *Children's Health Issues in Historical Perspective* (Waterloo: Wilfrid Laurier University Press, 2005), 299.

²⁶ Long, “Medical Inspection in Schools.”

²⁷ Kingsley, *Open Air Crusaders*, 57.

Schools,” given by Lewis Terman, from the Department of Education at Stanford University, an early eugenicist who focused his work on gifted children. The event was organized by Mrs. Chester Herold, Ethel Shuremann, Edith W. Patterson, and Mrs. Paul Rudolph. Terman shared with the public the most recent data and “scientific information” on tuberculosis and presented his information in terms of money lost for the United States. He argued that having tuberculosis decreased an individual’s life to only twenty-four years on average, and with seventeen of those years being “highly productive years” the total loss equated to one billion dollars a year in the United States, or an annual tax of fifty dollars per family. As such, tuberculosis should not be only seen as a medical problem, but as a significant social problem, closely aligned with the school system, where youth were most affected. While over the last twenty years only half as many adults died of tuberculosis, the child death rate remained the same. Terman blamed the home environment as the main source of infection, but insisted that schools played a complicit role. He advocated for increased and more thorough school medical exams, for more open-air school rooms, and for the abolishment of “shut-in rooms”, rooms with no operable windows or exterior contact. He also argued for the reduction of time spent in the classroom and for increased playground and outdoor time for children. School should also have baths, free lunches, and free dental service. While these were laudable ideas, he also called for the remediation of the “squalor where tuberculosis breeds,” calling attention to immigrant poverty and poor housing conditions and the “grave danger of the race,” as people spent more time indoors and less time in the sunshine and fresh air.²⁸

²⁸ “The Young Woman’s Club Hear Talk by Professor Terman,” *San Jose Evening News*, 1913.

Likewise, at the Hill and Valley Club, an Alameda County women's philanthropy, the women debated the significance of school medical inspections. President Edith Park invited Dr. Force, lecturer in Hygiene and Assistant Medical Examiner for the University of California, to give a talk on children's hygiene and the prevention of contagious diseases. Dr. Force discussed how the early puritans practiced eugenics and eubiosis (hygienic living) with the breeding and raising of livestock, recalling rhetoric used by Edward Hyatt and Ezra Gosney. He called on the women to give their children a "chance to develop unhampered by offences against their physical wellbeing." This would be possible through the implementation of medical supervision of school children. His approach to school medical supervision had five parts: foremost was a healthful environment; second, was the protection of the child against disease; third, was the removal of physical handicaps from the growing child; fourth, was the instruction of highest type of "self-defense"—by "self-defense" he meant teaching children hygienic skills and awareness; and fifth, was the immediate care of the injured child.²⁹

The fresh-air ideas adopted in the public schools had a broader community purpose, according to advocates and educators: the public schools would be a fresh-air nucleus—an education and demonstration center for fresh air practices that then would be carried, by the children, out into their homes and communities because children were required by law to attend school. As civic institutions, schools could be governed more closely by rules and regulations; it was much more difficult to require and police sanitation standards in private homes. It was the responsibility of the public schools'

²⁹ "Dr. John N. Force Reads Paper Before Hill and Valley Club," California History Room, Oakland Public Library.

architecture to serve as a demonstration ground, argued Kingsley: “Public education must not be miseducation. The school reaches into every home and draws into itself for the precious period of childhood each young life in its turn. Any lesson in right living successfully taught in the schools immediately react upon the home; for in reality it is the children, not adults, that make the home.”³⁰ In San Diego, for example, daily inspection of the cleanliness of school rooms was done by the students themselves. Students were appointed to be “health officers” of their rooms. Their task was to ensure the correct levels for the temperature, ventilation, and humidity. The “health officer” position would rotate weekly so that all children were given a chance to “learn the standards of sanitation and so that the knowledge gained may be carried into his own home.”³¹ Every hour the health officer would read the classroom thermometer and record the temperature in a book and on a chart on the blackboard for all to see. The school nurses would circulate through the classrooms and check that the levels were “hygienic”. The health officers were also taught to use other instruments such as a whirling wet-dry bulb from the United States Weather Bureau to read the humidity of the classroom. The humidity would be read before students entered the classrooms and if the classroom did not have 50 percent relative humidity, then the health officer would adjust the humidity with evaporating pans or radiators. Ventilation quantities were measured with ventilating flues or joss sticks. The children learned scientific skills as they studied their environment, and the process of assessing the classroom’s hygiene was based on scientific methods, except for the

³⁰ Kingsley, *Open Air Crusaders*, 35.

³¹ Haskin, “The City School,” 4.

“freshness test” which was measured simply by smell.³² As historian of medicine Howard Markel argues, educating children and their parents about personal hygiene and disease prevention was the critical job of the public school, as public schools became the sites of “ ‘Health Leagues,’ ‘100% Hygiene Classes,’ and ‘Little Mother’s Clubs,’” intended to “promote the gospel of public health for the children and, by extension, to their parents and families.”³³ Children were seen as agents of environmental change; if they were given the proper tools at school, they could be relied upon to share and propagate them in the home.

To the philanthropists and reformers, medical personnel, and school administrators, there were two key issues at play in the schools: heredity and environment. For California State Commissioner of Elementary Education, Margaret Shallenberger McNaught, the defects with which school children were diagnosed were caused by poor ventilation, lighting, and sanitation. While McNaught, an open-air school advocate, often associated children’s defects with inheritance and race, she also expressed a belief in the power of the environment to harm or cure.³⁴ The school was seen then by some such as McNaught, Terman, Dresslar, and Gosney, as an instrument of positive eugenic theories, discussed in the first chapter, a laboratory where heredity and environment interacted. The popular methods of eugenicists, typically associated with methods of better breeding, were wrong, according to medical officer Dr. Long. It was

³² Haskin, “The City School,” 4.

³³ “Caring for the Foreign-Born: The Health of Immigrant Children in the United States, 1890–1925,” in Strong-Boag and Warsh, 215.

³⁴ *California Biennial Report of the State Board of Education*, 1916-1918, “Report of Elementary Commissioner Margaret McNaught”; McNaught, “California Report of the Commission of Elementary Schools,” 1914: 7.

through improving the environment of the public schools that the children's hygiene, intelligence, and moral compass would be forever improved:

The human race will be a better race because of the lessons that have been taught by the child having contagious disease, the backward or defective child, and the tuberculous child. Because of these lessons, the youth of the future will attend a school in which health will be contagious instead of disease, where the playground will be important as the book, and where pure water, pure air, and abundant sunshine will be rights, not privileges.³⁵

California's schools were part of larger scale municipal development projects aimed towards public health and social reform. The state wide initiatives to air out the public schools and to increase medical interventions on behalf of the children required the cooperation of many community partners from physicians, nurses, philanthropists, municipal leaders, educators, and parents. The inside cover of the May 1913 issue of the *American School Board Journal* featured a caricature of an educational expert peering through a microscope at "city schools", while a teacher, school board member, superintendent, and citizen looked on (Figure 1).³⁶ The title of the sketch was "Worth while for the sake of the children," suggesting that the educational expert should lead the charge with the close support and scrutiny of select educational and community members. Educational experts from across a variety of fields were employed to provide insight and ideas into the problem of school ventilation, outdoor exposure, and children's health. In the city of Oakland, an entire multi-disciplinary commission of national experts was dedicated to researching the construction of open-air public schools. The increased attention to children's health led to rapidly growing interest in transforming the

³⁵ Long, "Medical Inspection in Schools."

³⁶ *American School Board Journal*, May 1913, Volume XLVI, Number 5: 7.

school site and public awareness about educational architecture. Open-air schools became the chosen solution to these concerns about children's wellbeing.

Oakland Schools' Department of Health and Sanitation and Citizens' Open-Air Initiatives

Oakland was one of the first and most recognized cities in California to draw up city-wide legislation requiring open-air schools for all new schools and renovations. This was due in part to the passage of a large bond measure dedicated to school buildings. The city of Oakland experienced an influx of residents after the 1906 San Francisco earthquake. Oakland sheltered between 100,000 – 150,000 people, 65,000 of whom became permanent residents. The new Western Pacific Railroad also opened in 1910. In 1909, the city of Oakland annexed many surrounding areas including Claremont, Diamond, Allendale, Melrose, Richburg, Elmhurst, and Fruitvale, making Oakland the second largest city in the state, and increasing its size from 22.9 square miles to 60.25 square miles. Fruitvale was the same neighborhood where the 1910 open-air school experiment had been conducted. The annexation and the resultant large population increase placed considerable pressure on the city's existing schools.³⁷ In response, on May 16, 1911, the city of Oakland voted for \$2,593,900 in bonds for new school buildings. The following year, in February 1912, the school board called for plans for eight new schools: Durant, College Avenue (or Claremont), Dewey, Washington, Lockwood, Santa Fe (or 54th and Market), Emerson, and 13th Ave.

³⁷ The population of Oakland in 1911 according to the school board report was 22,450 children enrolled in the elementary schools. There were forty elementary school buildings.

Oakland's investment in open-air schools was facilitated in part by medical initiatives introduced by the Oakland School Board and Dr. N.K. Foster. On August 9, 1909, at the beginning of the 1909-1910 school year, the Oakland Board of Education appointed Dr. N.K. Foster as the first Director of the newly formed Department of Health Development and Sanitation of the Oakland School District, a move that was called a "beneficial innovation" in the *Oakland Tribune*.³⁸ The mission of Oakland's Department of Health Development and Sanitation was to teach children how to avoid illness and to "repair the defects that are the results of the violation of health laws in the past."³⁹ The department aimed to provide health education for children and free and accessible medical advice to parents regarding their children.⁴⁰ In his previous position as Secretary of the State Board of Health, Dr. Foster was involved in measuring and compiling statistics for California-wide medical inspections, disease tracking, and implementing public state-wide systems of personal health inspection and facility inspection, such as hotels, work places, and homes. Dr. Foster's previous projects and the exposure to state-wide data on disease fed into his impassioned program for Oakland Schools' Department of Health and Sanitation. Dr. Foster spent much of his time educating the community through talks at philanthropic and community venues, emphasizing the importance of correcting defects and preventing "degeneracy." In 1909, he spoke to the Men's League of the Pilgrim's Congregational Church and their guests, igniting interest through statistics such as: ten percent of Oakland's pupils are defective, with defects remediable once acknowledged by teacher, nurse or doctor, and parent. Dr. Foster continued his

³⁸ "Beneficial Innovation," *Oakland Tribune*, August 9, 1909: 5.

³⁹ Oakland School Board Report, 1909-1910, California State Archives.

⁴⁰ Oakland School Board Report, 1909-1910, California State Archives.

campaign to build support for the new open-air schools at the meeting of Alameda County Child's Welfare League in 1912. Dr. Foster spoke on "Open Air Schools", and was followed by Professor C.W. Childs who spoke on "Heating and Ventilation of School Buildings." Miss Lulu Beeler, the teacher of Fruitvale No. 2 open-air school also spoke on her experiences in the classroom and the improvements seen in the students. Through publicity such as this, the experimental open-air school in Fruitvale served as an inspiration for Oakland's new schools—as an example of the effectiveness of new ventilation techniques and as evidence of improved health and learning potential with increased light and air. Also at the meeting was Miss Ethel Moore, vice president of Oakland's playground commission, who spoke about her opposition of racetrack gambling.⁴¹ The passionate debate about open-air schools was placed alongside other Progressive causes like anti-gambling.

The responsibility of Oakland's Department of Health and Sanitation was not to directly treat the children's medical issues, but to notify the parents of the issues and to discuss treatment options. The parents were a source of blockage and frustration in the remediation of student's defects as "a great many of them pay no attention to the notification," Foster lamented.⁴² To help ensure parental follow-up, the school district gave Dr. Foster a staff of two nurses for the first year, which was promptly increased to four nurses by the second year. Mrs. Hollingsworth was Dr. Foster's head nurse and his other nurses were Jean Morken, Helen Hughes, and Ethel Hartwick. The nurses' job was to follow-up with cases and visit the children's homes where they would explain to the

⁴¹ "Many Speak at Session of League," *Oakland Tribune*, October 26, 1912:12.

⁴² "Gives Talk on Health Topics. Dr. N.K. Foster lectures on health development and sanitation," *Oakland Tribune*, 1909.

parents the necessity of addressing the child's medical issues and provide resources and strong encouragement to seek proper treatment. In *Searching Eyes: Privacy, the State, and Disease Surveillance in America*, public health historian Amy Fairchild asserts that a home nurse visit also provided "not only a caring opportunity, but also a tutelary one, particularly in the case of immigrant families who were perceived to be in need of a kind of indoctrination into American standards of hygiene."⁴³ Oakland had special cards that were sent home to parents to notify them of the children's ailments and to offer the opportunity to consult with the school's physician. Oakland, along with Pasadena, was credited in Leonard Ayres book, *Medical Inspection in Schools*, as excelling in the integration of medical care with the education system. Ayres described the results of physical exams of children in nine different U.S. cities, with Oakland having the highest percentage of medical inspection of its students.⁴⁴ Ayres included in his chapter, "Making Medical Inspection Effective," a sample of the card distributed in Oakland that read: "We desire to work with the parents to better the health and strength of the children and request that you either call in person or report to this office if any attention has been given the reported defect. Very respectfully, NK Foster, Director."⁴⁵

In his 1910 spring report, Dr. Foster and his team of nurses examined 1,965 pupils. Teachers first selected the children they thought would be in need of attention, and then those students received a doctor's examination. The children were charted and categorized and parents notified in most cases. 1,868 of them "needed air." 1,232

⁴³ Amy L. Fairchild, Ronald Bayer, James Keith Colgrove, and Daniel Wolfe, *Searching Eyes: Privacy, the State, and Disease Surveillance in America* (Berkeley: University of California Press, 2007), 44.

⁴⁴ Other cities were Boston, Chicago, Cleveland, Newark, New York, Pasadena, St. Louis.

⁴⁵ Gulick and Ayres, *Medical Inspection in Schools*, 79.

students were “defective” to a degree that was thought to “retard them in their progress.”

The ailments ranged from vision to malnutrition to nervous disease with totals breaking down as such: vision 485, hearing 226; nasal breathing 251, teeth 431, palate 4, orthopedic 8, serious lung disease 7, disease of nerves 7, disease of skin 11, disease of tonsils 424, adenoids 217, enlarged glands 248, malnutrition 66. Many children had more than one problem. These statistics were published for all to see in the *Oakland Tribune*.⁴⁶ By the 1911-1912 school year, nearly every child in the Oakland School District, 16,015 out of 16,780, had been weighed, measured, and interviewed for five to ten minutes. The medical inspection of children quickly became a standard procedure. Once the state took charge of children’s health, it could more closely regulate parenting. Many children were sent home with a note which suggested things like opening windows at home, changing the diet and the food served to the child, requiring tooth brushing, or other hygienic suggestions, such as better body washing or fresher clothing.⁴⁷ The children’s private medical issues were no longer private and were now searched out, investigated and tallied by school board—the newly responsible party for children’s health.

Dr. Foster was a medical doctor, but his interests in the relationship between health and environment drove him to help develop architectural solutions. He worked with the Alameda County Society for the Study and Prevention of Tuberculosis (ACSTB) and local architect, Julia Morrow, on plans for an open-air school design. Miss Morrow, whom little is known about, would have been one of only a very few female architects in

⁴⁶ “Open-Air School Proposed by Physician,” *Oakland Tribune*: February 9, 1910.

⁴⁷ Oakland School Board Report, 1911-1912, California State Archives.

the state at the time. The report and plans were submitted to the school board from the ACSTB, but Dr. Foster also presented them at various charity events, and spoke about them as if they were of his own design. The design, which was presumably drawn by Miss Morrow, was for eight classrooms, 24 x 20 feet each. The walls of the classrooms would have three sides of long windows extending from the ceiling to roughly three feet off the floor. The most unusual feature was that the roof was to be made of glass and held in an iron frame and was designed to roll back, like a rolling door, that would allow the ceiling of the room to be completely open to the sky. The building would have a furnace in the basement installed to keep the wood structure dry after it rained.⁴⁸ The ACSTB vocally encouraged as many open-air schools to be built in Oakland with the new bond money as possible. The ACSTB even formed a special committee, responsible for researching and presenting the most recent techniques in open-air school design, to consult with the school board and the lead architects.

In July 1911, following the National Education Association convention, a panel of speakers and discussions on open-air school design in Oakland was organized by Annie F. Brown. Brown had traveled extensively in the U.S. and Europe visiting tuberculosis clinics and doctors, before she founded the ACTSB. She also held a number of prominent positions on Oakland's Board of Education, including President in 1916, and was actively involved in improving children's health and the school environment. At her 1911 panel on open-air schools, the irony was that there were no architects or building specialists present, even though the discussion was primarily architectural, and building

⁴⁸ "Anti-Tuberculosis Society Recommends Establishing New Branch of Department. Prepares Plan of Open Air Schools," *San Francisco Call*, Volume 107, Number 100, March 10, 1910; "Open-Air School Proposed by Physician."

improvement strategies were used to address educational issues. The multi-million dollar bond for Oakland school's had just passed and Brown directed her efforts and steered community interest towards ensuring open-air school techniques would be employed. The Oakland Board of Education, playground directors, and school administrators gathered to listen to talks organized by Brown. She brought together Dr. Lewis Terman; Leonard Ayres; Dr. Philip King Brown, a local authority on Tuberculosis; J.A. Shawan, Superintendent of Schools in Columbus, Ohio; Dr. Helen C. Putnam, chair of the committee of the American Academy of Medicine; Dr. Frank Bruner, from the Chicago public schools Department of Child Study; and Dr. J.W. McClymonds, Superintendent of Oakland Schools.

The topics were quite varied, from arguments for the accessibility of one-story school buildings to strategies for indoor dust-prevention. Dr. Helen Putnam discussed the importance of specialized building maintenance crews and "scientific janitor training". Dr. Putnam focused her talk on improving management and training of school janitors and building care-takers, as the solution to the problem of "fatigue and dullness" and "nervous disorders" caused by low school sanitation. School janitors should be educated by nurses and domestic science specialists, so that the schools would be as clean and healthful as top hospitals and wealthy homes using the latest cleaning techniques, instruments, and soap solutions. Putnam called on scientific specialists: biologists, chemists, and physicists to help create sanitation standards and methods of testing for adequate cleanliness.⁴⁹ Dr. NK Foster, echoed Dr. Putnam. Dr. Foster called for the

⁴⁹ "Importance of Fresh Air in Schools is Discussed. Prominent educators talk of sanitation and ventilation at meeting under the auspices of Board of Education," *Oakland Tribune*, July 16, 1911: 21.

widespread use of Dustine to lessen the dust particles and the installation of vacuum cleaners. Dry sweeping, the previous technique, simply dislodged dust from the floor and caused it to float in the air and land on other surfaces. This dust was accused of being responsible for “much sickness.”⁵⁰ Shawan and Ayres focused on specific technical terms for ventilation and lighting (even though they were educators and not scientists). Mr. Shawan spoke as a specialist on proper methods of classroom lighting to prevent eye strain. Mr. Shawan stated that the desired ratio of the window surface to the floor area should be between 1/7 to 1/4, with most classrooms at 1/5.⁵¹ Ayres encouraged new systems of ventilation which provided air with increased moisture and supported his claims about how pupils in the open-air school benefited from this adjustment.⁵² Ayres’ discussion of humidity cited studies of school houses that had humidity of 20 percent, when the desired or normal outside air temperature should be closer to 40 percent. School rooms were too dry, which made the children more susceptible to colds. And the temperature of schools was often 70 degrees or higher, when it should be in the “healthful 60s.” Carbon dioxide, an indicator of “animal exhalations” was often measured 20 parts in 10,000, when it should be closer to 4 in 10,000. Open-air architecture would resolve these problems of humidity, temperature, and chemical imbalance, while ensuring improvement in the students’ mental and physical wellbeing.

While school design reform was the subject of institutionalized debates and presentations, it was also a popular topic with the general public, as it was often

⁵⁰ “Open-Air School Proposed by Physician”; Oakland School Board Report, 1909-1910.

⁵¹ “Importance of Fresh Air in Schools is Discussed.”

⁵² “Educators Discuss Child Problems, Open Air Schools and Modern Methods Subjects of speakers, Oakland, July 15,” *San Francisco Call*, Volume 110, Number 46, July 16, 1911; “Importance of Fresh Air in Schools is Discussed.”

discussed at local mother's clubs and philanthropic organizations. In 1909, each Oakland school had a special "Mother's Club" with the mission to direct "public opinion along the line of school betterments."⁵³ The Mother's Club was so essential to the function of the school, that the Oakland School Board declared that every school building needed a specially designated and well-equipped space for this organization. The Mother's Clubs were responsible for helping establish city-wide social support organizations such as the Child's Welfare League. In 1911, the Oakland Federation of Mothers' Clubs began an active campaign for building improvements, devoting themselves to the cause of open-air schools and demanding that all new schools follow this model. They advocated for better fire protection, ventilation and sanitation, in addition to examining select German open-air schools as examples. Some members took active roles in the classrooms teaching health methods themselves.⁵⁴ The August 1911 meeting of the Bay Federation of Mother's Clubs discussed the state's increasing responsibility for safeguarding children's welfare and education.⁵⁵ In February 1912, Ellie Nelson, chairman of a local Mother's Club, invited Annie Brown of the ACSTB to speak on the topic of open-air schools.⁵⁶ Recognizing the need for the support of the Mother's Clubs, the Oakland School Board included them in the architectural review process for the new schools and took

⁵³ Oakland School Board Report, 1909-1910.

⁵⁴ "Clubs will Demand Sanitary Schools, Mothers' Federation Will ask for Open Air Buildings," *San Francisco Call*, Volume 110, No 78, August 17, 1911.

⁵⁵ "Suffrage to be discussed," *Berkeley Daily Gazette*, August 22, 1911: cover.

⁵⁶ "Woman's World: Annie Brown Will Speak. Open-Air School to Be Theme," *San Francisco Call*, February 4, 1912: 51.

preliminary plans to their meetings.⁵⁷ In addition to influential mothers, Oakland's new city architect, John J. Donovan played a role in open-air developments.

Architect John J. Donovan and the Oakland Advisory Committee on Open-Air Schools

After the passage of the bond measure, architect John J. Donovan was hired as city architect and the official architect of Oakland's new schools. John J. Donovan migrated from the East Coast and made sanitation and school reform a focus of his practice.⁵⁸ Based in Massachusetts, Donovan received a Bachelor of Science in Architecture from MIT in 1906. Donovan worked with Palmer and Hornbostel in New York, and came to Oakland in 1911 as their supervising architect for the construction of Oakland City Hall. There he was hired independently as city architect on February 12, 1912 because he was said to have "epitomized the dynamic intent of the school department."⁵⁹ Donovan was given the contract for all architectural services for the construction of new buildings, but because of the immediate need for new schools, Donovan and Harry S. Anderson, the Commissioner of Public Works, decided to employ associate architects on the projects. Donovan assured the board that the structures would be "models of architecture."⁶⁰

⁵⁷ "More open air schools desired. Anti-tuberculosis society interested in plans of proposed new buildings," *Oakland Tribune*, May 10, 1911: 19.

⁵⁸ See: John J. Donovan, et al., editor, *School Architecture: Principles and Practices* (New Haven: Macmillan Company, 1921).

⁵⁹ BJS Cahill, "Recent School Buildings in Oakland," *Architect and Engineer of California Pacific Coast States*, March 1915, Vol. XL, No. 3, 39-42.

⁶⁰ "Every school to have baths and picture shows," *Oakland Tribune*, February 9, 1912.

In March 1912, Donovan and Superintendent McClymonds spent three weeks touring Eastern schools. They visited sites in New York, Boston, St. Louis, Chicago, Pittsburg, and Williamsburg, “devoting most of [their] time to open air schools and the new open window schools and the methods of heating, ventilation and sanitation.”⁶¹ At the end of the trip Donovan concluded, “I was disappointed, however, in finding that systematic knowledge of the school problem has not yet been achieved, and I believe we can improve upon these eastern schools.” One feature that he wanted, by contrast, to copy was the excellent fireproofing techniques of their schools. However, as far as open-air schools were concerned, “we will have to do some pioneer work.”⁶² Recognizing the need for practicality and for ensuring the success and longevity of the open-air idea, he recommended that the open-air schools in Oakland still have the ability to be closed in inclement weather: “In this part of the country we need a school that can be converted into an open air school in good weather and closed in bad weather.”⁶³ While the east coast open-air schools were built expressly for the tubercular or unhealthy child, the main distinction Donovan desired for California was that the state’s open-air schools would be built for all public school children.

While the open-air school did not originate in Oakland, local officials claimed that it was in their city that, “it attained its highest degree of perfection.” The credit was given largely to “the strikingly original research along these lines of J.J. Donovan,

⁶¹ “City Architect Back From Tour, J.J. Donovan Spends Three Week Inspecting Eastern School Structures, Oakland, March 14,” *San Francisco Call*, Volume 111, Number 106, March 15, 1912.

⁶² “City Architect Back From Tour.”

⁶³ “City Architect Back From Tour.”

supervising architect, who designed the schools.”⁶⁴ Donovan focused his design pursuits on building orientation, classroom arrangement, placement of windows in order to achieve the highest quality sanitation, ventilation, and safety, and rejected excess ornament and monumentality.⁶⁵ His work received special praise for sanitation, hygiene, and lighting with his frequent inclusion of showers, gyms, assembly halls, lunchrooms, and playgrounds, as well as keen attention to orientation and sun light. He also worked on other educational buildings in the West, including structures at St. Mary’s College and Santa Clara University. Donovan was inspired by California’s “climate, traditions, history, and people”, and felt it was silly to continue to mimic ancient classical styles to look “high-faluting”. Instead he thought that it was most important to make the most “of this wonderful climate in openness and lightness of treatment, giving an expression of cheerfulness and happiness, which is just as becoming to a school as it is to an individual.”⁶⁶ He received national recognition for his school buildings in California and for his book *School Architecture* from 1921, which became a widely used textbook and reference on school design. Having spent three and half years on its publication, Donovan called it his “most worthy contribution to the profession.”⁶⁷

One of Donovan’s key tasks was to spearhead a comprehensive city-wide study of the problems of school design and children’s health.⁶⁸ Beginning on February 12, 1912

⁶⁴ “Oakland’s schools new model for the world.”

⁶⁵ John J. Donovan, “California Schoolhouse Architecture, Past and Present by Donovan,” *The Architect*: 108, 138.

⁶⁶ Donovan, “California Schoolhouse Architecture,” 108, 138.

⁶⁷ John J. Donovan, “John J. Donovan,” autobiography filed 4/15/1948, Oakland History Room, Oakland Public Library.

⁶⁸ Because of the integrated nature of the research committee and Donovan’s involvement, it is difficult to know what were suggestions of the committee and what were Donovan’s or other people’s innovations and

and continuing for several months, an in-depth study of Oakland's schools was conducted by an advisory committee of leading educational figures in the country (appointed by the Board of Education). Their task was to compile data on outstanding qualities of school buildings and to determine imperatives for Oakland's new schools. This expert committee, chaired by Oakland Superintendent McClymonds, involved a range of professions such as a school administrator, teacher, architect, sanitary engineer, and sociologist. The committee included school hygiene expert F.B. Dresslar; David S. Snedden, State Commissioner of Education of Massachusetts; C. G. Hyde, Professor of Sanitary Engineering, University of California; A.C. Barker, Assistant Superintendent of Schools, Oakland; E. Morris Cox; Assistant Superintendent of Schools, Oakland; and Mrs. Fred C. Turner, former high school teacher. Some committee members were well-known open-air activists and children's health advocates that had also previously participated in Annie Brown's panel discussion on open-air schools the previous year, such as Louis Terman, Leonard Ayres, and Dr. Foster.

The committee's research had a direct impact on the schools that were constructed by establishing the basic design requirements for new construction and renovations and ensuring through their studies that the contemporary anxieties about children's health were being addressed. The research resulted in suggestions for heating, ventilation, plumbing, playground sizing, one-story height limits, earthquake proofing, gymnasiums, room type requirements for primary and grammar schools, fire safety, and ideal plan shapes. Some sample questions that the committee considered were: Should the

influences. See: Charles Henry Cheney, "Oakland School Building Inquiry," *American School Board Journal*, April 1913: 9-11, 46, 56. Article continued May 1914: 18, 59-60.

gymnasium be an indoor or outdoor gymnasium and should it also be an assembly hall? Should all school rooms be open-air rooms? Should the rooms be able to be completely closed? What provisions are needed for the department of health development and sanitation?⁶⁹ The primary concerns of the committee were to alleviate the “prison-like effects” of the old school buildings by paying particular attention to the orientation of the classrooms for air and sunlight. The requirement most requested by the citizens themselves was open-air-classrooms, which is remarkable that in the short span of just a few years, the general public had become well-aware of the benefits these new designs. The report recommended that there had to be at least one permanently open-air class room in all existing buildings—a room that could not be entirely closed and that opened to the east. In all new buildings, every classroom had to be an “open-air” room, with opening features (windows and doors) that could be easily operated by the teachers and pupils. In order to allow maximum air and light in the classrooms, large windows were to be grouped together on one side to guarantee efficient light and air and adequate openness. Even the toilet rooms were planned to receive as much sunshine as possible. All halls and corridors could not be entirely closed from outside air. All classrooms were to be adjacent to the open corridors to maximize light and air, and the classrooms should have transom windows installed in the hallway side to ventilate from classrooms to hallways. The orientation of the classrooms was particularly important. They were to be oriented so that the most sunshine entered the rooms for the longest duration possible. The directions that were determined to be favorable, in order of priority, were east, west,

⁶⁹ Cheney, “Oakland School Building Inquiry,” 11.

then south.⁷⁰ These recommendations significantly influenced the form of Oakland's new schools and directly reflected the growing concern for school hygiene.

The search for the best window type for an open-air classroom preoccupied Donovan's thoughts. He researched many types of window systems, since he saw this as the most critical element of open-air design. The new window type would replace the prevalent double hung window, which was quickly becoming infamous for its lack of openness—because at its best, only half of the framed opening would allow air flow. After much study, it was decided that the ideal window for Oakland's schools was an awning window that could swing open to a horizontal position. Thus, the entire framed opening—a space from two feet above the floor clear to the ceiling—would let air circulate freely. The frame opening was divided into three parts (three awnings), so that there were three smaller windows that would be easily operated. The windows could actually be opened up to an angle of 145 degrees and aided in circulation of hot air, channeling the flow up and out the window. When shades were placed on the windows, the awnings also provided sun shading. At their highest position, the awnings even prevented low sun from directly entering the classroom, while still allowing complete air flow. Transom windows would be installed in the schools on the wall opposite the set of awnings, usually above the blackboard at the juncture with the ceiling, and the transoms would open onto the outdoor corridors or cloisters.⁷¹

⁷⁰ Donovan, "Problems that Have Been Solved in Oakland's New School Buildings," *The Architect and Engineer of California Pacific Coast States*, Vol XL No 3, March 1915: 42.

⁷¹ Donovan, "New School Building Work of Oakland" in Hyatt, *School Architecture in California*; Donovan, "Problems that Have Been Solved in Oakland's New School Buildings," 47.

The relationship between playground and school was important and the buildings had to be sited so as not to shade too much of the playground, meaning that the playgrounds were placed to the south of the structure as often as possible. 6,000 square feet of sunny playground was required. Two-story structures were only recommended when there was insufficient space for a playground. One-story structures were argued for across the state, especially given the safety they provided during fire or earthquake.⁷² The committee also required two covered outdoor gymnasiums, one for boys and one for girls, each at a minimum size of 50x72x20.⁷³ The gymnasiums, integral to the design, also served as play spaces during inclement weather. It was possible also to use assembly halls and corridors as rainy-day play spaces, but Donovan did not advise this organization.

Ventilation and pure air was critical. School rooms needed to be ventilated at a rate of at least 3,000 cubic feet per hour per student. Electric bells were to be installed that would ring to notify teachers when ventilating fans were shut off. Heating systems would work independently for each room, so that the heat could be turned off in sunny rooms while it could still be used in cooler rooms. The committee recommended that a dust shoot be installed in all buildings that were more than one-story high. Donovan advocated for the elimination of dust catching surfaces. He even conducted special chalkboard tests to determine which type of blackboards created more chalk dust; he determined that slate boards created less dust and should be used instead of composition blackboards. "Air washers" or air purifiers were also installed at many schools, so that

⁷² Hyatt, *School Architecture in California*, 13.

⁷³ "Board calls for plans for eight new schools," *Oakland Tribune*, February 15, 1912, 10.

when the windows were closed “clean, fresh air” and “hygienic and healthful” conditions still prevailed.⁷⁴ In addition to well-ventilated classrooms, the board required these additional facilities that would support improved health, hygiene and sanitation, as well as physical fitness: baths, bicycle rooms, janitor’s room, medical and emergency room, an office for the physical education director, plant room, subnormal or ungraded room, manual training and domestic science classrooms.⁷⁵

In the Oakland schools, Donovan often included a small medical clinic, intended to efficiently address health issues at the school site. In his book, Donovan drew up a plan of a model public school medical clinic (Figure 2). It included a waiting room, office, pharmacy, doctor’s and nurse’s rooms, laboratory, anesthesia room, operating room for the nose and throat clinic, eye clinic, and dental clinic. Equipped as a full-fledged medical operation, this unit was designed to aid in the physical examinations of school children by the Department of Health and Sanitation and to provide an economical and convenient location for treating ailments. Donovan wrote that the purpose of including a medical clinic in the schools was to “protect the healthy from the unhealthy” among the public school children, “thereby preventing communicable diseases.”⁷⁶ The clinic was also intended to ensure the discovery and treatment of problems such as eye strain, deafness, defective teeth, and diseased tonsils and adenoids. The school site now

⁷⁴ Donovan, “Problems that Have Been Solved in Oakland’s New School Buildings.”

⁷⁵ All the rooms that were required: assembly hall, art room, baths, bicycle rooms, club room, drying room, electric room, janitor’s room, kindergarten, library, lunch room for teachers, lunch room for pupils, provision for moving pictures, medical and emergency room, plant room, principal’s room with library and store room attached, subnormal or ungraded room, teachers’ rest room, teachers’ cloak room. In grammar schools (in addition to rooms recommended, for primary schools) there should be a manual training, domestic science, domestic art room; Cheney, “The Oakland School Building Inquiry,” 56.

⁷⁶ Donovan, *School Architecture*, 211-217.

needed the most modern equipment and techniques not only for education, but also for healthcare.

In Donovan's book, *School Architecture*, he also sketched a plan of an ideal open-air classroom unit, one that could be economically added to any established school building (Figure 3). The plan included a dining room and kitchen in the center with a classroom and a sleeping room on opposite sides. There were also lockers and showers. Donovan even included a detailed view of a "locker" which resembled a personal closet. The pavilion-like classroom had free access to the exterior and the dining room was made more open with large projecting bay windows. The unit read more like a small home than an institutional setting, setting up the popular concept of hygiene at school and at home.

The ubiquitous embrace of open-air elements in new school construction, such as these outlined above, went hand in hand with the intensifying crusade for children's health. The regulations established by the Oakland advisory committee, comprised of a doctor, architect, sanitation specialist, administrator, and educators, were enacted across Oakland's schools and were directed towards addressing wide-spread calls for improvement of school hygiene. While material on the functioning and daily life of the specific schools as constructed is scarce, the committee's regulations are real evidence for important changes in school design and were clearly tied to contemporary public health discussions and citizens' initiatives.

From Research to Implementation: Oakland Schools as Constructed

The new Oakland schools varied in their final forms, primarily because of site constraints and the individual associate architects, but the basic structure, window systems, room orientations, programmatic locations, exterior corridors, and allotment for outdoor play space closely followed the requirements set out by the advisory committee. In addition to following committee recommendations, some Oakland schools had remarkable features that highlighted the various ways open-air elements were interpreted at specific school sites and the novelty exhibited in the new open-air school components.

The first school constructed thanks to the 1911 bond measure and following the recommendations of the committee was Santa Fe School, located at the corner of 54th Street and Market. It was constructed in early 1913.⁷⁷ Donovan was the main architect for the project. The school was difficult to plan as multiple railroad lines converged in the neighborhood and the train noise was a problem that needed to be mitigated, an aim further complicated by the competing desire for increased openness. The trains passed every two minutes only 200 feet away from the school site. The resultant structure was a one-story U-shaped concrete building (roughly 217x134), with six classrooms, assembly hall, administration, club rooms, and a kindergarten wing. The school was set back 25 feet from Market Street with a simple open gravel courtyard in front. The main design feature that protected against the noise, also attempted to address open-air principles: it was a concrete and glass corridor with operable windows that surrounded the structure on three sides, not including the front (the fourth side) (Figure 4). The large central grass courtyard was also known as the “patio” and was surrounded by an arcade. The courtyard

⁷⁷ September 17, 1912, plans were adopted.

was divided into four segments with pathways dividing the grass and leading to a Spanish style fountain in the center (Figure 5). The classroom windows, which spanned from the base of the wall to the roof, opened onto the interior patio, while the opposite side of the classrooms had transom windows onto the corridor to encourage cross-breezes. An early rendering of the interior courtyard shows a grand arcaded hallway with a teacher and student having a discussion while another student reads on a built-in bench. The sunny courtyard is emphasized in the background (Figure 6). The publicity image was rendered to show the corridor, also an inventive sound barrier, as an important communal space, enhanced by the proximity to the sun-filled outdoors, similar to the “porch” and the portico of the Polytechnic and the Francis Parker. Santa Fe school lasted almost 100 years, closing in 2011.

Emerson School, which occupied a full block on 49th street, extending from Lawton Avenue to Shafter Avenue, was constructed in 1913. John Galen Howard was the architect of the project, overseen by Donovan. This one-story school had a rectangular plan formed essentially by three parallel wings (Figure 7). There was a large quadrangular space, bisected by a central wing, creating two interior patios with pools at the center of each. The protected central patios were designated as play areas and outdoor classrooms as well. The central wing was a double-height assembly hall, and as the committee recommended, the assembly hall also functioned as a covered playroom with both sides that could be opened up to the adjacent outdoor courts (Figure 8). The kindergarten faced the playground at the rear of the school and faced south for maximum sunlight, following the committee’s guidelines on orientation; it was in a “very happy

location,” according to Donovan.⁷⁸ The kindergarten had its own porch and pergola for dedicated outdoor learning; the pergola had a specially designed wrought iron railing with letters of the alphabet. The north and south wings (front and back, respectively) had single rows of classrooms that opened onto cloistered corridors. The east and west (or side) wings had double rows of rooms with central, interior corridors, but with at least one entire wall of classroom windows to either the exterior of the school or the central courtyard (Figure 9). The classroom window arrangement onto the courtyard was five bays of windows across; the windows were three sets tall, and were topped by transoms. The awning windows pivoted horizontally, as Donovan recommended. The manual training, domestic arts, sciences, club room, and teacher’s lunch room faced north giving them constant even light. A small terrace, specially dedicated to “plants,” likely intended for botany or agricultural studies, was attached to the modeling room along the east wing. The outer facades of the building were unusually tall at eighteen feet from floor to the eaves. The interior ceilings were suspended plaster at a height of thirteen feet above the floor.⁷⁹ This large attic space of five feet was presumably in large part for increased ventilation. Emerson was built of reinforced concrete with brick trim and was designed with a Spanish aesthetic. The roof was Cordova tile and the wood rafters were exposed on the underside of the corridors (Figure 10). In addition to the open-air classrooms, Emerson had at least three structurally independent open-air structures; these were

⁷⁸ Donovan, “Problems that Have Been Solved in Oakland’s New School Buildings,” 53-61.

⁷⁹ Department of Public Works, Division of Architecture, *Report on Building in Oakland City School Districts, Vol II Elementary Schools* (c. 1930); “Cost and Construction of Four Schools, Oakland, CA” in *Concrete*, No. 1 Vol .13, July 12, 1918 (Detroit: Concrete Cement Age Publishing Co., 1918), 3-5.

impermanent one-room wooden pavilion structures with walls completely open and set directly on the expansive, but quite barren, hard-top playground (Figure 11).⁸⁰

McChesney school was also constructed in 1913. It was located in East Oakland on the south side of 13th Avenue, between East 38th Street and Excelsior Avenue. Built on a sloping site, the front of the school was one story, while the rear was two stories. The school featured a long rectangular plan, 93 by 200 feet, which allowed light to permeate the structure. The key feature of McChesney school was a large concrete terrace that ran along the second floor at the rear of the school. The terrace was used for study sessions and class activities and the classrooms along the terrace had walls of the three-tiered operable awning windows (Figure 12). The awning windows were designed to provide some shade for the terrace, but in a photograph, the children study directly in the sun on the stark platform. At the rear of the terrace, a larger canvas canopy was mounted off the wall of the building and sheltered a class working outdoors. An important benefit of the terrace was that it also created the ceiling for a large protected arcade below that provided “abundant playroom in wet weather”.⁸¹

Durant School was designed by Louis C. Mullgardt, under the supervision of Donovan in 1913. It was located on West Street, between 28th and 29th Streets. Durant, U-shaped in plan, was a two-story school, presumably due to site constraints and the desire to preserve adequate playground space. A two-story school was unusual for the

⁸⁰ John Galen Howard had originally drawn up multiple design options for Emerson—a one story, two story, and three story option. The two story scheme had an open air room in the center of the structure on the roof. Another option was an E-shaped scheme where there were three wings, two with classrooms, and one, the middle one, was the assembly hall; other schemes included one long bar scheme with all classrooms opening onto the playground. In the end, the single-story double-patio scheme was selected. May 1912. John Galen Howard Collection, U.C. Berkeley Environmental Design Archives.

⁸¹ Donovan, “New School Building Work of Oakland.”

new construction, but the façades were almost entirely windows to account for the diversion from the committee's recommendation on building height and outdoor accessibility (Figure 13). The front façade was nine bays across, but four wide bays were all windows from the ground clear to the roof. The solid smaller bays were entrances and stairwells. There was a double loaded corridor across the front wing with single loaded corridors for the side wings. For the side wings, the classrooms were accessed off an exterior arcaded corridor—even in the two-story open-air schools, the exterior circulation was preserved. Durant had an interior courtyard, and the walls surrounding the courtyard were similarly full of windows (Figure 14). The windows were arranged in sets of five across, stacking six windows high from the floor to the roof.

Lockwood school was built in 1914, designed by Lewis P. Hobart. It shared architectural similarities with Santa Fe School. Lockwood was on a seventeen acre school site with rolling grass and trees. Its spacious site allowed it to be all one-story reinforced concrete (Figure 15). There were ten classrooms, all accessed off a continuous exterior corridor. There was an assembly hall at the center of the courtyard with a ceiling that was almost completely taken up by a large glass skylight, similar to the glass ceiling design suggested previously to the school board by architect Julia Morrow, the ACSTB, and Dr. Foster (Figure 16). School gardens were placed on each side of the assembly hall, and were central to the organization and accessible to all the students. There were separate boys' and girls' playgrounds, gyms, and tennis courts at the ends of wings. Representative of perceived gender differences, the girls' gym was adjacent to the Domestic Science classroom, while the boys' gym was attached to the manual training

room. The wings had long vertical windows that occupied almost the entire height of the building. The three-tiered windows with transoms along the tops were in groupings of five. Engraved on the entablature was “literature,” “the sciences,” and “geography.” Behind the assembly hall, in a cloistered courtyard, was a protected playground for small children (Figure 17).

Lockwood, with its school gardens and shade trees, was a unique case among Oakland’s new schools. While there was seemingly ample outdoor space in the new plans—courtyards, playgrounds, and covered walks—the actual landscape of the new Oakland schools did not appear significantly modified to encourage children to engage with it. The landscape design as a whole was mostly ignored, at least at the time of inception, with the exception of some flowering shrubs along the front façade, an open grass field, play structures set on a hard surface, or a fountain at the center of a gravel courtyard. There were few trees for shading outdoor study sessions, little discussion of school gardens and agricultural programs, and no emphasis on incorporating California plantings into the site. In fairness, at times the constraints of the site did not allow full implementation of the ideas set out by the committee: urban noise and industry required more closed designs; a small site or site on a hillside, forced multiple stories instead of a single level, resulting in restricted access to the outdoors. But, the integration of building, landscape, and curriculum, essential to the form and function of more experimental open-air schools like the Polytechnic and Francis Parker was absent at these Oakland schools, just as it was at the prior public school experiments of Dehesa and Fruitvale.

Though Oakland's Fruitvale Open-Air School helped inspire initial change in ventilation strategies, attention to orientation, importance of physical fitness and children's health, ultimately, these new Oakland schools were very different than Fruitvale in terms of their architectural design and student impact. They were expansive, permanent structures, planned on dedicated sites with a wide variety of indoor and outdoor spaces, and they were designed to function in all-weather with extensive mechanical systems and tiered operable window arrangements, in addition to the simple passive systems employed at Fruitvale. Oakland's new school designs also embraced the popular mission or Spanish revival style detailing, with tile roofs, exposed wood craftsmanship, and sculptural decorations, reinforcing calls for the regional mission revival style to enhance California's unique school designs, as opposed to simply a wood and canvas shed recalling California's tuberculosis history. While in form, these Oakland schools did not resemble the temporary experiments of Dehesa or Fruitvale, they did share similarities in their conservative and restricted engagement with the landscape. Children's physical health was certainly improved by the increased ventilation and sunlight, larger play areas, and dedicated gymnasiums, but the improvement in children's health, body and mind, from engagement with the outdoors is left somewhat unclear.

All the same, Oakland's new schools and their improvements in school hygiene received international recognition. Oakland's schools were touted in the *Oakland Tribune* as a "new model for the world". Open-air construction was "now standard for new institutions of learning," and Oakland's designs were being copied across the country. In 1912, open air classrooms were considered a novelty, but by 1914 Oakland called itself

the “city of open-air schools,” where open-air schools were “the rule.”⁸² Oakland had different types of open-air schools, from weather-proof rooms with large operable windows, to impermanent pavilions with only screened openings. The access to fresh air was always key even though the structures differed in construction and price. In a 1915, *Architect and Engineer* magazine, Oakland was cited as the most developed city in terms of its school architecture: “No city in the West in comparison with its population has spent so much time, thought and money on its public school system and school buildings.”⁸³ Because of its new open-air public schools, Oakland was chosen as the site for the 1915 annual meeting of the newly established American Open-Air School Association, an organization formed in Philadelphia in April 1914 to promote the widespread establishment of fresh-air schools.⁸⁴

Oakland’s new schools were promoted in the hopes of luring wealthy and educated newcomers to the city, and to the young state in general. Articles, guide books, real estate and tourist materials often referenced California’s fine outdoor schools as a major selling point. A 1913 article in the *San Francisco Call* profiled the city of Oakland: “What do you know about Oakland, the thriving city across the bay?,” the article asked. Oakland’s population had doubled from 1906 to 1913. It had a new electric rail line to Sacramento. And right up there with rail lines and population growth, it had significant children’s amenities, in particular, open air schools and playgrounds: “Do you know that Oakland has a number of new open air school houses being in the forefront of modern

⁸² “Oakland’s schools new model for the world. Open air construction is now standard for new institutions of learning,” *Oakland Tribune*, 1914.

⁸³ Cahill, “Recent School Buildings in Oakland,” 40.

⁸⁴ The meeting would take place in Oakland at the 1915 National Education Association Conference.

cities in this respect? Do you know that Oakland has 15 children's playgrounds, attended by more than 750,000 children in the last twelve month?" The *San Francisco Call* even offered a free car trip to Oakland for investors interested in looking over development opportunities.⁸⁵

Oakland's schools were internationally recognized and popularized. For example, in the 1915 English publication, *Yearbook on Open-air Schools*, by Dr. T.N. Kelymack, which was distributed in many countries, he profiled the city of Oakland. When calling for city-wide implementation of open-air schools, Kelymack described Oakland's efforts as, "embodiments of new principles and more rational practices in regard to Preventive Medicine and the science and art of the hygiene of education," because Oakland's schools gave the advantages of open-air education to "children in all ranks of society and in every class of school."⁸⁶ At the same time, at the other end of the state, San Diego was constructing its own public open-air schools.

San Diego: A Climate Designed for School Health

San Diego also passed bond initiatives for new schools between 1911 and 1914 totaling one million dollars. In 1908, San Diego was a small and quiet town with little industry and limited infrastructure and building development. It was mostly a tourist destination for winter "snow birds" from the east and Middle West. By 1913, San Diego had become a medium-sized city of 80,000 residents. In terms of industry and growth,

⁸⁵ "Here are facts about east bay. Interesting details of what is to be seen across the water," *San Francisco Call*, Volume 114, Number 170, November 29, 1913 : 29.

⁸⁶ T.N. Kelymack, *The year book of open-air schools and children's sanatoria: a companion volume to "The tuberculosis year book and sanatoria annual"* (London: J. Bale, Sons & Danielsson, 1915), vii.

however, the city struggled to compete with Los Angeles, a terminus of the railroad. San Diego worked to attract permanent residents by developing its landscape. The city completed water infrastructure projects and developed productive farm land. The city offered the promise of increased business and trade with the opening of the Panama Canal and improved its port. The city also used civic improvements, such as the construction of new schools and parks, to attract residents. The funds from San Diego's bond measures were directed towards constructing new schools of the "most modern sort and especially designed to provide the open-air school, which the wonderfully equitable climate of San Diego makes possible as nowhere else on the Western continent."⁸⁷ San Diego hoped that their new open-air schools, would make them the county with the best schools in the United States and would attract people to become residents: "Civilization follows the flag, but schools bring people as permanent residents," wrote the *San Diego Union*.⁸⁸ The schools were described as a perfect example of the advantages available to those living in the "City of Sunshine". San Diego, "the Paradise of the Pacific," allowed residents to "enjoy life to the fullest extent materially, mentally, and spiritually."⁸⁹ The open-air schools and the climate made San Diego an ideal place to raise healthy children: San Diego was "the most desirable place in the world to rear children to sound, healthful, efficient adolescence and make men and women for the coming generation balancing in mind and body."⁹⁰ In 1914 alone, there were seven new permanent open-air schools and

⁸⁷ "San Diego Spends Millions for Schools in Two Years," *San Diego Weekly Union*, 1914: 3

⁸⁸ "San Diego Spends Millions."

⁸⁹ "San Diego Spends Millions."

⁹⁰ "San Diego Spends Millions."

open-air additions built in San Diego for a total of \$210,000.⁹¹ The seven schools were Brooklyn, Emerson, Grant, Jefferson, Loma Portal, La Jolla, and Garfield. Forty-seven new classrooms and thirty-seven support rooms were constructed. The school board employed a local lead architect, T.C. Kistner. The new open-air schools played an important role in the development and image of prosperity for San Diego.

San Diego was a mecca for sunshine, and many believed that its mild, warm climate led to improved health. It was written up in newspapers, tourist guides books, and municipal literature, as a place where “old grow young, sick well.” It was particularly appealing for families with children and was touted as “the easiest place on earth for the raising and rearing of the child”. In this “children’s paradise” it was possible to exercise and play out of doors every day of the year, and the abundance of city playgrounds, parks, beaches, and size of residential yards encouraged this active outdoor lifestyle. Doctors noted how the climate led to better behavior among children, with a “lack of quarrels and fighting” on the playgrounds. The climate and the sunshine were responsible, according to “experts” for creating “wholesome” children with “radiance and sunshine reflected from the faces of the little ones.”⁹² The climate also made San Diego “virtually free from all contagious disease” and lowered the death rate among children. The children were “superhuman” in San Diego, thanks to the climate where disease and injury couldn’t exist: “diseases never become epidemics, injuries do

⁹¹ Theodore Kistner, “Seven Schools Built in Year. \$210,000 spent on open air structures of the most modern type,” *San Diego Union*, January 11, 1915.

⁹² Dr. Gochenauer, “Old grow young, sick well, in wondrous San Diego Climate,” *San Diego Union Tribune*, January 1, 1915.

not leave harmful after effects”.⁹³ In San Diego, as the classrooms never needed to be closed, they were thought to be inherently more sanitary: “In San Diego the climatic conditions are such that the freshest and fullest circulation of fresh air is provided for children in the school rooms and buildings because it is not necessary to shut the scholar in and the fresh air out.”⁹⁴ In 1914, in preparation for the Panama Pacific Expo in San Diego, forty-five southern California school officials met to discuss the educational exhibits for the fair’s Southern California building. The officials decided that they would install a live open-air school at the exposition site, so that “visitors may see the rosy sun-browned youngsters of San Diego absorbing knowledge under the conditions which cannot be paralleled in any other state in the Union.”⁹⁵

San Diego’s Early Open-Air Structures

San Diego experimented with early versions of temporary and tented open-air schools, as well as schools that were out-of-doors, like Dehesa. The San Diego school board used open-air schools as a way to relieve congestion while also appeasing women’s clubs, fresh air and health advocates, and while making San Diego look like a very cutting edge and health conscious up and coming city. As San Diego’s population was growing at a rapid rate, the overcrowding became unmanageable and the school had to start using hallways as classrooms.⁹⁶ By 1913, there were twenty-four one-room open-

⁹³ Gochenauer, “Old grow young, sick well,”

⁹⁴ “San Diego Spends Millions.”

⁹⁵ “Open-air school planned at Fair During 1915. 45 Superintendents and Principals of Southern Counties Visit grounds. Committee appointed. LA Man elected president, Hugh J. Baldwin chosen secretary,” *San Diego Union*, September 29, 1914, Section 2: 1.

⁹⁶ San Diego School Board Minutes, May 22, 1911. Increase in school population over last 5 years was over 20%, greater than any other time in city history.

air school structures in San Diego, primarily functioning as additions to existing schools. Arthur H. Chamberlain, Editor of the *Sierra Educational News*, published across California, visited the city and described San Diego's temporary open-air schools in his publication as "markedly progressive and efficient" and "a model of convenience".⁹⁷ The schools, built for \$700 each, had wide folding doors that could be opened so that "the children may have all the advantages of the out-of-doors."⁹⁸ The open-air schools became such a regular addition to school sites, that standardized plans and specifications were on file at the office of school board, recalling the process for the dissemination and construction of the popular Fresno tent schools. In the early 1910s, the San Diego School Board and Superintendent Duncan MacKinnon, worked to construct many new public elementary school buildings, with more permanent open-air additions and new constructions. In some cases, the previously used temporary open-air structures, or portables, were later transformed into the Kindergartens. The craftsman style structures were free standing in the school yard and the young students completed their work out of doors, washing up, sitting around a table, or climbing on a jungle gym (Figure 18).

The construction of the early open-air schools was initiated in part by the citizens themselves, who played a significant role in increasing the number of open-air schools in cities across California. The Normal Heights Improvement Club, in association Superintendent Hugh J. Baldwin, were zealous about promoting new open schools and experimenting with alternate forms of outdoor school structures. Baldwin installed an

⁹⁷ Arthur Henry Chamberlain, "Visits afield: Santa Barbara Normal, Orange County, City of San Diego," *Sierra Educational News and Book Review*, No. 3 Vol. ix, March 1913, (San Francisco: California Council of Educators), 219-225: 223-225; "City Schools are Given Big Boost: Educational Paper Devotes Two Pages to the Institutions of San Diego," *San Diego Union*, March 11, 1913: 7.

⁹⁸ Chamberlain, "Visits afield," 224.

exhibition at the National Education Association Convention in San Francisco in July 1911, where he displayed pictures, plans, and specifications for a new open-air design tested in Normal Heights. The school was a one room wooden structure raised off the ground. It had wainscoting topped with large vertical windows wrapping the east and south sides. The school, which served sixth, seventh, and eighth grades, was equipped with heavy curtains for rainy weather, which were suspended on the insides of the frames and had broad overhanging eaves.

After successful experimentation with impermanent school structures, the school board decided to implement similar features in permanent schools, first, in Normal Heights, at 36th Street and Adams Avenue. The school board built an \$8,000 open-air school in 1912. It was a four room building for two-hundred students. The simple long rectangular form was set on an unmanicured dirt lot with a small play structure. It was built of fireproof hollow-tile construction covered on the interior and exterior with plaster. The long and narrow structure, roughly 70 by 1000 feet, was oriented east to west with the wide facades facing north and south. The school had a twelve-foot wide interior corridor that ran down the middle with only two classrooms on each side, which allowed the classrooms to have windows on two sides. The school's only ornamental detail was a Spanish mission-style parapet. A band of windows the height of half the façade wrapped the sides of the structure. The panorama of windows was shaded with two large canvas awnings (Figure 19). Headed by Miss Floss B. White, the principal of the Normal Heights open-air school, and Mrs. S. Scott, local women banded together and formed the "Open-Air Mother's Club". This women's club met once a month at the

open-air school, presumably to discuss ways of improving and spreading this new invention, and it must have had some effect as the school board instituted its wide spread open-air school policy the same year.

Like Oakland and other cities across the state, at the same time as the population of San Diego was increasing, concerns regarding children's health also became of growing interest in the community and at the school board. The San Diego Society for the Study and Prevention of Tuberculosis used the schools as an arena to share their concerns about public health, speaking at public schools and to the board about the dangers of tuberculosis and the need for hygienic environments and practices.⁹⁹ At the start of the 1911 school year, the school board required Dr. F.J. Smith, the Supervisor of the Department of Health and Development for the Board of Education to submit his first report of student health examinations. His reports were thereafter submitted every month to the School board. In the reports he listed the number of examinations and the numbers of students with specific health issues, including defective eyesight, defective hearing, adenoids, enlarged tonsils, poor chest development cough, catarrh cases, poor teeth, contagious skin disease, extreme nervousness, and anemia. As in Oakland, health report cards were sent home to parents and follow-up visits were made to the children's homes. The school nurses also helped the family make arrangements for visits to specialists to ensure treatments.¹⁰⁰ Dr. Smith even attended a meeting of the school board to demonstrate how pupils were examined in the schools.¹⁰¹ In early 1912, the school board began considering the additions of dental rooms to the public schools. These dental

⁹⁹ San Diego School Board Minutes, May 10, 1911.

¹⁰⁰ San Diego School Board Minutes, September 30, 1911.

¹⁰¹ San Diego School Board Minutes, October 9, 1911.

rooms, which would include a small office and clinic for a dentist and hygienist, would be added to the public schools to serve children that could not afford dental care. The cost would be \$750 to \$1000 per room, but the ease of access to dental care and immediate control of hygiene was most appealing.¹⁰² The dentist would be employed during the school year for nine months, three hours per day and six days per week.¹⁰³ Similar to the developments in Oakland, these San Diego examples reflect changes to school design and function that complemented open-air initiatives and public health concerns.

Architect T.C. Kistner and San Diego's New Schools

The school board hired architect T. C. Kistner to implement the latest ideas about children's health using open-air techniques in the new school structures. Kistner came from Illinois where he attended University of Illinois School of Architecture. In 1898 he opened his own office in Illinois and it was there in Granite City, that he designed his first school. Kistner was drawn, like many others to the promise of sunshine and prosperity in the young cities of the west coast. He had heard that San Diego was a rapidly growing city and was in need of architects to design its new structures. He moved his architecture firm to San Diego in 1911. Kistner quickly became recognized as a school specialist and won the commission as the official architect of the San Diego School Board. Superintendent MacKinnon and Dr. L.G. Jones, the President of the Board of Education, hired Kistner because his designs were economical, efficient, and

¹⁰² San Diego School Board Minutes, January 8, 1912.

¹⁰³ San Diego School Board Minutes, October 16, 1912.

healthful.¹⁰⁴ MacKinnon, an advocate of open air schools, and Dr. L.G. Jones, a medical doctor with clear preferences for popular health techniques, were also concerned with continuing the systematic implementation of the new hygienic techniques and ensuring uniform and quality levels of sanitation in the schools. Kistner took care to plan all of the new open-air buildings so that the classrooms had either east or southern exposures, giving them the most morning and daytime sun light. His use of abundant French doors enabled whole walls of the rooms to be opened to the exterior. Transoms were again used in the walls opposite the French doors to further increase light and ventilation. By 1933, Kistner had designed seventy-one schools in Southern California. Kistner's designs established an open-air design pattern in Southern California schools.

Though the board of education hired Kistner as their trusted architect, its members would at times intervene in architectural plans, especially in regards to adequate ventilation and lighting. The board would review and approve plans for school buildings, which often led them to request architectural alterations. For example, in November 1913, the school board approved plans for open-air school buildings at Sherman, Logan, and Brooklyn schools, but only if the plans were modified so that the windows extended all the way to the floor.¹⁰⁵ George Muchmore, Superintendent of Building and Grounds on the School Board Building Committee, recommended that all the schools consider implementing open-air design techniques. He suggested that structures should be oriented so that they faced east, ensuring maximum sunlight exposure in the early hours

¹⁰⁴ "Officials of school board defend action. Superintendent MacKinnon and Dr. L.G. Jones Explain Why They deemed it best to employ Theodore Kistner to draw plans for all future buildings in preference to competitive offers; economical and saves time, they declare," *San Diego Evening Tribune*, January 23, 1914.

¹⁰⁵ San Diego School Board Minutes, November 1, 1913.

of the day when school was in session. He also asked that platforms be installed across the east face for outdoor class activities, that French windows be installed in the east facades, and that ventilating devices be added to the buildings for increased air circulation. These design elements were first introduced in San Diego at Kistner's Grant and Jefferson schools.

Grant and Jefferson school additions, from 1913, helped make Kistner the architect of the San Diego School Board and to become known across the state as an "open-air architect". Kistner's designs for Grant and Jefferson Schools in particular became well-known and design elements such as a series of French doors opening directly onto an exterior terrace inspired other architects' designs both locally and across the U.S. Kistner won first prize, out of four-hundred submissions, in a Sacramento school exhibition for his open-air designs at Grant and Jefferson schools. Grant and Jefferson's additions, costing \$10,000 each, were four-room school structures designed to resolve overcrowding issues and address increasing health concerns. The school board requested that the addition be "one story high with open-air features".¹⁰⁶ They were Spanish mission style, like the Francis Parker, with an elaborate entry of Baroque Spanish detailing centered between two classrooms on either side. Grant and Jefferson schools were notable for their terrace or cement patio, that ran along the front of the classrooms and was easily accessible through large continuous French doors, each classroom having four pairs of French doors. Having a terrace directly adjacent to classrooms was also quite similar to Oakland's McChesney School, where walls of awning windows opened onto such an exterior space for outdoor study. The doors at

¹⁰⁶ San Diego School Board Minutes, June 19, 1912.

Grant and Jefferson were topped with four stationary transoms for additional lighting and then four wood grills or louvers for continual ventilation (Figure 20). Roman shades could be raised or lowered in each doorway to prevent too much sun exposure. The French doors were often swung open with students working at their desks (Figure 21). Just outside the classroom was the patio, then a row of shrubs, and then a school garden where the students worked the land. The rear of the classrooms had windows onto an arcade, lining the playground. Similar to Francis Parker, in images of the school, the students were often found in the landscape. The Grant students gathered along the front of the school spilling out from the classrooms with the doors open wide. The landscape was terraced with rows of planted shrubs alternating with low retaining walls, serving as seating ledges. The students gathered in various locations along the front of the school, some drawing in the dirt, some playing with a ball. Bicycles lined up along a wall at the street edge (Figure 22).

Loma Portal School was also designed by Kistner in the Spanish mission style and with a similar arrangement as Grant and Jefferson Schools. In the Loma Portal neighborhood of Point Loma, San Diego, there was some hesitation to move to the neighborhood because of the lack of schools nearby. The residents began to place pressure on the school board to build a school and the local branch of the San Diego Securities Company, who were developing a neighborhood tract, became involved in the school's construction. The securities company deeded the land to the school district and was "bending all its powerful energies toward making Loma Portal the most convenient as well as the most beautiful residence subdivision in San Diego and building activity in

the tract indicates the success of the Security company's methods." Businesses, such as the Securities Company, recognized the importance of new, modern schools in the success of their developments and neighborhood propaganda. The school was built alongside many "handsome new homes" on the Securities Company tract.¹⁰⁷ Loma Portal School opened in the fall of 1914 and cost \$12,000. The school occupied an entire block, bounded by Plum, William, Browning and Alcott Streets.

Loma Portal was similar to the Grant and Jefferson additions with its tile and plaster construction and a bar-shaped plan with four rooms. The school adapted the "patio" or terrace as central to the design, and followed the "California idea" of the open-air school introduced at the Polytechnic, described now by this time as "typical California architecture".¹⁰⁸ It was called a "modern idea" to give students "plenty of room and fresh air" in the school setting¹⁰⁹; in this school context, "modern" meant fresh air and spacious playgrounds. The façade of the school was symmetrical with a main entry in the center. There were four bays of windows extending clear from the ground to the roof (Figure 23). Children took their music lessons out of doors. Recalling the image of a Francis Parker student leading math class in the portico, in one photograph at Loma Portal, a student stood on a chair on the playground directing a cadre of children playing instruments. A basketball hoop can be seen in the background, positioned just in front of the main façade and large French doors. From the classroom, one could have played basketball! (Figure 24)

¹⁰⁷"Loma Portal open-air school being built. New Structure will be ready for fall term opening," *San Diego Union*, August 9, 1914: 4.

¹⁰⁸ "New School Building Planned for Loma Portal Residents," *San Diego Union*, February 8, 1914: 7; "Loma Portal open-air school being built," 4.

¹⁰⁹ "Loma Portal open-air school being built," 4.

Other San Diego schools followed the model introduced at Grant and Jefferson schools. In December 1911, the La Jolla Women's Club requested that their La Jolla public school be converted into an open-air building, and "outdoor school," by fall of 1912.¹¹⁰ Four months later, not feeling as if their request had been heard, the women's club started a petition. Seventy-three La Jolla residents signed a petition submitted to the School Board requesting architectural improvements in their school, notably improvements in ventilation, lighting, and sanitation. La Jolla School was finally built in 1914 as requested by the Women's Club. The school was primarily one-story, but it was sited along a slope, making a second story at the end of the bar. The rear of the school had the wide swinging French doors that opened onto the playground. Emerson School, also built in 1914, also had continuous French doors opening from the classrooms directly onto the playground. San Diego's Stockton School, completed in 1916, was the last of open-air schools constructed with this set of bond funds. Stockton's open-air "bungalow" classrooms matched its updated curriculum, where the modern design enabled new courses in manual training and domestic science.¹¹¹

San Diego and Oakland were exemplary models of city-wide efforts to rethink the design of the public schools. These cities were expanding at rapid rates and they were able to pass large bond issues for new school construction while these discussions of children's health and open-air schools were at the fore. While these cities established architectural and administrative models to which cities across California looked, cities

¹¹⁰ San Diego School Board Minutes, December 11, 1911; San Diego School Board Minutes, March 4, 1912.

¹¹¹ "Stockton School Bids to be Opened. Completion of structure will end board's projected improvements," *San Diego Union*, December 8, 1915: 5.

across the state shared information and research on open-air schools and tested out their own ideas and forms, creating a state-wide network of open-air schools and open-air innovators and advocates. The architectural features of these open-air schools, introduced at the Francis Parker and the Polytechnic, quickly became part of the design vocabulary for public schools in general.

Cities Across the State Require Open-Air

By 1917, Dresslar and Kingsley listed 32 cities in California with open-air public schools for “normal children,” though this was not a comprehensive list. This list did not consider all the schools in California that were being designed in the open-air style—one story, expansive windows, outdoor class rooms and shaded play areas, spacious site with gardens—without expressly referencing a connection to the open-air school movement. In California, from Sacramento to Fresno to Santa Clara, open-air initiatives were happening, establishing new forms of school design that paid attention to solar orientation, ideal plan types for maximum ventilation and sunlight, introduced exterior vegetation for shading and nature study, and assured important new elements that increased children’s contact with the outdoors such as windows, gardens, porticos, and courtyards, mirroring the elements identified by Oakland’s advisory committee.

Sacramento, the capital city of California, had a number of open-air schools, widely documented in photographs in the Goldsberry Collection, though details regarding the context for the images and schools is limited. The Sacramento open-air schools were exemplary for their school gardens, exterior porches, variety of operable window types,

and the importance of exercise in the curriculum and in the abundance of outdoor space designated for this exercise. Sacramento's children were exposed to the outdoors through a variety of French windows, large sash windows, and awning windows. There were tall French windows that swung out in pairs spanning from the wainscoting to the ceiling, from about 2 feet off the floor to 8 feet high. When the window was up, the portion of the wall that was open to the exterior was roughly from a child's waist to a foot below the ceiling (Figure 25). There were large wide sash windows where the window slid up completely into the upper portion of the wall and "disappeared" (Figure 26). And there were tiered awning windows, like in Oakland. Some facades had no enclosure at all and were simply open pavilions with only a roof (Figure 27).

In the Annual Report of Sacramento City Schools from 1917-1919, gardening was an important element of the curriculum, no doubt because of State Superintendent's Hyatt's presence in the city, and several images highlighted the students "cultivating the soil" at their schools.¹¹² In 1917, in the courtyard just outside their classroom, the students threshed beans harvested from their garden. The modest one-story classroom behind them was a wooden board and batten structure, but it had five tall closely spaced vertical sash windows (Figure 28). The bean crop was grown in a large field just next to the school, where the students tended the crop under the auspices of the American flag that was planted at the center (Figure 29). At Oak Park Primary School, the young children tended their garden, a large low planter box just outside the open windows of their classrooms, while two female teachers supervised the little children at work in the cabbages (Figure 30). Tending to plants outside was important, but when the students

¹¹² *Annual Report of Sacramento City Schools, 1917-1919, 33.*

were inside, they were surrounded by plants as well. In images, the open-air classrooms appeared overgrown and jungle-like, with an abundance of hanging fern baskets, planter boxes filling the window sills, and flower vases and potted plants on the tables, bookshelves, and desks around the rooms (Figure 31). If the students weren't exposed enough to flora out of doors, it was brought indoors and curated around the room.

At Newton Booth school in Sacramento, much of the activity and learning took place under a covered pavilion, or square porch, connected to the main structure, an open-air design element unique to this school. The classrooms were set up with a fluid indoor outdoor exchange. The main structure was one story brick and wood arts and crafts with solid panels of sash windows above the wainscoting (Figure 32). Some windows in the main classrooms were called "disappearing windows" presumably because they were pocket windows. The pavilion was enclosed with a low brick wall, a direct extension of the building, making a completely outdoor room used for many different curricular activities. The pavilion was connected to the interior through sliding folding accordion doors that were kept open most of the time. There was basically no division between the inside and outside when the sliding folding doors were tucked back and the exterior pavilion was occupied as an extension of the interior space (Figure 33). The pavilion was used for a variety of academic and extracurricular activities from the student orchestra to lectures by the teacher (Figure 34).

At Newton Booth School, they were proud of their exercise. Their class pictures were taken outside in front of the school as they posed doing their physical exercises. In one photograph, the students all have their arms out straight and in another image, the

students all have their arms up around their heads in the shape of an “O” while a sign read “Newton Booth School” at their feet (Figure 35). Newton Booth’s open-air design was supported by the Sacramento Division of School Hygiene and Sanitation who photographed the school and used it in publicity materials in 1913, as well as sent it across the country to Louise Goldsberry for her collection. Publicity images of children, posed to display their bodily fitness regimes and developments in public health, were commonly taken at open-air schools across California from Newton Booth to the Polytechnic to Fruitvale.

The city of San Jose also implemented open-air rooms across its district. In San Jose, significant proponents on the school board and the circulation of articles and publications on the benefits of open-air schools led to their establishment. Goldsberry wrote in 1919 that in San Jose, three-quarters of the city’s school rooms were open air, defined as “convertible open-air,” meaning they could be open or closed depending on weather, as they had operable windows “from floor to ceiling on one side and French doors enclosing the entire opposite wall of the room.”¹¹³ Between 1908 and 1916, as the school population doubled from roughly 3,000 to 6,232, the school district built seven permanent open-air schools with a total of twenty-six new open-air classrooms.¹¹⁴

The implementation of open-air schools in San Jose was the topic up for discussion at the May 1911 Board of Education meeting.¹¹⁵ The evening started with conversations about how to relieve overcrowding, especially at the primary level at

¹¹³ Louise Goldsberry, “The Louis Dunham Goldsberry Photograph Collection of Open Air Schools and Outdoor Education,” Source Book, Library of Congress, c. 1919-1921.

¹¹⁴ *San Jose Mercury News*, March 23, 1916.

¹¹⁵ “Open air schools subject of discussion at a meeting of the Board of Education,” *San Jose Evening News*, May 10, 1911.

Gardner and Grant schools. Open air school additions were the winning suggestion. References were made to cities such as Alameda, which San Jose Superintendent Alexander Sherrifs would visit, and other cities on the East Coast with much colder climates. News and innovations in open-air schooling traveled through publications, but also through school officials who traveled to visit other open-air buildings and were inspired to try their own. In May 1911, Sherrifs visited Will C. Wood, the Superintendent of Alameda Schools, to tour some of Alameda's new open air facilities. Sherrifs was impressed by the open-air buildings' hybrid ability to be both open and closed making them flexible and adaptable in the event of extremely cold winter days.¹¹⁶

During these years of rapid population growth, San Jose's Board of Education worked to assure that the additions and renovations would reflect open-air principles and be readily "convertible" into outdoor classrooms. All of the outside walls, except the north wall, could be "pushed up" and would slide from the floor into the attic (Figure 36). The Board of Education also experimented with renovating an old building into an open air school, by cutting out the wainscoting below the windows, then putting a "duplex hinge" on the cutout wainscoting to make it a "movable wooden window," a rather inexpensive method that allowed the room to be open to the outside all the way from the floor. Open-air schools were an "excellent innovation" according to Sheriffs and a way to accommodate overcrowding and infuse fresh-air and health.¹¹⁷ In 1913, the interest in open-air schools, went beyond the school board as local Santa Clara County mayors met

¹¹⁶ "San Jose Educator Visits in Alameda," *Oakland Tribune*, May 12, 1911.

¹¹⁷ "Garden City Plans Open-Air Schools," *Oakland Tribune*, March 14, 1912.

at the office of Mayor Monahan to discuss open-air schools.¹¹⁸ In 1916, San Jose passed a bond issue for \$150,000 to construct even more new schools spaces to help alleviate crowded conditions.¹¹⁹ The new measure called for a four room open-air school at Horace Mann Elementary School to accommodate the seventy-children taught in teacher's rooms and corridors, in addition to a four room convertible open air school at Lowell Elementary. The Board also planned to demolish the existing Hawthorne School in East San Jose and build a "new modern, convertible, open-air school house, with all modern conveniences," including eight classrooms and an assembly hall.

Meanwhile, in nearby Santa Clara County, Superintendent D.T. Bateman, was a strong advocate of open-air schools, functioning at times like a designer or architect more than an educator, exhibiting a physical model he made himself. The Pala open-air school opened in September 1913. As part of a program for the school Civics Club, Bateman made a model of the open- air school and spoke about the function of the Pala open-air rooms, teaching the importance of good ventilation.¹²⁰ In late 1913, Willow Glen, under the direction of D.T. Bateman, opened an open air school. Bateman declared that Willow Glen's newly completed open air school was "the best in existence" and that "There is no other like it in the world."¹²¹ The building had two sides of each room that could be completely opened from floor to ceiling. The windows and shutters were easily operable by children, an important advancement that allowed the students themselves to take control of their open-air environment. The building marked the culmination of

¹¹⁸ "Mayors to Discuss Open Air School Problem," *San Jose Evening News*, May 9, 1913.

¹¹⁹ *San Jose Mercury News*, March 23, 1916.

¹²⁰ "County Schools' Head Exhibits His Model of Ventilated Room," *San Jose Mercury News*, October 23, 1915.

¹²¹ "The Open Air Schoolhouse," *San Jose Mercury News*, December 21, 1912.

significant research and an “exhaustive examination” of other open air school houses. The school included a specialized curriculum that included domestic arts, where, for example, boys would learn to build a chicken coop or girls would learn to make an apron.¹²² Santa Clara County’s Hacienda School, designed by Wolfe and Wolfe architects, was an arts and crafts style open-air school constructed in the foothills against the trees (Figure 37). It had three tiered operable awning windows and was “Open to the mountain air”¹²³ (Figure 38).

In Fresno, continual concerns about tuberculosis, disease, and overcrowding, led to the development of several new city schools in the open-air style. Following attempts to solve overcrowding with the temporary open-air tent structures touted by Hyatt, in February 1914, the School Board planned to erect a number of new open-air school buildings after the passage of a bond measure. While the new school designs were vastly different than the tents, the original intentions of increasing fresh air and light remained. In their 1915-1916 Annual Report, under Superintendent Charles C. Starr, Fresno published photographs of their new schools buildings. All the new buildings, including Longfellow Intermediate, Washington Intermediate, and Columbia Elementary, were “of the open-air type,” which meant exterior circulation shaded by arcades, walls of operable glass windows, and large play areas. The combined total was seventy-eight open-air school rooms in use in Fresno’s elementary and intermediate schools.

The Fresno School Board, like Oakland, conducted studies for their new schools such as how to best meet “climate conditions, the educational requirements and

¹²² “The Open Air Schoolhouse.”

¹²³ Goldsberry Collection, Library of Congress.

conveniences, the arrangements best suited for administration purposes, the accessory rooms requirement, open air features, and plans for preserving a maximum amount of playground space.”¹²⁴ It was decided that the back of the schools would be used for playgrounds exclusively and the front for grand lawns and decorative shrubbery.¹²⁵ Some schools were one story, like Jackson Elementary, although some of the schools, like Jefferson and Webster Elementary, were two-story to preserve playground and landscape space on a small site (Figure 39). The operable windows were placed on the street side to avoid breakage from a stray playground ball (Figure 40). On the playground side, high transoms allowed fresh air to flow freely across the rooms. Having only exterior corridors, only fresh outside air, not enclosed interior hallway air, passed through the rooms. The covered exterior corridor on the sunny side also served as a sun shade, protecting the school rooms from the valley sun during the warmer months¹²⁶ (Figure 41). There would be no south or west windows in the new buildings, to mitigate the heat gain and glare from the sun—the heat being an important regional factor that was not addressed in the previous tent schools. Webster Elementary, Longfellow Intermediate, and Washington Intermediate Schools had special mechanical systems to purify and humidify the air. The system worked by passing air through sprays of water before it was sent throughout the building. The system also worked to reduce the temperature of the rooms in warm weather.

In cities across California, school boards and their architects were particularly interested in adaptive reuse and transformation of existing school structures, as a way to

¹²⁴ *Fresno School Board Annual Report*, 1915-1916, 11.

¹²⁵ *Fresno School Board Annual Report*, 1915-1916, 13.

¹²⁶ *Fresno School Board Annual Report*, 1915-1916, 13.

incorporate open-air principles, while saving money on new construction. In order to do this the schools tested out new design technologies, such as new window mechanisms. The schools tested the installation of operable windows with new and improved operation mechanisms as a way to transform an existing school room into an open-air school room. The process involved removing large pieces of a wall or multiple walls in whole, in order to extend window openings from the ceiling to floor – sometimes even below the floor for ventilation purposes. For some, such as State Superintendent Edward Hyatt, the new window mechanisms were not a guaranteed solution to the problem of ventilation: “A simplex window is no better than any other window when it is shut,” Hyatt said.¹²⁷ When there was the ability for human intervention and the climate of the room was uncomfortable, teachers or students could close the windows, and measures needed to be taken to prevent the ability to close windows unless it was sanctioned by an expert: “It is not a good idea to have an outdoor school that can be too easily and unobtrusively turned into an indoor school and so maintained until the next volcanic explosion from the superintendent”.¹²⁸ Aside from some open-air zealots like Hyatt, new window types were still thought of as essential to the opening up of California’s classrooms.

The Simplex window, popular especially in San Jose and Santa Clara schools, had sales headquarters based in Los Angeles, and was advertised as “weightless” and “reversible” and there were “no weights, cords, or pulleys” to complicate operation. It was called “mechanically perfect”. A diagram of the windows on the advertisement

¹²⁷ Hyatt, “Open-Air Schools for Subnormal Children,” 7-8.

¹²⁸ Hyatt, “Open-Air Schools for Subnormal Children,” 7-8.

shows how the windows could pivot to be either an awning or a hopper window.¹²⁹ The Hauser window from San Francisco made by Mr. Hauser, was another version of a newly developed window mechanism, a three or four tier operable awning window, designed and advertised for the main purpose of increasing ventilation in schools. The sashes could be opened with two, three, or four sashes at one time and all controlled from the lowest sash – the perfect height for the children in the classroom (Figure 42). Hauser windows were one of the most popular exhibits at the 1922 San Francisco Industrial Exhibition and were chronicled in the November 1922 *Architect and Engineer of California* as having a “splendid year’s business” no doubt due to rising interest in open-air schools. In 1913, architect W.H. Weeks designed several schools in the Bay Area and Santa Clara County using Hauser windows, such as Aromas School (Figure 43). The publication of Weeks’ architecture business portfolio was supported with advertisements from companies often specified in open-air buildings, such as Hauser windows from San Francisco.¹³⁰ Weeks, an advocate for open-air schools and a prolific architect of Bay Area schools, promoted one-story schools, access to the outdoors, a minimum of one wall of windows, and window systems, like Hauser, that could be completely opened. Week’s rendering for a Santa Clara county school, shows just such a design (Figure 44).

Hauser fixtures came to be installed in nearly all new San Francisco and Bay Area schools and even as far away as Oregon and Washington.¹³¹ In 1915, five public schools were built in the city of Berkeley under the supervision of the City Architect, Walter H.

¹²⁹ Advertisement, *Southwest Contractors and Manufacturers*, Vol. 10, 1913: 30.

¹³⁰ *Santa Clara County Schools, Designed and Built Under the Supervision of William H. Weeks, Architect.*

¹³¹ B.J.S. Cahill, “The City of Berkeley’s New Public School Buildings”, *The Architect and Engineer of California*, Vol. XLV, No. 2, (San Francisco: The Architect and Engineer, Inc., May 1916) 39-64, 55; “Hauser Window Company has splendid year’s business”, *The Architect and Engineer of California*, (November 1922), 126-129, 140.

Ratcliff Jr. and Mayor Heywood.¹³² All of the classrooms in the new Berkeley schools were equipped with Hauser reversible windows, such as Garfield Intermediate School (Figure 45). The City of Berkeley was recognized for the project's "unparalleled feat" of economy and efficiency, building the five open-air schools at the low cost of \$258,148.¹³³ Three of the Berkeley schools still exist today, over one hundred years later, suggesting the value of these innovations.

Conclusion

These various examples help to evaluate the overall impact of the open-air school movement. This chapter, which highlighted the significant relationship between public health initiatives and open-air school proliferation, argues for the incredible success of the open-air project. While I have chosen only a select few examples, there are many more cities with many new school designs, too many too illustrate here. This study of open-air schools in California isn't just about a set of interesting and isolated case studies, but proves a widespread consensus for the changing direction of school design in the early twentieth century. What's more is that the change is not only formal, but it is a widely implemented set of strategies that have architectural, landscape, educational, and public health components.

The elements recommended by Oakland's advisory committee were common to the many public open-air schools considered here. The suggestions represented an important set of components included in new public school designs from Oakland to San Diego to Fresno to San Jose and Sacramento: guaranteeing one-story construction,

¹³² Cahill, "The City of Berkeley's New Public School Buildings," 55.

¹³³ Cahill, "The City of Berkeley's New Public School Buildings", 55.

improving air and ventilation with increased windows operable by teachers and students, implementing medical exams, providing medical care, increasing playground time and space, adding bathrooms, specializing janitorial services and maintenance, decreasing temperature and increasing humidity in classrooms, and orienting buildings for maximum air flow and sunlight. The early private open-air schools, such as the Polytechnic and Francis Parker included these elements and more, while the more temporary experiments of Fruitvale, the Beach School, and the Fresno tents, included some of these elements, but not all, though these impermanent schools still contributed to the publicity and fervor surrounding open-air projects. The publicity given to the wide spectrum of open-air school forms and the striking images they created helped fuel the crusade for public health and change in school design. Over this dissertation, we have witnessed significant changes to the public schools, but ultimately, some of the more radical ideas, especially those that integrated curricular and design innovations or connected building to landscape, are not really the ones that take hold. Nonetheless, real positive change occurred, in terms of the children's classroom experience and in terms of children's access to medical attention—both of which are extraordinary developments.

This chapter also examined the initiation of public health into the school system. The public schools were significantly improved by their relationship to public health. Medical inspections, health care, nutrition, and healthy environments improved the lives of many children. Open-air designs were embraced as the solution to improving the school environment and ultimately children's health. It was no wonder that open-air schools were supported by philanthropies like the American Red Cross and the Citizens

Milk committee, in addition to countless anti-tuberculosis organizations. The open-air school was a sanitary space, purified with fresh air and sunlight, and with outdoor spaces for children to roam. It was a place where children could physically and mentally grow, but also a place where children learn about healthy behaviors such as tooth brushing, healthy eating, washing up, physical fitness, and disease prevention. The school also became a place for public access to medical facilities. Typically reserved for the privacy of the home and family unit, children's health became a focus of the state and in California, it was formalized with interventions from authorities like the California State Board of Education¹³⁴, the California State Board of Health¹³⁵, and the Bureau of Tuberculosis¹³⁶. There was an intense faith that, "health created welfare, that saving children saved society, that the neighbourhood (rather than the hospital or the legislative chamber) was the appropriate site for intervention, and that the mother was the key figure in achieving the desired transformation in the lives of children," historian Janet Golden contends in, "The Iconography of Child Public Health Between Medicine and Reform."¹³⁷ My project adds that the school landscape, as the locus of the neighborhood, was the main site for intervening on children's welfare, and that while the teacher and school nurse were key figures in transforming the children, equally important was the

¹³⁴ Established with California's state constitution in 1879.

¹³⁵ The California Board of Health was established in 1870. California was the second state in the nation (after Massachusetts) to establish a Board of Health. An outbreak of the bubonic plague after the 1906 San Francisco Earthquake strengthened the Board of Health's purpose to use government to ensure public health. http://www.allgov.com/usa/ca/departments/health-and-human-services-agency/department_of_public_health.

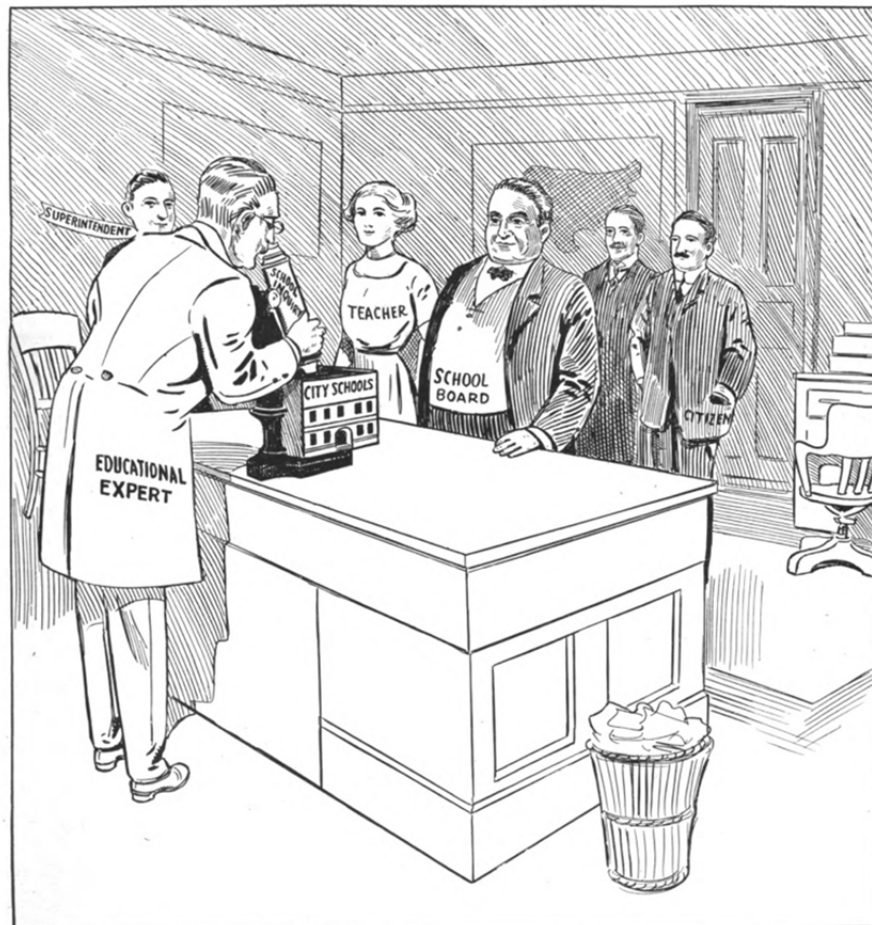
¹³⁶ Officially established 1915, but grew out of regional anti-tuberculosis leagues, which began as early as 1903.

¹³⁷ In Strong-Boag and Warsh, *Children's Health Issues*, 393.

function of the school environment. The architecture and landscape of the school was thought to play an indispensable role in improving and protecting children's health.

This connection between open-air schools, school medical programs, and public health campaigns also highlights issues in public health where there are tensions between social control, privacy and freedom, and public welfare.¹³⁸ In some senses, these schools opened to give children air and the outdoors, but they also opened for surveillance, readily evident in the case of Fruitvale. Communities took an interest in the health of the school children, and the public played an essential role in the proliferation of open-air school designs. The medicalization of the educational space was beneficial in that it provided an opportunity for treatment, but it was also an instance for criticism and uninvited interventions. This chapter looked at how the school was called upon to be the center of a new health regime, where the school was an essential arm of public health. This is a testament to the larger work that these schools were doing and how California's schools became harnessed as mechanisms for producing healthy children.

¹³⁸ See Fairchild, *Searching Eyes*, xiii – xvii.



WORTH WHILE FOR THE SAKE OF THE CHILDREN

Figure 1

Cartoon of educational expert looking through a microscope at “City Schools,” while a superintendent, teacher, member of the school board, and a citizen look on. Note the caption: “Worth while for the sake of the children.”

American School Board Journal, May 1913, Volume XLVI, Number 5: 7.

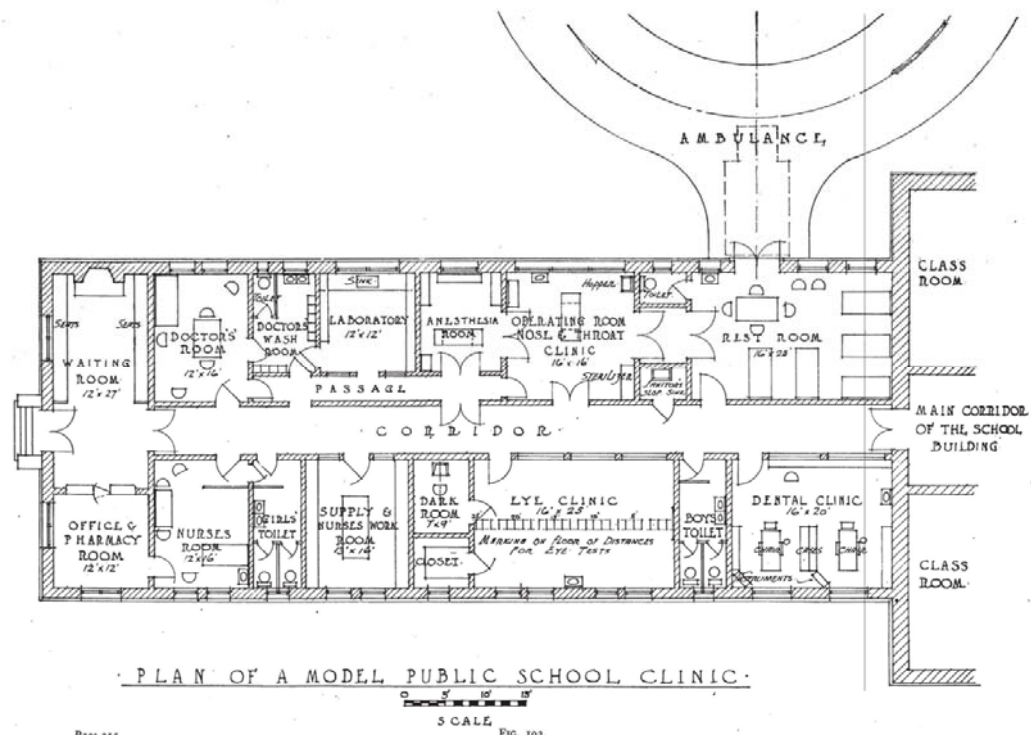
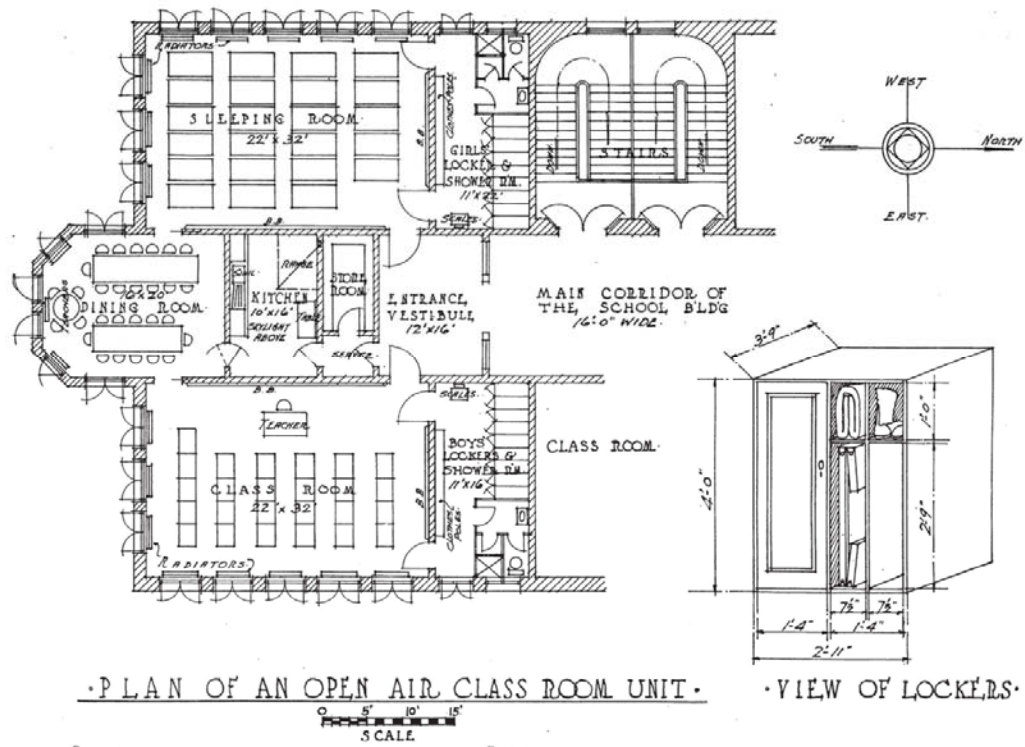


Figure 2

Plan of a model public school medical clinic by John J. Donovan.

John J. Donovan, et al., editor, *School Architecture: Principles and Practices* (New Haven: Macmillan Company, 1921), 215.



Page 214

FIG. 191.

Figure 3

Plan of an open-air class room unit by John J. Donovan.

John J. Donovan, et al., editor, *School Architecture: Principles and Practices* (New Haven: Macmillan Company, 1921), 214.



Figure 4

Santa Fe Courtyard with exterior windows to protect from train noise.

Oakland History Room, Oakland Public Library.

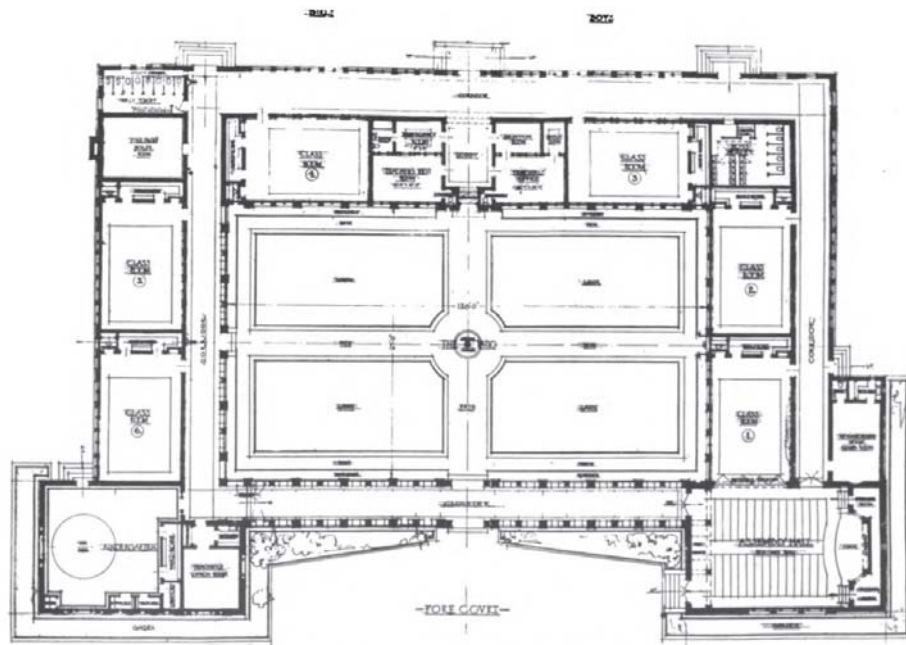


Figure 5

Plan of Santa Fe School. Kindergarten front left. Assembly front right. Classrooms around edges buffered from train noise by cloister. Boys and girls play areas at rear of school.

The American Architect, Vol. cvii, No. 2057, May 26, 1915: 20.

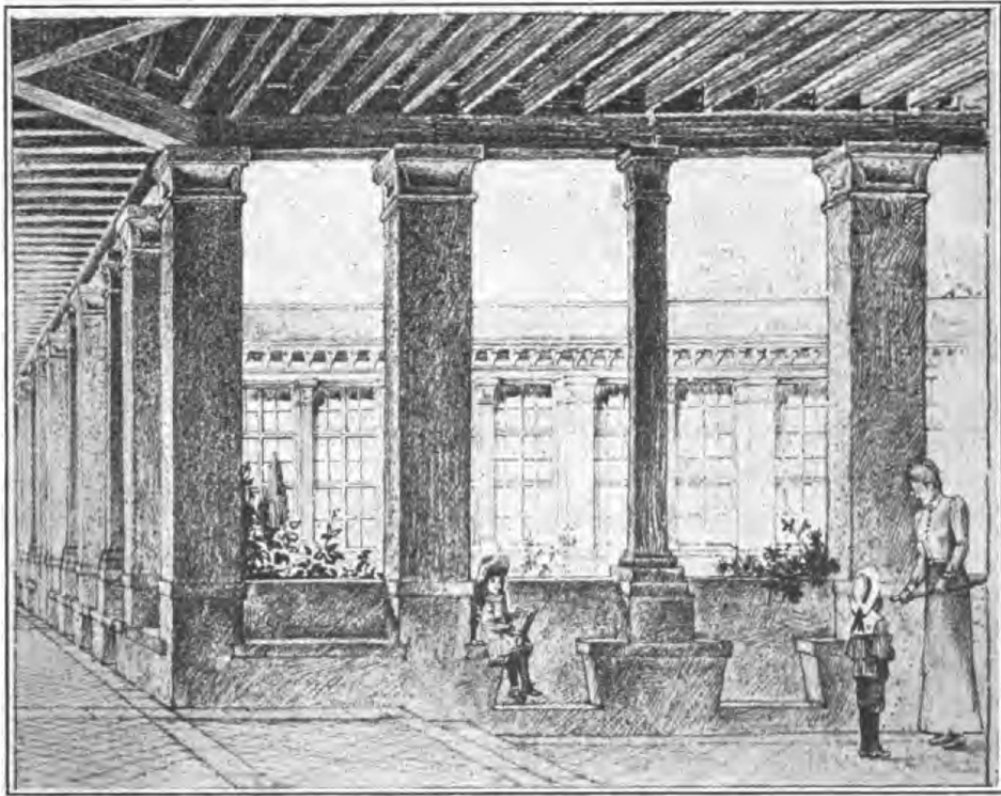


Figure 6

Rendering of Santa Fe cloister with view onto courtyard.

Donovan, "New School Building Work of Oakland" in Hyatt, *School Architecture in California*, 41.

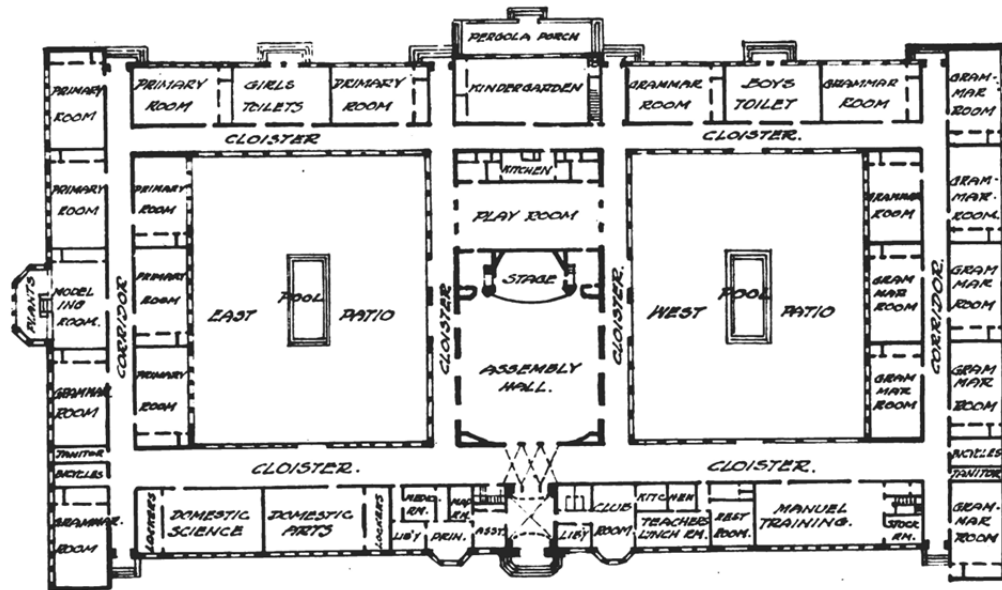


Figure 7

Plan of Emerson School.

“Cost and Construction of Four Schools, Oakland, CA” in *Concrete*, No. 1 Vol .13, July 12, 1918 (Detroit: Concrete Cement Age Publishing Co., 1918): 5.



Figure 8

Emerson School aerial rendering.

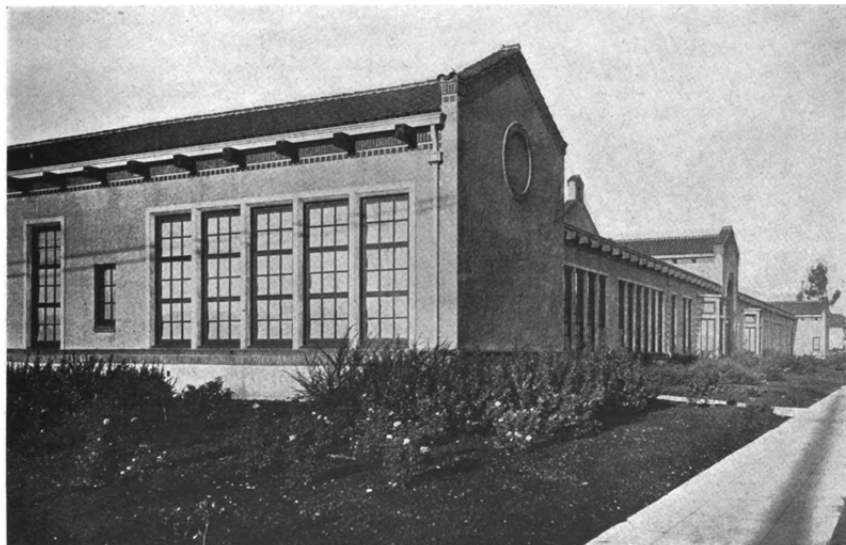
Donovan, “New School Building Work of Oakland” in Hyatt, *School Architecture in California*, 39.



Figure 9

Emerson School with classrooms' open multi-tiered awning windows opening onto courtyard.

Oakland History Room, Oakland Public Library.



GENERAL VIEW LOOKING ALONG STREET
EMERSON SCHOOL, OAKLAND, CAL.
JOHN J. DONOVAN AND JOHN GALEN HOWARD, ASSOCIATE ARCHITECTS

Figure 10

Emerson school front elevation. William C. Hays, "One Story and Open-air school houses in California," *Architectural Forum*, (July 1917), 3-12: 11.



Figure 11

Rear of Emerson school with playground and two more temporary open-air structures on the left. Oakland History Room, Oakland Public Library.



FIG. 504. — MCCHESENEY ELEMENTARY SCHOOL, TERRACE AT REAR FOR OPEN-AIR STUDY, OAKLAND, CALIFORNIA. Mr. John J. Donovan, Architect.

Figure 12

Study time on rear terrace at McChesney Elementary School.

John J. Donovan, et al., editor, *School Architecture: Principles and Practices* (New Haven: Macmillan Company, 1921), 583.



Figure 13

Durant School front façade. Oakland History Room.

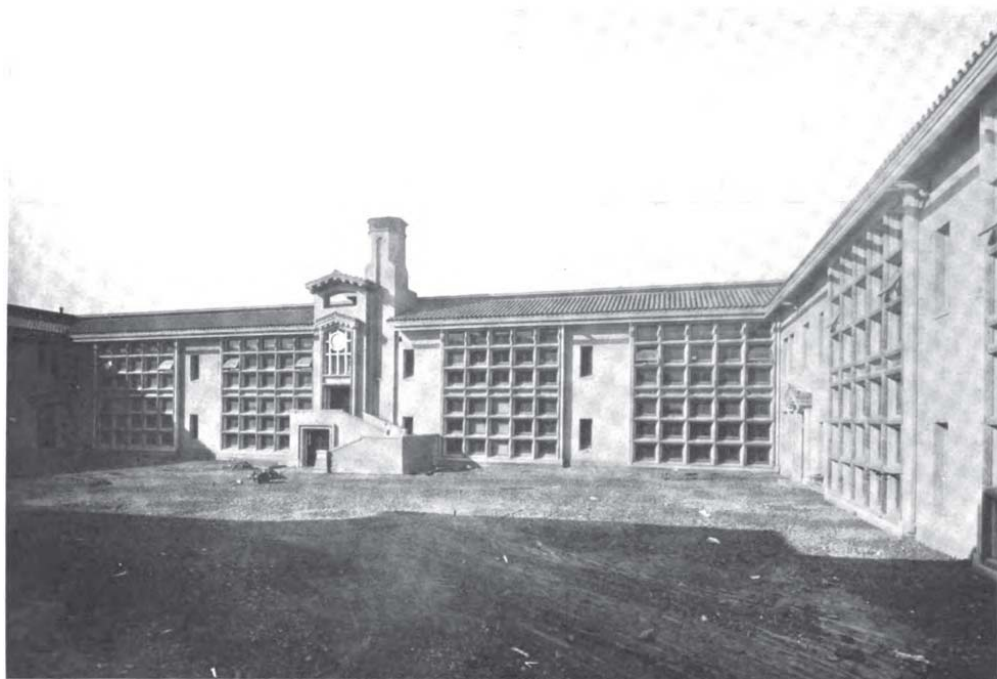


Figure 14

Durant School façade of interior courtyard.

The American Architect, Vol. cvii, No. 2057, May 26, 1915: 17.



Mr. John J. Donovan and Mr. Louis P. Hobart, Associate Architects.
FIG. 500. — LOCKWOOD ELEMENTARY SCHOOL, FRONT ELEVATION, OAKLAND, CALIFORNIA.

Figure 15

Lockwood Elementary elevation and open site.

John J. Donovan, et al., editor, *School Architecture: Principles and Practices* (New Haven: Macmillan Company, 1921), 580.

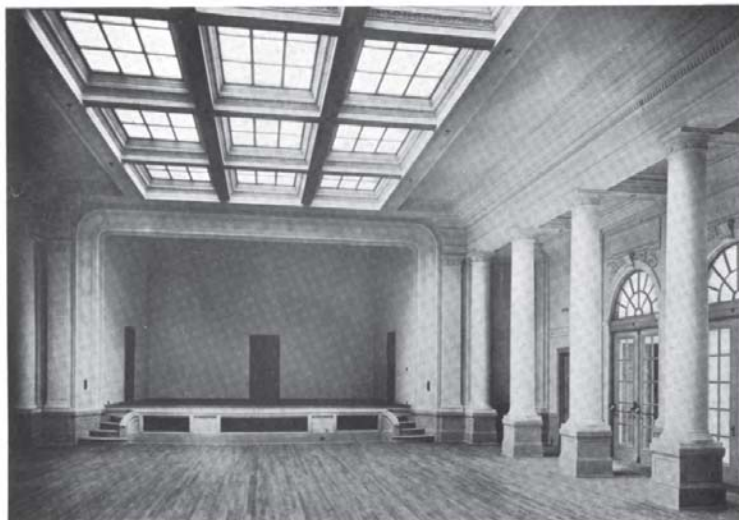


Figure 16

Lockwood auditorium skylight. *The American Architect*, Vol. cvii, No. 2057, May 26, 1915: 13.

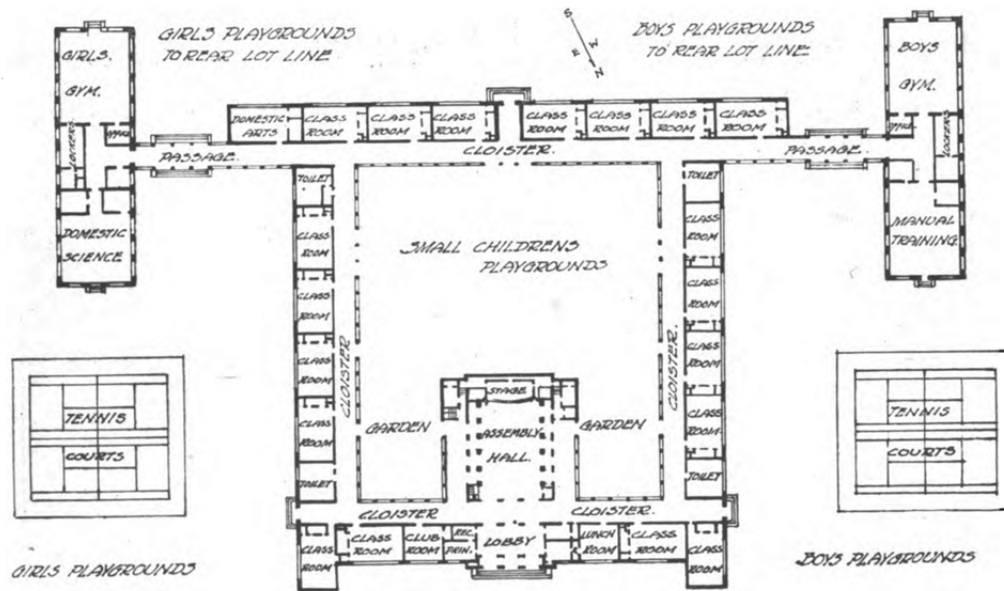


FIG. 10—GROUND FLOOR PLAN, LOCKWOOD SCHOOL, OAKLAND, CALIFORNIA

Figure 17

Plan of Lockwood School.

“Cost and Construction of Four Schools, Oakland, CA” in *Concrete*, No. 1 Vol .13, July 12, 1918 (Detroit: Concrete Cement Age Publishing Co., 1918), 3-5: 5.

Figure 18 (omitted)

Grant School kindergarten.

Figure 19 (omitted)

Normal Heights School.

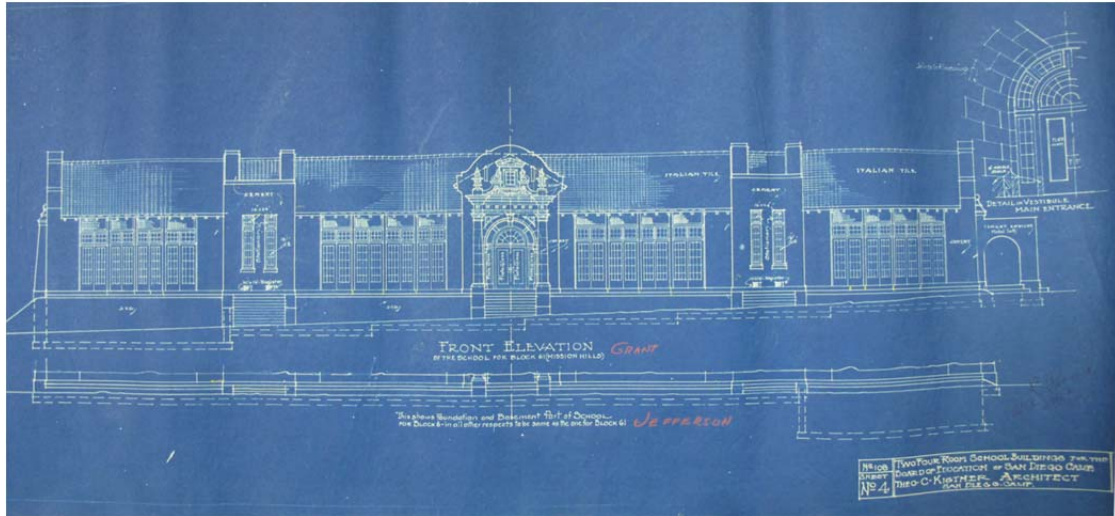


Figure 20

Architecture drawing of elevation for Grant School.

San Diego Facilities Department, Department of Education.

Figure 21 (omitted)

Children in their classroom at Grant School with doors open wide.

Figure 22 (omitted)

Front of Grant school.

Figure 23 (omitted)

Loma Portal front of school.

Figure 24 (omitted)

Loma Portal playground with music lesson and basketball hoop next to classroom.



Figure 25

Open air elementary school in Sacramento. Goldsberry Collection. Library of Congress.



Figure 26

Open air elementary school in Sacramento.

Goldsberry Collection. Library of Congress.



Figure 27

Open air school pavilion in Sacramento. Goldsberry Collection. Library of Congress.



Figure 28

Threshing the beans at open-air school in Sacramento.

Goldsberry Collection. Library of Congress.



Figure 29

Tending to the bean crop at Sacramento school. Goldsberry Collection. Library of Congress.



Figure 30

Open air elementary school in Sacramento. Goldsberry Collection. Library of Congress.



Figure 31

Open air elementary school in Sacramento. Goldsberry Collection. Library of Congress.



Figure 32

Large sash windows. Newton Booth school in Sacramento. Goldsberry Collection. Library of Congress.



Figure 33

Indoor and outdoor classroom connection. Newton Booth school in Sacramento.

Goldsberry Collection. Library of Congress.



Figure 34

Music class in outdoor pavilion. Newton Booth school in Sacramento.

Goldsberry Collection. Library of Congress.



Figure 35

Exercise poses. Newton Booth school in Sacramento, 1915.

Goldsberry Collection. Library of Congress.



Figure 36

Gardner open air school in San Jose.

Dr. Martin Luther King, Jr. Library, San Jose.



Figure 37

Front of Hacienda School, Santa Clara County.

Goldsberry Collection. Library of Congress.

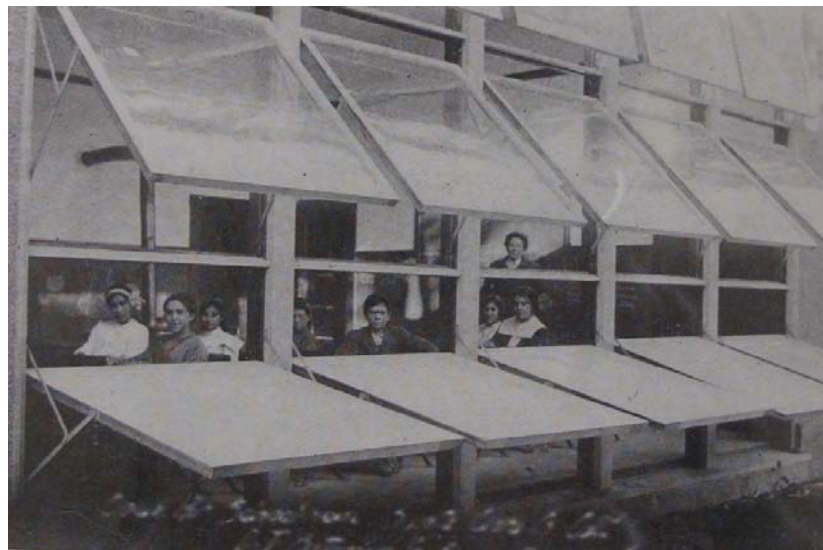


Figure 38

Hacienda School, Santa Clara County, three tier operable windows.

Goldsberry Collection. Library of Congress.



Figure 39

Jackson Elementary School, Fresno.

Annual Report of the School Board, 1915-1916. The Heritage Center, Fresno County Public Library.



Figure 40

Webster Elementary School, front façade, Fresno.

Annual Report of the School Board, 1915-1916. The Heritage Center, Fresno County Public Library.



Figure 41

Webster Elementary School, rear façade, Fresno.

Annual Report of the School Board, 1915-1916. The Heritage Center, Fresno County Public Library.

Ideal For Ventilation



EASY TO
OPERATE.

OPERATE
TWO,
THREE
OR FOUR
SASH
AT ONE
TIME.

BY
USE OF
DISEN-
GAGING
CLUTCH
LOWER
SASH
MAY BE
OPERATED
SEPARATE-
LY.

*Hauser Multiple Operated
Awning Type Windows*

Especially Suited for Schools

*Specified Extensively by
W. H WEEKS, Architect
Manufactured by*

HAUSER WINDOW CO.

1370 Harrison Street - - San Francisco

Figure 42

Advertisement for Hauser windows in W.H. Weeks architecture portfolio, *Santa Clara County Schools, Designed and Built Under the Supervision of William H. Weeks, Architect.*



Figure 43

Aromas School in Santa Clara County by W.H. Weeks. Weeks' architecture portfolio.

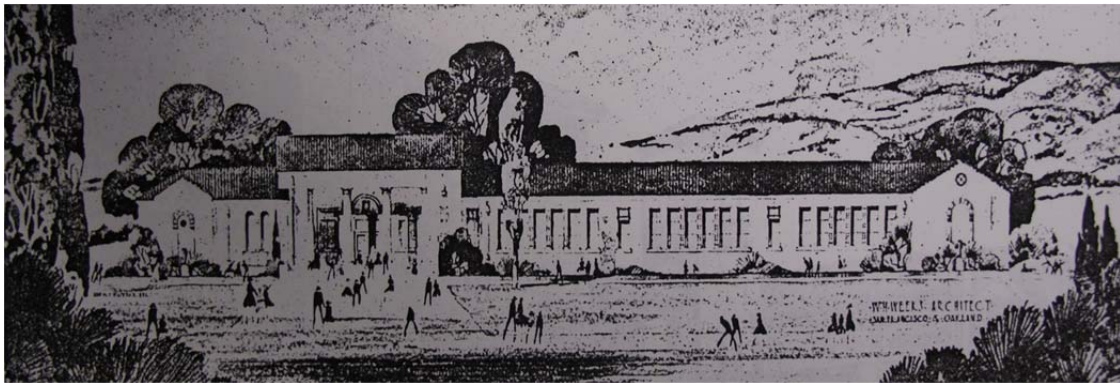


Figure 44

Rendering for proposed school in Santa Clara County, by W.H. Weeks.

Weeks' architecture portfolio, *Santa Clara County Schools, Designed and Built Under the Supervision of William H. Weeks, Architect.*

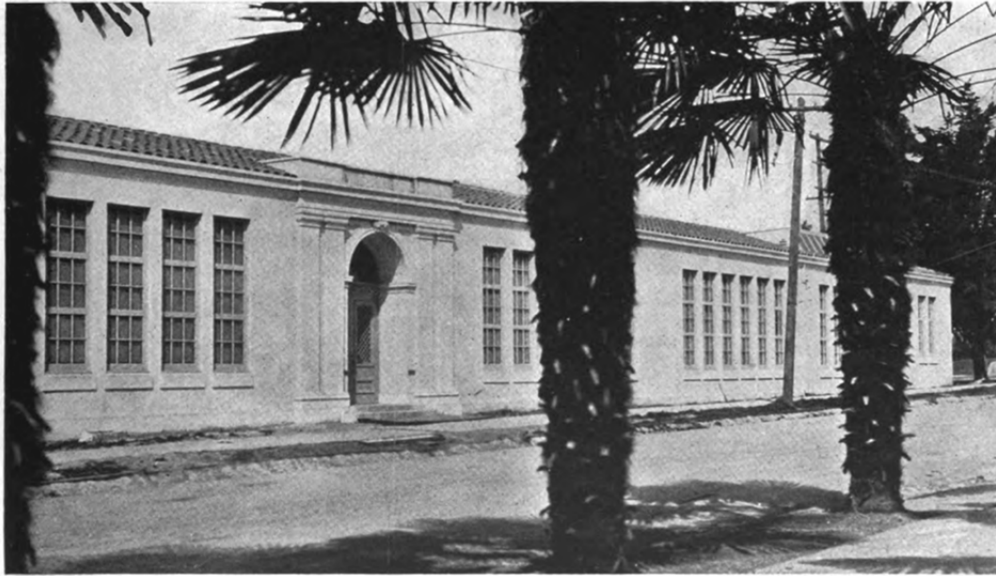


Figure 45

Garfield Intermediate School, Berkeley.

William C. Hays, "One Story and Open-air school houses in California," *Architectural Forum*, (July 1917), 3-12: 7.

CONCLUSION

Historical Issues

This project offered an interdisciplinary view of a key facet of the history of educational architecture. Assessing this design phenomenon in tandem with developments in the history of childhood, public health, and education has been critical to understanding the intent of these schools, their proliferation, and their social and pedagogical significance, well beyond their important formal contributions. These schools were not an isolated architectural phenomenon, but an innovative physical manifestation of Progressive Era reform. With this investigation of open-air schools, my project attended to an important aspect of progressive education reform and examined a crucial moment in American history. To ignore the history of progressive education reform, is to “miss one whole facet of America’s response to industrialism,” insists historian Lawrence Cremin.¹ My project looked at the environment, the architecture and the landscape, that was constructed in response to industrialization, immigration, and concerns regarding children’s health and welfare.

While a wide and rich variety of open-air school designs were uncovered, they shared the intention that an increase in fresh air, sunlight, and the outdoors would ensure healthy and productive children and ultimately guarantee the strength and endurance of the nation. At open-air schools, the fluid relationship with the outdoors facilitated and enhanced progressive educational experimentation and a search for solutions to perceived

¹ Lawrence A. Cremin, *The Transformation of the School: Progressivism in American Education, 1876-1957* (New York: Alfred A. Knopf, 1961), iix.

social ills. These schools represented a challenge to the previous boundaries of the school, where their innovative environmental designs offered new opportunities for learning and growing, and through these new spaces, educational practices were elevated and diversified. The outdoor and in-between spaces—porches, courtyards, covered walks, school gardens, shady spots under trees, open patches of grass, or meadows beyond the school campus became the true places for learning. The landscape became as important, or indeed, more important, than the structures themselves. This architectural project was ironically about the absence of building, a concerted framing of the outdoors by the architectural design, which often encouraged the students to have a profound relationship with the outdoors, as they sculpted sand, farmed insects, harvested citrus, and grew sunflowers. The open-air schools were mediators between the organic and built landscape: they exemplified an ideal, utopian liminal space where it was thought that health and education would flourish and the future and prosperity of the nation would be assured. At the same time, the open-air schools were a therapeutic instrument, a hygienic tool that filtered and directed beneficial exposure to fresh air and sunlight – because ironically, these same elements were feared in excess in the wild. While the rhetoric encouraged freedom, the experience was sometimes one of controlled supervision, calculated cultivation, and paternalism. Across these various schools, tensions between promises of childhood happiness, freedom, and opportunities for play, were juxtaposed with assurances of national security, prosperity, and immigration and race issues. The open-air schools are an example of the diversity of childhoods that exist. The research on California presented in this dissertation is significant to a wide audience because it

addressed how dynamics of gender, race, and class have also helped to shape the landscapes of childhood.

At the beginning of this dissertation, I asked how and why open-air schools changed California's educational landscape. This study has proposed a number of reasons for this development and highlighted California as an essential part of school history. This dissertation was not simply an examination of a select few case studies, but a testament to the important network of ideas, initiatives, and designs across California. California's open-air schools addressed a number of social concerns. In some California communities, the open-air schools were employed to combat overcrowding as environmental determinism drew attention to rapid immigration, urban blight, and concerns about physical and moral decline. In other more affluent communities open-air schools were popularized as an environment perfectly suited to curricular innovation and as an artistic school form that could elevate California's regional style and image.

The state's history as a healing landscape shaped its culture and social initiatives with a fervor unlike other places. The climate and landscape attracted residents hopeful to find and promote a landscape of health, fitting of the state's description as a "vast sanitarium." The health-infused culture, the mild climate, and fertile agricultural landscape in California, encouraged Back to Soil movements arguing for the benefits of a life spent laboring out of doors. The chapters in this project have examined fascinating parallels between the cultivation of plants, the rearing of animals, and the raising of children.

This project highlighted a moment when health and education reform worked together, and strengthened by their union, created new environments for education. Architectural design was harnessed as the main strategy able to efficiently and effectively promote the health and learning potential of the children. The open-air school functioned as a hospital or wellness retreat for the young public, drawing inspiration from popular medical directives about tuberculosis treatments. Medicine and medical care was made an integral part of the public school system and was fundamental to the design of open-air schools. Medicine was critical to the reshaping of the school site, as the most important and effective place to intervene in children's lives, and also to affect change in family and community practices. Doctors and nurses regularly inspected children who otherwise wouldn't have had access to medical care. The schools provided relatively free and accessible dental clinics and eye clinics and the medical staff provided references to fix other more complicated medical issues.

This study of open-air schools in California, as a bastion of Progressivism, provides insight into the form and function of Progressive Era reform projects, addressing both positive aspects, such as women's roles in effecting environmental change, and more destructive intentions, such as racist reactions to immigration and collaborations with eugenicists. This study also shows the impact on the civic landscape by both architects and non-architects, such as medical doctors, wealthy philanthropists, and education administrators and teachers.

Small, private open-air schools were founded by women to initiate change in the school landscape and protect children's health. Women commanded, collaborated with,

and inspired architects, while identifying the environment as integral to the success of their innovative curriculums and progressive ideals. Importantly, women played key roles in the founding and management of these private open-air schools and often enrolled their own children as the first subjects. These women were bold, experimental, and persuasive, using their finances, property, connections, and time to support children's health and education through these school projects. Women like Clara Sturges Johnson believed so strongly they invested their fortunes in them, while women, like Adele Outcault, left prominent positions as President of the Federation of College Women to help launch these new curricular ideals in this novel setting. Women like Virginia Pease Hunt started with little resources, initiating small gardening projects at her local school, which in turn garnered her attention from wealthy philanthropists and medical doctors who put their trust in her innovative methods and ideas about the school environment. While advocate Louise Goldsberry spent endless hours writing hundreds of outdoor schools around the world, collecting and cataloguing photographs and materials with the intent of publishing her findings, to promote their popularity and insist on the need for the pervasiveness of open-air schools. In addition to individual women, citizen groups such as Mother's Clubs and tuberculosis societies contributed to the proliferation of open-air schools.

Young architects like Myron Hunt, Elmer Grey, and John Donovan came to California with fresh eyes, attracted to the state for its business opportunities and for its healthy living prospects, and they worked, sometimes for free, to make it the place they dreamed it could be. They defied current trends and set their own design standards,

drawing from outside sources, but they also interpreted local factors, such as climate, vegetation, and regional culture. The young architects were successful lobbyists and businessmen earning themselves influential positions as city architects designing or overseeing series of school constructions, and writing about open-air school initiatives and innovations. They tested out new classroom arrangements, tried variable building heights, and experimented with landscape. They researched new window designs, compiled scientific data on ventilation systems, included medical facilities and therapeutic spaces in the schools, and gave important consideration to developments in public health.

Beyond the architects, even education administrators and teachers believed that the environment was so essential to the student's education that they ventured out of their disciplines, studying and promoting information on everything from architectural design to medical practice. They gave advice on daylighting in classrooms, healthy levels of carbon dioxide, window to floor ratios, optimal sizes of playgrounds, and tree types best for shade. They spoke out publicly and brazenly attempting to garner support to pass bond measures and to build new schools—school environments that would reflect the most thoughtful and current advancements for the health of the children under their care.

The students of California's open-air schools knew the importance of their school environment. They wrote poems and songs about their open-air education—about the oak trees they read under, about the rabbits they reared, and the wildflowers they grew in the garden. They were excited to learn algebra in the sand and build models in the dirt. They drew pictures of their school architecture and made the open-air and landscape features

school icons. The students lobbied for more playgrounds and athletic fields, for more classrooms outside, and for longer hours out of doors. But, as we have also seen, at times the promotional rhetoric that surrounded the open-air schools was not always reflected in the children's experience of the design, where poor air quality and overcrowding in Fresno's tents for example, or embarrassing social segregation and surveillance by peers in Oakland's Fruitvale No. 2 School, highlighted differences between the enthusiasm of advocates and the lived experience of the children as certain design elements were interpreted and translated across disciplines.

These have been the essential players in the development of California's open-air schools. These enthusiastic Californians made open-air schools significant in the history of school design, changing the form of schools, connecting the indoors with out, and merging children's health with education. Though California is young in terms of its institutions and built landscape, this study proves its important architectural history nonetheless, by illustrating how California's early twentieth century schools actually determined popular forms of elementary school design today and that the school forms and curricular styles often associated with mid-century architectural developments and new concepts in child psychology, were introduced much earlier and come from a more complex set of health-related and regional causes.

This dissertation has focused on a relatively small region, though one that had a multi-faceted and vivid history of open-air schools. And even within California, I have come across many more images of fascinating, but mostly undocumented schools, whose history for the most part remains a mystery. Nevertheless, these many schools are a

testament to the wide reach of open-air ideas, the vast network and spectrum of open-air schools, and the immense importance of California's early school design. This project, however, is just the beginning of a look at twentieth century schools and the relationship between healthcare and education. As this dissertation has suggested, across the United States, from New Mexico to Minnesota to Louisiana and Massachusetts, passionate open-air discussions were taking place and innovative school designs were realized. The topic of open-air schools is also one that suggests the increasing importance of examining regional and global trends side by side. Since developments in international open-air schooling occurred simultaneous with the construction of Californian open-air schools, the events in California after the turn of the twentieth century could be further enriched through a globalized comparative lens, one that examines these California responses in connection with open-air experiments in locations as far-flung as Japan, Australia, Morocco, and Sweden.

Relevance Today

This project was also limited in its time span and it would be important to follow these threads through the twentieth century to watch how school designs have opened and closed as ideas about how to best raise healthy children have changed over time. Interestingly, many of the concerns surrounding children's health and education in the twenty-first century echo the ideas introduced here in the open-air schools. As an architect, prior to graduate school in history, I would like to think that although this project is historically grounded, it has contemporary relevance. Through this historical

analysis of open-air schools, the project argues that the dimensions of space and landscape are critical aspects of the educational experience and need to be considered in debates about education reform. Indeed, the wide spectrum of open-air schools provides examples of how environment can be used as an instrument for improving health, learning potential, and sense of identity and moral direction – as well as how architecture and landscape can become tools of persuasion that can attract patrons and residents and encourage participation in new educational programs. With its focus on the educational landscape and the varied institutional settings and pedagogies, my project illuminates possibilities for reforming today's educational system to acknowledge the complex nature and needs of children. In this way, the study of open-air schools has extraordinary relevance to today's campaigns for greener and healthier school design.

The open-air schools and initiatives presented here offer inspiration for today's design, and it is helpful to revisit historical examples of healthy environments for children to be inspired by them and to learn from them. Schools today are products of an economically challenged public design process, one that often results in standardized construction. Today, we see some of the key details introduced in open-air schools now simplified. The general forms of the open-air school model may still persevere in California, but we have lost the spans of operable windows, the outdoor classrooms, and the focus on teaching children to take control of the health of their environment. Relationships between children, health, the outdoors, and learning have been buried, as the engagement with outdoor space is mostly separate from education. The open-air schools are examples of pioneering designs, designs that rival today's school innovations:

operable window systems, sliding doors, disappearing walls, garden classrooms, skylights, louvers, fresh air ventilation systems, concern for interior air quality and toxins, indoor plants, and school kitchen gardens are coveted elements even today. This historical study helps us remember some of these inspiring design developments and medical initiatives at the turn of the century and the important and deep ways of connecting children to the outdoors. It underlines and reminds us of the critical elements needed to ensure environments that promote healthy children and learning.

It's not possible here to do justice to the breadth of current discussions about healthy schools and green learning environments, but I would like to gesture to a broader field of current and active interest. One of today's key advocates for connecting children with the outdoors is journalist and activist, Richard Louv. In 2005, Louv wrote the *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder*.² *Last Child in the Woods* became a New York Times Best Seller and was published in languages from Dutch to Turkish to Chinese. I would argue that it was just as popular today as it would have been at the turn of the century. In it, Louv outlines the disconnect between children today and the outdoors. He calls this the "nature-deficit," employing a popular economic term, and links it to childhood illnesses such as obesity and depression. His book initiated movements, such as "Leave No Child Inside," playing off of, and critiquing, today's elementary education program, "Leave No Child Behind." Just recently, he published another book, *Vitamin N: The Essential Guide to a Nature-Rich Life: 500 Ways to Enrich Your Family's Health & Happiness*. The "N" of course refers to Nature, here envisioned

² Richard Louv, *Last Child in the Woods: Saving our Children from Nature-Deficit Disorder* (Chapel Hill: Algonquin Books of Chapel Hill, 2005).

as a veritable nutrient that strengthens the body and spirit, and he argues that being exposed to the outdoors is not only enjoyable but necessary for human health.

There are also various governmental and non-profit organizations that have healthy schools initiatives. While I will only briefly suggest a few here, they serve as a testament to the larger trends and significant discussions. The Center for Disease Control and Prevention leads the Whole School, Whole Community, Whole Child initiative, developed in collaboration with leaders in medicine, public health, and education, to focus on a “unified and collaborative approach designed to improve learning and health”.³ One of their projects addressed, for example, the development of healthy eating guidelines for school architecture. An interdisciplinary team of architects, public health officials, and medical personnel created a toolkit that outlined a set of spatial practices and strategies for optimizing the school environment to enable and encourage students to learn about and practice healthy eating and physical activity. The guidelines addressed ten different school domains from the cafeteria, to the kitchen, to the school garden.⁴ In addition, the United States Green Building Council, responsible for LEED, today’s main measure of environmental design, recently launched its Center for Green Schools, arguing for the importance of space, landscape, and environmental design to an educational experience. Their focus, quite similar to the drive of open-air schools, is on how access to the outdoors can improve health and learning potential. The national government has their own programs as well. For instance, the U.S. Department of

³ <http://www.cdc.gov/healthyyouth/wsc/>

⁴ Huang TT, Sorensen D, Davis S, Frerichs L, Brittin J, Celentano J, et al, “Healthy Eating Design Guidelines for School Architecture,” *Preventing Chronic Disease* (Centers for Disease Control and Prevention) 2013;10:120084, <http://dx.doi.org/10.5888/pcd10.120084>.

Education designed the Green Ribbon Schools Award Program, as well as the Safe Schools + Healthy Students Initiative, while the Environmental Protection Agency has the Healthy Schools + Healthy Kids program which researches, compiles data, and publishes guidelines on school environments from design and construction to cleaning and maintenance addressing specifics such as mold and moisture prevention and ensuring air and water quality.⁵

These various organizations use scientific evaluations and published statistics to argue for the importance of healthy school environments, ones that keep children connected to the outdoors. One study of the benefits of green schools calculates a 15% reduction in student and staff absence.⁶ Another study shows that increased daylighting improves math and reading skills by over 20 percent.⁷ Without natural light, children's melatonin cycles are interrupted, impacting their alertness in the classroom.⁸ Poor indoor air quality is proven to lead to health problems for students and staff, such as respiratory, eye, and skin irritations, headaches, and carbon monoxide poisoning. One study shows that when ventilation rates are below minimum standards, there is a decrease of 5-10% in

⁵ See: <http://www2.ed.gov/programs/green-ribbon-schools/index.html>;

<http://www2.ed.gov/programs/dvpsafeschools/index.html>; <https://www.epa.gov/schools>.

⁶ In Washington State. <https://www.epa.gov/schools/impact-performance-and-health-schools>

⁷ Lindsay Baker and Harvey Bernstein, "The Impact of School Buildings on Student Health and Performance: A Call for Research," McGraw Hill Research Foundation and The United States Green Building Council Center for Green Schools, February 27, 2012, <http://www.usgbc.org/Docs/Archive/General/Docs18534.pdf>, 14.

⁸ Baker and Bernstein, "The Impact of School Buildings on Student Health and Performance," 2; Figueiro and Rea, "Lack of short-wavelength light during the school day delays dim light melatonin onset (DLMO) in middle school students," *Neuroendocrinology Letters*, 31: 1.

student performance⁹, while improved indoor air quality can decrease children's asthma by 65 percent.¹⁰

While our vision of childhood may have evolved over the twentieth century, architects, educators, parents, doctors, and children, continue to argue for an improvement of the school environment. Public school buildings, as the home away from home for our children, receive much attention. Yet, despite this insistence, school buildings, often outdated and underfunded, remain in poor condition, as the American Society of Civil Engineers gave existing public school buildings a D grade on their overall condition in 2009.¹¹ On a positive note, however, a recent study shows that green and healthy schools constitute over a third of new education construction.¹²

There are many successful examples of school designs today that reflect these current discussions on sustainability and wellness and reference the legacy of open-air schools. While writing this dissertation from the Huntington Library in San Marino, California, my one year old daughter spent her days at the Caltech's Children's Center in Pasadena, just a few blocks from the Polytechnic. The Children's Center, which is USGBC LEED Gold Certified, opened in 2014 and exhibits many of the ideas and features introduced at the Polytechnic and California's open-air schools. The Center, designed as a series of low bungalow classrooms, is built at a residential scale to ensure

⁹ Baker and Bernstein, "The Impact of School Buildings on Student Health and Performance," (citing LBNL IAQ Resource Bank), 2.

¹⁰ The Center for Green Schools, United States Green Building Council, "Green Schools are Better for Learning," June 30, 2015 (citing *American Journal of Respiratory and Critical Care Medicine*).
<http://www.centerforgreenschools.org/green-schools-are-better-learning>

¹¹ Baker and Bernstein, "The Impact of School Buildings on Student Health and Performance," 5; *American Society of Civil Engineers*, "Report Card for America's Infrastructure" (Reston: American Society of Civil Engineers, 2009).

¹² Baker and Bernstein, "The Impact of School Buildings on Student Health and Performance," (citing McGraw-Hill Construction's Green Outlook Report, 2010), 5.

the children feel at home and so that the school blends into the surrounding neighborhood. The classrooms are organized, sited, and scaled by age group. The youngest students are located with their play yard and classrooms facing east, giving them the early morning sun. The landscape is the primary feature of the project and the center was intended to serve as a “laboratory for natural phenomena” and references to the local ecology were incorporated into the design.¹³ Native plants and geographic features such as an arroyo, with local granite, native grasses, and lizards, figure prominently in the design, teaching children about their environment. The arroyo also acts as a bioswale, filtering and collecting rainwater which is stored onsite in visible cisterns. Covered exterior walkways connect the gardens and classrooms maximizing ventilation and time spent out of doors. Daylighting, natural ventilation and easy outdoor access is essential to the design. The center has large windows, sliding glass doors, and solar tubes that bring light in through the ceiling. The sliding glass doors ensure a seamless transition between indoors and out, and cross ventilation is encouraged by pairing the glass doors with transom windows on opposite walls. The classrooms have Dutch doors, so the top half can be opened for air and light, while the bottom section has a window in it for the children to look out or in.

Other recent examples in California have won international awards for their designs. The Milpitas Elementary School in Milpitas, California was featured in the 2015 Exhibition of School Planning & Architecture from the Association for Learning

¹³ Rios Clementi Hale Studios, AIA Design Awards 2015, Children’s Center at Caltech, <http://aia-awards.com/AIAPF/>.

Environments, the world's largest design exhibit for this sector.¹⁴ The school was designed to create a sense of community, using a "front porch" to offer a place for parents and children to gather. The site, called a "Learning Laboratory", has classrooms that open directly onto a central courtyard, with additional smaller outdoor rooms called "learning and maker yards" that serve cross-curricular purposes. The school's amphitheater is exterior providing space for presentations, but also for outdoor class instruction. Also honored at the Exhibition was Johnson Middle School in Westminster, California, where the landscape is the "3rd teacher." The buildings are completely transparent at the children's level, and large overhead garage doors swing up and extend the classroom into the outside courtyards. The exterior circulation at the school serves a didactic purpose where mathematic calculations embedded in the sidewalks across the courtyards teach distance and space.

However, unlike at the turn of the century with the open-air schools, California is no longer at the forefront of debates and developments in innovative and healthy school design and pedagogy. Examples of these kinds of schools come from across the United States as well. In Chicago, Illinois a Chicago Public Charter School, the Academy for Global Citizenship was designed with environmental sustainability and children's health in mind.¹⁵ Solar energy, seasonal gardens, natural ventilation, and geothermal heating systems protect the health of the student and the earth. The school campus functions as an "urban farm" combined with an educational institution. Students learn agriculture,

¹⁴ Milpitas Elementary School #10, <http://exhibition.a4le.org/>.

¹⁵ Vladimir Gintoff, "Studio Gang Designs a Chicago Charter School With Principles of Sustainability and Wellness," *Arch Daily*, May 24, 2016, <http://www.archdaily.com/788158/studio-gang-designs-a-chicago-charter-school-with-principles-of-sustainability-and-wellness>.

animal care, and food preparation, and provide the produce for the school meals. This combination of school and farm, is believed to aid in the development of the children's self-confidence, to teach them healthy living, and to interest them in active and positive citizenship. Just recently, I received a public relations announcement for another school in West Palm Beach, Florida. The release immediately caught my attention captioned with "The Future of Learning Might Be in a Garden," which hoped to attract new students with the school's connection to the outdoors. The private school "pushes the boundaries of school" with a "porous environment in which they can seamlessly experience both technology and nature, living and studying in a collaborative way, inside the classroom and outside."¹⁶ The school has extensive gardens and classrooms that open to the outside with giant tilting doors that allow maximum interaction with the outdoors.

Examples in today's world concerning children's health and the outdoors extend well beyond school design. Three years ago, when I started this project, I came across a reference in today's visual culture that reminded me so strikingly of open-air schools and all that they suggested. I kept the image throughout this project because it fittingly shared so many traits with the open-air campaign: its pervasiveness and popularity, the relationship to agriculture and cultivation, healthy children and fresh air, and quality nourishment. At my breakfast table one morning, on the back of my "Organic Valley" milk carton, the company slogan read, "Pasture raised with love." On the milk carton, they were referring to the cows... mostly. But they also took the opportunity to connect the raising of happy cows with that of healthy kids. My carton read, "In a way, cows are

¹⁶ Carlos Ratti Associati (architects), The Green School, release dated June 29, 2016.

like kids—the more time outside, the better. Our farmers send their cows out into lush, organic pastures for *fresh air*, *exercise*, and *grazing* (weather permitting, of course.)” These were their bold italics highlighting the significance of fresh air, fitness, and nourishment, and this was their caveat that the cows, and kids, need the outdoors, though only under mild and controlled conditions. The milk carton made me wonder if they hadn’t been reading from Edward Hyatt! I’ve carried this image from my breakfast table with me because there, on today’s ordinary milk carton, the same ideas from the open-air schools are still so pressingly embedded in popular culture.

The open-air schools made significant contributions to American, and arguably international, school architecture. And they distinctly changed California’s civic landscape. This dissertation was a prequel to the ideas – increasing access to fresh air, sunshine, and the great outdoors and promoting children’s health—that continue to figure prominently today in the minds of designers, educators, public health and medical personnel, parents, and especially, children.

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