“THAT THESE FEW GIRLS STAND TOGETHER”:

FINDING WOMEN AND THEIR COMMUNITIES IN

THE OIL AND GAS INDUSTRY

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Any and all errors found within are mine and mine alone. This editor found it exceptionally difficult to proofread her own work.

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Abstract: Women were involved in all facets of the petroleum industry, whether as support staff back at camp for men working in the fields or as the scientists deciding where to send those men to drill. Women had a presence in the hallowed halls of university geology departments from their earliest days, and found acceptable fields of study that eventually became integral to the exploration for oil. They learned more about a complex industry to better assist their executive bosses, and used their skills to help their husbands succeed. This dissertation casts a wide net to capture the variety of women’s involvement with the oil and gas industry. As a support system, as students, as scientists, and as secretaries, women have contributed to the oil industry both economically and culturally. Today, women can be still be found on oil rigs, in boardrooms, in administrative offices, and in the role of supporting oil field husbands. Their importance may not lie in their influence on the industry itself, although that influence is considerable in light of their small numbers. The greater significance might be continuations of patterns of female employment, and the creation of environments in which women in similar circumstances could encourage each other and provide mutual support in both professional settings and family life.

TABLE OF CONTENTS

Chapter Page

CHAPTER I

INTRODUCTION

"THAT THESE FEW GIRLS STAND TOGETHER": FINDING WOMEN AND THEIR COMMUNITIES IN THE OIL AND GAS INDUSTRY[1]

Nellie McCarty's parents were beside themselves—she had decided to accept a proposal of marriage from a man who worked in the oil fields. Earl Allen Babcock began his career in the oil fields of Ohio working with his father, George, who was a field boss in Sandusky County, Ohio. Although the upper Midwest does not come to mind when asked to name oil-producing states today, it experienced a series of oil booms in the late nineteenth and early twentieth centuries.[2] George had been working in the Ohio oil fields since at least 1900. Earl spent time as a pumper, eventually working on his own as a superintendent of production for a crew. After Nellie began her relationship with Earl, he left for Mexico for a time, traveling back through the oil fields of Oklahoma. During this trip, he decided that the future of oil, and his own future, was in the West.

[1] "Chi Upsilon Geology Fraternity," 1, folder 6, box C-22, Chi Upsilon Collection, Western History Collections, University of Oklahoma, Norman, OK.
[2] Porter Wright, "Ohio's Oil Boom—Why It Will Be Different This Time," Oil & Gas Law Report, www.oilandgaslawreport.com/2012/08/24/ohios-oil-boom-why-it-will-be-different-this-time.

Earl returned to Ohio in 1913 to marry Nellie, and together they moved to the new state.[3]

Nellie was an educated and accomplished young woman from Elmore, Ohio. The granddaughter of Irish immigrants who valued education, she was trained as a teacher and worked in that profession when she married Earl. Not only did her parents not approve of the marriage on personal grounds—they were Catholic and Earl was not—they also were upset at the thought of losing their daughter to the "uncivilized" oil fields of Oklahoma. Because of these disagreements the couple married a few days early, Nellie loaded up her steamer trunk, and they moved to Osage County, Oklahoma. A little more than nine months later they had their first child, a son they named George. They moved from oil lease to oil lease, into town and out of town, with Earl always working to make money for the next well.[4]

The McCartys envisioned a difficult life for their daughter in the oil fields of the Mid-Continent, full of loneliness, harsh conditions, and poverty. How did Nellie, and countless other women just like her, adapt to the transient life of an oil field wife? In what ways did these women form communities to combat the loneliness of leaving family and friends behind to chase black gold? This dissertation seeks explore the communities created by women involved in key aspects of the oil and gas industry, as well as the contributions they made to this significant sector of the economy.

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[3] Babcock family history, conversation with Mahala Babcock Baxter, December 26, 2019; Marriage License Application for Earl Allen Babcock and Nellie McCarty, June 9, 1913, Probate Court, Ottawa County, OH, www.familysearch.org/ark:/61903/3:1:939K-BP3S-7R?i=131&cc=1614804; US Census Bureau, *Twelfth Census of the United States, 1900*, Madison Township, Sandusky County, Ohio (Washington, DC: Government Printing Office, 1900), www.familysearch.org/ark:/61903/3:1:S3HY-6L45-5J?cc=1325221&personaUrl=%2Fark%3A%2F61903%2F1%3A1%3AMM6B-GJP; US Census Bureau, *Thirteenth Census of the United States, 1910*, Jackson Township, Sandusky County, Ohio (Washington, DC: Government Printing Office, 1910), www.familysearch.org/ark:/61903/3:1:33S7-9RVJ-GQR?i=26&cc=1727033&personaUrl=%2Fark%3A%2F61903%2F1%3A1%3AMLDQ-HQZ.

[4] Babcock family history, conversation with Mahala Babcock Baxter, December 26, 2019; US Census Bureau, *Fifteenth Census of the United States, 1930*, Black Dog Township, Osage County, Oklahoma, (Washington, DC: Government Printing Office, 1930), www.familysearch.org/ark:/61903/3:1:33SQ-GR4H-Q6M?i=18&cc=1810731&personaUrl=%2Fark%3A%2F61903%2F1%3A1%3AXCWB-NYT.

Some eighty years after the Babcocks came to Oklahoma, another teacher in the family, Mahala Baxter, the granddaughter of Earl and Nellie, used her skills to assist her geophysicist husband, Robert, in editing papers for publication and performing accounting work for his consulting business. Mahala, a woman who had earned a master's degree in educational counseling, the highest level of education of any person in her family, chose to leave her profession to become a full-time homemaker when her husband's career made it financially feasible to do so. Then, when a downturn in the oil industry meant Robert began a one-man geophysical consulting business, she added duties to her plate that supported his business, and thus the home economy that they established together.[5] This work fits the model of the preindustrial home economy, where every member of the household contributed to the economic improvement of the family.[6] Although most times uncredited, this work was vital to the success of the home business, with wives as partners in the economic success of the family. While some of these women were trained in geology, others assisted in areas of the business that did not require this specific training, such as secretarial work or bookkeeping. They found support among their peers by joining women's auxiliary organizations, creating lives that largely revolved around their husbands' profession and maintaining a stable home life. These women were connected to the oil and gas industry through the work of their husbands, and created communities for themselves within their husbands' career world so that they could assist their husband with networking, and so that they could find companionship among women who led similar, sometimes peripatetic lives.

Little has been written about women in connection with the oil industry. The most obvious reason is the lack of women in the industry, both in its early days as well as today. Even in 2016, women only comprised 17 percent of the workforce in the oil and gas industry, compared to 47

[5] Babcock family history, conversation with Mahala Babcock Baxter, December 26, 2019.
[6] Alice Kessler-Harris, *Women Have Always Worked: A Historical Overview* (Old Westbury, NY: The Feminist Press, 1981).

percent of the overall American workforce.[7] In her work on women in offshore drilling, Rebecca Ponton discusses the dearth of literature on women's contributions to the oil and gas industry, viewing the women as "invisible"—they existed and had grown in number over time, but were still difficult to find in written accounts.[8] Most of the literature about women (or that even mentions women), particularly in the early days of oil, consists of oral history accounts of boom town days—the women who accompanied their husbands to the towns that sprung up surrounding new oil fields, women who worked in diners and boardinghouses, and prostitutes.[9] Recent books on women in the industry have focused on trailblazing women who cut their own paths in a field traditionally dominated by men, but like the books of a previous age, are reliant on oral histories with some commentary, but little analysis.[10] The purpose of these works is not only to celebrate the achievements of the women featured, but also to encourage young women and girls to consider a future career in the industry, following in the footsteps of the path-breaking women featured.[11]

[7] Rebecca Ponton, *Breaking the Gas Ceiling: Women in the Offshore Oil and Gas Industry* (Ann Arbor, MI: Modern History Press, 2019), v-vi.
[8] Ibid., v.
[9] Historian Mody C. Boatright gathered oral histories from workers in the oil fields of the Mid-Continent region in several books. Along with the stories from the rig floors, the interviews include descriptions of life in boom towns and how women coped with their roles in these male-dominated towns. Mody C. Boatright and William A. Owens, *Tales from the Derrick Floor: A People's History of the Oil Industry* (Garden City, NY: Doubleday and Company, Inc., 1970); Mody C. Boatright, *Folklore of the Oil Industry* (Dallas, TX: Southern Methodist University Press, 1963). Historian Paul F. Lambert joined with Kenny A. Franks to edit a collection of interviews from the WPA Federal Writers' Project oil and gas oral history project, a collection of interviews of men, and a few women, who worked in the oil fields conducted during the Great Depression of the 1930s. These interviews assist in painting the picture of boom towns in the early twentieth century. Paul F. Lambert and Kenny A. Franks, eds., *Voices from the Oil Fields* (Norman: University of Oklahoma Press, 1984); Herman K. Trabish, "A Brief Summary of Oil Industry Folklore," Oil Stories and Histories, oilstorieshistories.blogspot.com. More literature about prostitutes in the American West and mining towns can be found in the following: Nancy M. Forestell, "Bachelors, Boarding-Houses, and Blind Pigs: Gender Construction in a Multi-Ethnic Mining Camp, 1909–1920," in Franca Iacovetta, Paul Draper, and Robert Ventresca, eds., *A Nation of Immigrants: Women, Workers, and Communities in Canadian History, 1840s–1960s* (Toronto, Canada: University of Toronto Press, 1998), 251–290; Anne M. Butler, *Daughters of Joy, Sisters of Misery: Prostitutes of the American West, 1865–1890* (Urbana: University of Illinois Press, 1985); Lindsey McMaster, *Working Girls in the West: Representations of Wage-Earning Women* (Vancouver: University of British Columbia Press, 2008); Ruth Rosen, *The Lost Sisterhood: Prostitution in America, 1900–1918* (Baltimore: The Johns Hopkins University Press, 1982); Catherine Holder Spude, *Saloons, Prostitutes, and Temperance in Alaska Territory* (Norman: University of Oklahoma Press, 2015).
[10] Ponton, *Breaking the Gas Ceiling*; Carla Williams, *Wildcat Women: Narratives of Women Breaking Ground in Alaska's Oil and Gas Industry* (Fairbanks: University of Alaska Press, 2018).
[11] Ponton, *Breaking the Gas Ceiling*, vii. Ponton explicitly states, "I believe if girls—and women—are aware that they have had a history in the oil and gas industry, it will enable them to envision a future in it as well."

Rather than serve as a laudatory recruitment tool for female involvement in the oil and gas industry, this dissertation examines two core questions. First, it addresses the ways in which women were involved in the oil industry, and how that association impacted their lives and careers. By dividing this work into five chapters that describe the varying ways women contributed to the oil and gas industry—from the peripheral work of boom town boardinghouse owners to the integral work of geologists to the support work of secretaries—I will show how women could be found in nearly every aspect of the industry. Most importantly, this dissertation will reveal how women in the oil and gas industry sought out one another to create communities for mutual benefit and networking within and adjacent to this male-dominated industry. Women found friendship to ward off loneliness in boom towns, mentors and colleagues to assist in their careers, and cohorts with whom they could engage in community activities, all through the bond of their own or their husbands' participation in the oil and gas industry.

Historical writing on the oil industry in the United States centers around three major entities: oil companies, the people who built or worked for those oil companies, and people impacted by the work of oil companies. The historiography of the industry has evolved from muckraking exposés of the Progressive Era to benign company and field histories to specialized studies of the relationships between the industry and various interest groups. In the course of the one hundred and fifty years since the first commercially successful oil well, the Drake well at Titusville, Pennsylvania, historians have been recording the tragedies and triumphs of the oil industry.

Discussion of the historiography of the oil industry begins with the work of journalists near the turn of the twentieth century. Ida M. Tarbell's 1904 work *The History of the Standard Oil Company* was part of the trend of muckraking journalism that became characteristic of the Progressive Era.[12] Tarbell used her access to the archives of Standard Oil Company to expose the

[12] Ida M. Tarbell, *The History of the Standard Oil Company* (New York: McClure, Phillips, and Company, 1904).

economic inequities caused by the practices of the monopoly. In her writing, Tarbell made a distinction between the practices of the company and the personal life of John D. Rockefeller himself. Ten years before *The History of the Standard Oil Company* was released, Henry Demarest Lloyd published *Wealth Against Commonwealth,* an emotionally-charged diatribe against Standard Oil Company and its executives. Unlike Tarbell's work, Lloyd made no distinction between the personal morality of the executives, particularly Rockefeller, and the company.[13] Of these two muckrakers, Tarbell's well-researched report contains a more convincing argument. Although her argument against the practices of Standard Oil is clear, she refrains from *ad hominem* attacks on the executives.

Other works on the history of the oil industry discuss the lives of the "great men" who were instrumental in its success or were colorful characters in its history: John D. Rockefeller, Everette DeGolyer, E. W. Marland, Tom Slick, and other men described as the "Greatest Gamblers."[14] Like these books that describe the tenacity of individuals, another genre of oil field history is the company history—the stories of the creation of well-known companies such as Cities Service Company, Phillips Petroleum, and Kerr-McGee.[15] These books are almost always commissioned by the companies themselves as part of a significant anniversary celebration to tout the achievements of the business and ignore any unpleasant aspects of its history.

Oil heritage is a popular topic among writers of Oklahoma history. One of the most prolific writers on oil history in the Sooner state is Kenny A. Franks. His research and writing on the major

[13] One helpful resource in researching the early historiography of the oil industry is Walter Rundell Jr.'s article "Centennial Bibliography: Annotated Selections on the History of the Petroleum Industry in the United States" in *Business History Review* 33, no. 1 (1959). In this article, Rundell provides excellent commentary on the books written on the subject up to the mid-twentieth century, describing the sources used and the contributions of each work.

[14] Ron Chernow, *Titan: The Life of John D. Rockefeller Sr.* (New York: Random House, 1998); Lon Tinkle, *Mr. De: A Biography of Everette Lee DeGolyer* (Boston: Little, Brown and Co., 1970); *Oilfield Revolutionary: The Career of Everette Lee DeGolyer* (College Station: Texas A&M Press, 2014); John Joseph Mathews, *Life and Death of an Oil Man: The Career of E. W. Marland* (Norman: University of Oklahoma Press, 1951); Ray Miles, *"King of the Wildcatters": The Life and Times of Tom Slick, 1883–1930* (College Station: Texas A&M University Press, 1996); Ruth Sheldon Knowles, *The Greatest Gamblers: The Epic of American Oil Exploration* (New York: McGraw-Hill Book Company, Inc., 1959).

[15] William Donohue Ellis, *On the Oil Lands With Cities Service* (Tulsa, OK: Cities Service Oil and Gas Corporation, 1983); Robert Finney, *Phillips, The First 66 Years* (Bartlesville, OK: Phillips Petroleum Co., 1983); Michael Wallis, *Oil Man: The Story of Frank Phillips and the Birth of Phillips Petroleum* (New York: Doubleday, 1988); John Samuel Ezell, *Innovations in Energy: The Story of Kerr-McGee* (Norman: University of Oklahoma Press, 1979).

oil fields in the state provide useful overviews of the activity and major players in each oil field. These works include *Ragtown: A History of the Greater Healdton-Hewitt Oil Field* (1986) and *The Oklahoma Petroleum Industry* (1980). In *The Oklahoma Petroleum Industry*, Franks argues that while "the discovery of oil opened a new era in Oklahoma's history, it closed one of the most colorful and romantic periods of American's heritage in that the clamor for 'black gold' beneath the state's soil marked the final mineral rush of the Great West" (xiii). The author relies on interviews conducted for the Works Progress Administration (WPA) and the Oklahoma Heritage Association's Oil and Gas Oral History Project and manuscript collections from the Western History Collections at the University of Oklahoma for his source material. The books lack significant analysis of the impact of the individual oil fields beyond the benefits of the increase in revenue to the areas studied. The final chapter of most of the books includes an *homage* to the philanthropic work of the major oil companies involved.[16]

Works that focus on the colorful individuals and life in the oil patch, the larger-than-life personalities who forged the industry, or company histories ignore the environmental impact and political ramifications of the oil and gas industry, leaving that analysis to works that are more critical of the industry itself. Daniel Yergin's seminal work *The Prize: The Epic Quest for Oil, Money & Power* is a global look at the industry that has shaped war, peace, and who has held money and influence in the twentieth and twenty-first centuries.[17] In his work *Finding Oil: The Nature of Petroleum Geology, 1859–1920*, Brian Frehner describes the relationship between the people

[16] As a part of the Oklahoma Heritage Association's Horizon Series, Kenny A. Franks and others have written several books on different aspects of the oil industry in Oklahoma. These books have the same general structure, beginning with the overall history of oil exploration in Oklahoma and emphasizing progress in technological advancements and philanthropic work. Some of these titles include Kenny A. Franks, *The Oklahoma Petroleum Industry* (Norman, University of Oklahoma Press, 1980); Kenny A. Franks, *The Osage Oil Boom* (Oklahoma City: Western Heritage Books, Inc., 1989); Kenny A. Franks, *Ragtown: A History of the Greater Healdton-Hewitt Oil Field* (Western Heritage Books, Inc., 1986); Louise Welsh, Willa Mae Townes, and John W. Morris. *History of the Greater Seminole Oil Field* (Oklahoma City: Western Heritage Books, Inc., 1981); Bobby D. Weaver, *Oilfield Trash: Life and Labor in the Oil Patch* (College Station: Texas A&M University Press, 2010).

[17] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power* (New York: Simon & Schuster, 1991).

searching for oil and nature itself, and how that interaction evolved as scientific geology replaced less empirically data-driven methodologies in the oil patch.[18] In 2012 the *Journal of American History* dedicated its June issue to "Oil in American History," focusing on the impact of this natural resource on various aspects of American life. The essays included in the issue covered topics including oil politics, the oil industry in popular culture, and climate change.[19] Environmental historians argue that the history of extractive industries can be informative when creating policy dealing with the impact of fossil fuels and the control of climate change. Understanding how the oil industry evolved, how companies obtained political power, and how ingrained the industry is in daily American life can help in the process of breaking down barriers to new forms of renewable energy.[20]

Previous studies of women connected to the oil industry have focused most intensely on women in boom towns, and the dichotomy between the wives of oil field workers and the women who followed the booms to make a profit, such as prostitutes and café workers. Boomtowns are most simply defined as communities that form out of sudden economic growth in an area, particularly related to extractive industries like mining or petroleum drilling.[21] These works discussed women as novelties, not as integral parts of the oil field community.[22] One notable exception is Anna Charlene Walsh's 1988 dissertation, "Sisterhood in the Oil Field: Informal Support Networks, Gender Roles and Adaptation Among Women in the Oklahoma Oil Field," which provides an informative, anthropological view of the creation of communities by women adjacent to the oil industry, particularly the wives of oil field workers. The study, however, avoids discussing organized clubs or

[18] Brian Frehner, *Finding Oil: The Nature of Petroleum Geology, 1859–1920* (Lincoln: University of Nebraska Press, 2011).
[19] The "Oil in American History" issue of the *Journal of American History* from June 2012 is available online and can be accessed at archive.oah.org/special-issues/oil/index-2.html.
[20] Paul Sabin, "'Understanding the Ultimate Environmental Dilemma': Making a Place for Historians in the Climate Change and Energy Debates," *Environmental History* 15, no. 1 (January 2010): 76–93.
[21] Eric Romich, David Civittolo, and Nancy Bowen, "Characteristics of a Boomtown," Ohioline, accessed November 25, 2020, ohioline.osu.edu/factsheet/cdfs-sed-2#:~:text=A%20boomtown%20can%20be%20simply,due%20to%20sudden%20economic%20shock.&text=Today%2C%20many%20modern%20boomtowns%20in,%2C%20oil%2C%20and%20natural%20gas.
[22] Franks, *The Oklahoma Petroleum Industry*; Franks, *The Osage Oil Boom*; Franks, Kenny A. *Ragtown: A History of the Greater Healdton-Hewitt Oil Field* (Western Heritage Books, Inc., 1986); Welsh, Townes, and Morris, *History of the Greater Seminole Oil Field*.

professional women in the industry.[23] Women who worked in oil company offices as geologists, secretaries, or other support staff have been largely ignored in the literature. Female geologists have been mentioned as a part of statistical works that discuss women in scientific fields as a whole, as well as in a book that pays tribute to the work of women geologists who were members of the American Association of Petroleum Geologists (AAPG). New works on women in the oil and gas industry are, once again, collections of oral histories, but this time of women working in the field, particularly on the Trans-Alaska Pipeline and on offshore oil rigs.[24] Through this dissertation, I will remedy these deficiencies in the literature, shedding light on the lives of women associated with the oil industry, noting their accomplishments and the communities that they created to ease loneliness, further their careers and those of their husbands, and help younger female geologists to make their way in the profession. I will not only tell the stories of these women's individual successes, but also the importance of their networks to their careers and personal lives.

As mentioned above, when the secondary literature does discuss women connected to the oil industry, it almost exclusively deals with women in boom towns. This secondary literature generally relies on oral history interviews performed by men, and many times the descriptions of women's roles in these boom towns are actually given by men in the course of their interviews. In these works, the interviews are presented with little or no interpretation, except to make note of the loneliness of oil field wives and the salaciousness of sex work in the boom towns. In this dissertation, I will use the interviews included in these works to investigate how women created communities in these boom towns despite the transient nature of oil field work. The different types of work in which women were engaged affected how they interacted with one another. Rather than just view these oral histories as

[23] Anna Charlene Walsh, "Sisterhood in the Oil Field: Informal Support Networks, Gender Roles and Adaptation Among Women in the Oklahoma Oil Field" (PhD diss., University of Oklahoma, 1988).
[24] Jane Butler Kahle, ed., *Women in Science: A Report from the Field* (Philadelphia, PA: The Falmer Press, 1985); Violet B. Haas and Carolyn C. Perrucci, eds., *Women in Scientific and Engineering Professions* (Ann Arbor: University of Michigan Press, 1984); G. Kass-Simon and Patricia Farnes, eds., *Women of Science: Righting the Record* (Bloomington: Indiana University Press, 1990); Robbie Rice Gries, *Anomalies: Pioneering Women in Petroleum Geology: 1917–2017* (Denver, CO: JeWeL Publishing LLC, 2017); Williams, *Wildcat Women*; Ponton, *Breaking the Gas Ceiling*.

entertaining anecdotes, they will be used to reconstruct female social circles that emerged in these towns, and understand why women allied themselves in the ways they did.

The works that discuss women geologists and geophysicists place them in the context of other women professionals in scientific fields during different time periods. These studies generally include statistical analyses, but this dissertation is more interested in the women themselves rather than the women as numbers. When discussing women in the scientific professions related to the oil industry, primarily geology, this dissertation will instead focus on their achievements in a male-dominated profession and how they created communities for mutual benefit and fellowship, whether in a collegiate setting, in the workplace, or in the broader oil industry. While much of the historiography of the oil industry, when discussing science, deals with individual companies and business history, this dissertation will focus on individual women who worked in company environments, while discussing some companies that utilized female workers especially during times of male labor shortage, such as World War I and World War II.

Another group of women that are absent from the literature about the oil industry are the women who worked as secretaries in the offices, the wives who assisted their husbands with their work, and the wives who did work with auxiliaries as a duty associated with being an oil industry wife. The secretaries worked in traditionally female roles in the offices, and were subservient to male executives as would be expected of women in the workplace in the early and middle twentieth century. A robust literature describes working women in various time periods, and I will contextualize these women within that literature.[25] Oil industry secretaries were different from other

[25] Alice Kessler-Harris, *Out to Work: A History of Wage-Earning Women in the United States* (New York: Oxford University Press, 1982); Alice Kessler-Harris, *Women Have Always Worked: A Historical Overview* (Old Westbury, NY: The Feminist Press, 1981); Lara Vapnek, *Breadwinners: Working Women and Economic Independence, 1865-1920* (Urbana: University of Illinois Press, 2009); Estelle B. Freedman, "The New Woman: Changing Views of Women in the 1920s," *Journal of American History* 61, no. 2 (September 1974): 372–393; Linda K. Kerber, "Separate Spheres, Female Worlds, Woman's Place: The Rhetoric of Women's History," *Journal of American History* 75, no. 1 (June 1988): 9–39; Barbara Welter, "The Cult of True Womanhood: 1820–1860," *American Quarterly* 18, no. 2 (Summer 1966): 151–174; Mary E. Cookingham, "Combining Marriage, Motherhood, and Jobs Before World War II: Women College Graduates,

working women, however, and the organizations they created to learn more about the industry in which they worked contributed to their careers. The wives who embraced their traditional roles at home may not have bucked the conventional gender system, but they were nonetheless invaluable to their husbands careers and performed tasks, both seen and unseen, that bolstered their family's economic prospects.

In discussing these wives, I will engage with the literature dealing with the pre-industrial home economy. In the centuries before the Industrial Revolution, the home economy was the primary means of earning a living, whether it be through agriculture, the creation of goods for sale, or owning a family business. All members of a household, from the male head to the youngest child, would at some point be enmeshed in the support of the family. Of particular importance were the contributions of women. Whether they were actively earning money through the family business or using their energy to care for the home and children in a subsistence model, women's contributions to the home economy were, and remain, essential.[26] As the economy moved outside the home, strict divisions between work life and home life created the idea of the husband as the breadwinner and the wife as the caretaker at home, removing the monetary value associated with the woman's work in the home. No longer was the entire family contributing to the economic well-being of the group; instead the male head of household made the greatest contribution.[27] Moving through the twentieth century, the image of the ideal family closely mirrored this separation, with the upper- and middle-class male

Classes of 1905–1935," *Journal of Family History* (Summer 1984): 178–195; Elaine Tyler May, *Homeward Bound: American Families in the Cold War* (New York: Basic Books, 1988); Joanne Meyerowitz, ed., *Not June Clever: Women and Gender in Postwar America, 1945–1960* (Philadelphia: Temple University Press, 1994). There are some works that describe women working extractive fields, but only in the actual field work, not in the office. See Sally Zanjani, *A Mine of Her Own: Women Prospectors in the American West, 1850-1950* (Lincoln: University of Nebraska Press, 1997). Of course, the introduction of birth control options made it more feasible for women to work outside the home. See Elaine Tyler May, *American and the Pill: A History of Promise, Peril, and Liberation* (New York: Basic Books, 2010).

[26] Kessler-Harris, *Women Have Always Worked: A Historical Overview*; Amy Mattson Lauters, *More than a Farmer's Wife: Voices of American Farm Women 1910–1960* (Columbia: University of Missouri Press, 2009); Kerber, "Separate Spheres, Female Worlds, Woman's Place: The Rhetoric of Women's History"; Welter, "The Cult of True Womanhood: 1820–1860."
[27] Jeanne Boydston, *Home and Work: Housework, Wages, and the Ideology of Labor in the Early Republic* (New York: Oxford University Press, 1990), as discussed in Kathleen M. Barry, *Femininity in Flight, A History of Flight Attendants* (Durham, NC: Duke University Press, 2007).

breadwinner coming home at night to a hot meal and well-behaved children, courtesy of his wife who expected nothing in return. In the oil and gas industry, however, the separation between family life and work life was not always so clear. The wives of men working in the oil industry assisted their husbands in growing their businesses in a variety of ways—through networking in auxiliaries; by providing clerical and bookkeeping support work for small or one-man operations, as Mahala Baxter did for her geophysical consultant husband; or by leaving their own jobs as geologists but continuing to use their expertise to contribute to their husbands' careers. These women used their skills to benefit the family business—oil and gas.

The easiest way to make the lives of these women accessible and relatable is through the lens of social history. It would be impossible to discuss the lives of these women without speaking to the difficulties of life in boom towns, the societal expectations for women of their times, or some aspects of the structure of the industry in which they worked or were enmeshed. Obviously, my focus is on the women in this story, but their interactions with men in a male-dominated field are integral to understanding what makes women in this business extraordinary—what makes their contributions so impressive and their desire to help one another succeed so singular. By looking at the women of boom towns, of oil companies, and of oil families to see how they banded together, in some instances merely to make life bearable, it is easy to see how other industries in which women were a minority might have done the same.

While the majority of this study is predicated on social history—the stories of people usually ignored in the history of the oil and gas industry—it would be difficult to discuss a business with such significant differences in the nature of work from roughnecks on the oil rigs to executives in the high-rise offices without addressing issues of labor and class. By studying the intersections of gender and class, particularly when dealing with women in boom towns, the picture of the communities they created—and the types of women that were left out of these groups—becomes more clear. This work looks at three different groups of women workers: informal laborers, "pink-collar" workers, and

professionals. It will discuss working-class women beyond the marketplace, emphasizing their social interactions both inside and outside the economy. Beyond the boom town, women in oil company offices took jobs that came to be known as "pink-collar" positions: fields like clerical and service professions that were dominated by women because of the nature of the work required. As opposed to positions as geologists or other scientific work, these pink-collar jobs in secretarial work were generally reserved for women.[28] Why some women chose to be secretaries while others chose to be geologists for the same oil company can be explained as a product of educational opportunity and exposure to the field—many women who worked as geologists knew of the field because of family members, mostly male, who already worked in the industry.

To investigate these sometimes difficult to find women, oral histories became important sources of information—interviews found in secondary sources, and oral history collections at various universities, including Lee College in Baytown, Texas; the Western History Collections at the University of Oklahoma in Norman, Oklahoma; the Briscoe Center for American History at the University of Texas in Austin, Texas; and the Research Center at the Oklahoma Historical Society in Oklahoma City, Oklahoma. Oral histories are integral to telling this story—the lived experience of these women, both in their own words and described by people living at the time. Of course, as with any recorded memory, the perspectives recorded in oral histories inherently contain bias. While personal bias must be taken into account and in some cases mitigated, the perspectives of the narrators are needed to understand why certain groups of women created communities and excluded others. Oral histories are also singularly compelling, providing personal insight into everyday life as well as more noteworthy events. It would be much more difficult to discern how women in boom

[28] For a discussion of intersectionality and the work that has been done to reintroduce class to discussions including gender, sexuality, and race, please see the essays in John Russo and Sherry Lee-Linkon, eds., *New Working-Class Studies* (Ithaca, NY: ILR Press, 2005). For more information on one particular female-dominated "pink-collar" profession, and a discussion of that type of work, see Barry, *Femininity in Flight*.

towns carved out lives for themselves, their families, and created relationships and communities amongst each other without the colorful narratives left by the people who lived in those conditions.

After using the oral history collections to pursue information about primarily working-class women, the work of middle-class women on the business side of the industry was found in the archives. While not abandoning the social history view, incorporating research more akin to that done for a business history such as corporate records and specific company collections revealed how women were viewed in business settings, what positions they held, and what was expected of them. The manuscript collections both supported and supplemented the oral history collections. The Western History Collections included a treasure trove of information about Chi Upsilon, a women's geology fraternity established at the University of Oklahoma, and the Southern Methodist Unversity DeGolyer Library digitized the *Roxoleum* newsletter from Roxana Petroleum. The University of Tulsa Special Collections houses the International Petroleum Exposition Collection, and the Tulsa Historical Society archives includes the papers of several Oklahoma oil companies and different women's organizations. Visits with the Association of Desk and Derrick Clubs chapters in Oklahoma City and Tulsa yielded beneficial sources in the form of scrapbooks and conversations with members. These collections and resources helped to frame the discussion of women in oil and gas company offices, both in scientific careers and administrative roles.

Members of the American Association of Petroleum Geologists' (AAPG) PROWESS Committee (now called the AAPG Women's Network) had performed a significant amount of research into female geologists in the early days of the oil and gas industry.[29] Robbie Rice Gries, the first woman to serve as president of the AAPG, took on a project to research the first one hundred women in the organization. Gries was hired during the early days of Affirmative Action in the 1970s, and was told that she was one of the pioneering women in geology. To her surprise, she found

[29] "AAPG Women's Network," AAPG, www.aapg.org/womens-network. This contact was facilitated with help from retired geophysicist Robert E. Baxter Jr.

women's names and profiles among the membership cards in the basement of the AAPG offices in Tulsa, Oklahoma. This sparked her desire to learn who these real trailblazers were, and how they contributed to the industry in which she had spent her career.[30] Excited to share the stories of these women with another researcher, Gries opened her archives to provide access to her collected materials obtained when she researched and wrote the work *Anomalies: Pioneering Women in Petroleum Geology: 1917–2017* (2017). While this dissertation shares the goal of revealing and communicating the extraordinary lives and work of these women, Gries did not emphasize the community of women in her work, but instead discussed their individual achievements while noting that many of them did know or know of each other, and some provided mentoring to younger women. The information in Gries's archives included newspaper clippings, obituaries, scientific papers written by the women, interviews with subjects who were still living, and remembrances from family members of the women who were deceased. Through these sources, the connections between these women became evident—some solely work collaborations or mentorships, some sincere friendships as well. This dissertation expands on Gries's research by describing women who she does not include in her work but who nonetheless found work using their scientific skills in the oil industry, and who formed acquaintances and friendships with other women that both helped them in their careers and provided companionship.

In the analysis of these sources, patterns emerged regarding the ways women were represented in and around the oil and gas industry. The organizations that women created within the oil industry led to understanding the nature of both formal and informal associations. When reading primary documents about professional women, the ways they were described as helping younger women in the profession with networking opportunities or advice could be seen. Another interesting way to analyze the sources was by noticing the ways that women spoke about one another—how they talked about the women with whom they associated, but also the women they shunned. Again, the

[30] Conversation with Robbie Rice Gries, August 22, 2017, Lakewood, CO.

oral histories were important, providing the opportunity to listen to or read the women's own words about the situation in which they found themselves. The primary documents not only showed the organized ways in which women connected with one another, but they also revealed the informal ways that women formed relationships with one another based on their mutual association with the oil and gas industry. The connections that women made within the industry were evident in the sources in the times when women mentioned each other, or when it was mentioned that one woman knew another, that women may have known each other from college, or that one woman had married another's brother, or whatever relationships could be found. It was not difficult to see the networks created by women socially and professionally, both by women engaged in scientific work, administrative or secretarial work, or homemaking in boom towns. These women achieved individually, but they shared their experiences and expertise with each other so that other women might achieve, be it through economic gain or simply by beating the loneliness of oil field life.

Two of the most important oil-producing states in the United States in the early twentieth century were Oklahoma and Texas. These states fall into the Mid-Continent, Gulf Coast, and West Texas and Eastern New Mexico oil-producing regions. Oklahoma's oil fields were prolific, with Red Fork and Glenn Pool discoveries in the early years of the twentieth century establishing Tulsa as the "Oil Capital of the World." Scientific breakthroughs in the industry, such as John C. Karcher's reflection seismography that revolutionized the search for subsurface oil and gas, came out of Oklahoma. Oil and gas companies founded their headquarters in Tulsa and Oklahoma City because of their proximity to producing fields, and big events such as the International Petroleum Exposition, an important industry trade show that attracted oil industry luminaries from across the world, made its home in Tulsa from 1923 to 1979.[31] The Spindletop oil boom near Beaumont in east Texas ushered in

[31] Kenny A. Franks, "Petroleum Industry," *The Encyclopedia of Oklahoma History and Culture*, accessed November 23, 2020, www.okhistory.org/publications/enc/entry.php?entryname=PETROLEUM%20INDUSTRY; Bobby D. Weaver, "International Petroleum Exposition," The Encyclopedia of Oklahoma History and Culture, accessed November 23, 2020, www.okhistory.org/publications/enc/entry.php?entry=IN030&topic=.

the century on January 10, 1901, and more than one hundred major oil fields were discovered across the state from 1894 to 1954. In Texas, oil overtook agriculture as the primary economic driver, and helped to shape the culture of the state.[32] In the early to mid-twentieth century, the economies of these two states came to rely on the petroleum industry. Petroleum, however, was integral not only to the economy of these states, but also to their culture. The industry attracted workers from across the country. Company executives invested a portion of the profits from oil and gas endeavors into local communities through philanthropic foundations.[33] Because of the prevalence of the industry in these two states, this dissertation will explore the impact of women on the petroleum industry in these two states. With the petroleum industry holding such a large share of the economy in Oklahoma and Texas, there was more room for women to find space within the industry, whether it was in boom town or an office.

To illustrate how women made inroads into the male-dominated oil and gas industry even before the advent of Affirmative Action quotas in 1973, this study will investigate women's involvement in the industry, and the communities they created for themselves within and adjacent to the industry, from the beginning of the twentieth century up to the 1970s.[34] While there will be some brief discussion of twenty-first-century women as comparison to earlier women, the primary focus of this dissertation is on women in the early and middle twentieth century. This time period covers the early boom town era, as well as the establishment of scientific geology in petroleum industry offices. The different ways that women became economically involved with the oil industry, as well as the evolution of the communities and spaces that women created for mutual benefit as a result of their connection to the oil industry, can be tracked through this time period.

[32] "Oil and Texas: A Cultural History," Texas Almanac, accessed November 23, 2020, texasalmanac.com/topics/business/oil-and-texas-cultural-history.
[33] "Oil and Texas: A Cultural History," Texas Almanac, accessed November 23, 2020, texasalmanac.com/topics/business/oil-and-texas-cultural-history.
[34] Gries, *Anomalies*, 247.

This dissertation largely tells the stories of white, middle- and upper-class women. These were the women afforded the opportunities to spend time in clubs and associations through which they could provide mutual benefit to one another. The segregation and racism inherent in the petroleum industry in the first half of the twentieth century, as was evident in almost all aspects of American life, kept Black men and people of color in the lowest-level positions in the oil fields—teamsters and ditch diggers among them—and excluded Black women and other women of color from official and unofficial networks that will be described in this work.[35] Boom towns represent one area where working-class women's voices can be heard, and the stratifications that occur there over time as more men from the company headquarters relocate their families to boom towns and company towns to supervise blue-collar workers shows how women created communities within their own socioeconomic group.

Chapter One will describe life in oil boom towns from the early to middle twentieth century. While the logistical aspects of boom town life changed over time—the types of housing, the numbers of families joining husbands, and the local infrastructure of boom towns—the isolation felt by women—women like Nellie Babcock—who left their families to follow their men was a constant. To combat this, women formed relationships with other women in similar situations. They created friend groups and chosen families away from their blood families. In this way, they maintained a sense of normalcy amidst a situation that was anything but normal for the majority of housewives who followed their husbands to the oil fields. Like the oil field wives, women who followed oil booms for their own personal economic gain—be they boardinghouse owners, diner workers, or prostitutes—found ways to associate, if not necessarily for camaraderie, at least for protection and mutual economic benefit. Even in the microcosm of the boom town, however, distinctions of class formed between different types of labor performed by women. The development of stratification between different classes of women is evident, and mimics the differences in associations that would occur

[35] Weaver, *Oilfield Trash*, 35, 49.

outside a boom town environment, with the added layer of "respectable" boom town women falling somewhere under "respectable" women of permanent towns, or permanent residents of towns that included a population of oil field families, often called "oil field trash." With the advent of better transportation networks and improvements in technology that required less constant hands-on work at the well site, the need for an entire family to relocate to a boom town became less prevalent as the twentieth century wore on, thus eliminating the need for women to find solace in the community of other oil field wives in the boom town.

Chapter Two will introduce Chi Upsilon, a women's geology fraternity (commonly called a sorority) that emerged at the University of Oklahoma in 1920. Seven women in the geology department of the University of Oklahoma in Norman, Oklahoma, created this organization in response to the establishment of an all-male geology fraternity on campus. Because they were not allowed entrance into that society, they took the initiative to form their own, complete with a ritual initiation, pledging requirements, and officers. Their meetings consisted of informative presentations on various aspects of geology, presented both by their members and by the professors in the department. Because there were no women professors at the time, the faculty wives took an interest in the club and served in an advisory capacity. Once these seven women established Chi Upsilon on their campus, they reached out across the country to spread their organization to other colleges and universities, hoping to inspire other women to work together to make the most of their educational experience, as they had. Eventually Chi Upsilon would boast five chapters across the country. The organization was only sporadically active on the University of Oklahoma campus, and seemed to be so on the other campuses as well, but the women who initially created the group were pioneers in petroleum geology and found jobs in the industry when it was almost unthinkable for a woman to work in scientific fields, particularly economic geology.

Chapter Three follows the lives of the women who left universities prepared to work in petroleum geology. In the early days, there were very few companies that would employ women as

office geologists, and those companies would only let women retain that employment until they married. World War I and World War II impacted women's employment across the board, and the oil industry was no exception. Although the industry did receive some special consideration from the US government due to the necessity of oil to prosecute both wars, those exceptions were generally for men in the field, doing the manual work that it was presumed only men could do. Many male office geologists enlisted, leaving opportunities for women to work in the petroleum geology fields for which they had been trained. As with many industries, once men came back from war, these women were displaced. Many went back to the home, some went into teaching at a collegiate level, and still others worked for state or the national geological surveys. Those women who remained in the industry were often highly recognized for their contributions, such as Dollie Radler Hall, who is featured in Chapter Three. Beyond their individual contributions to the industry, however, these women were willing to work together as a part of organized groups or informally as mentors to help other women succeed in the male-dominated field in which they had found career success.

The women oftentimes described as the "gatekeepers" are the subject of Chapter Four. The secretaries and administrative workers in oil industry offices held a great amount of power, as they were the women who could control who spoke to the executives, and when or if those communications might happen. These women realized that, in order to do their jobs more efficiently and at the highest level, it would be in their best interests to learn more about the industry in which they worked. To that end, they formed Desk and Derrick Clubs across the country, the first in Louisiana in 1949. At their inception, Desk and Derrick Clubs were spaces where women working in oil company offices could learn more about the oil industry through luncheon speakers and field trips. They also could make connections with women who worked for other companies, thus expanding their professional and social networks by meeting women with similar jobs and, presumably at the time, similar social stations. It is unique to find a group of administrative workers so keen on learning

technical aspects of the industry in which they worked, especially when it might require time beyond their regular workday.

Finally, Chapter Five will investigate the family economy of the petroleum industry. There are countless wives who have worked at home to help a husband's career, regardless of the profession of the husband. The oil industry is no different. Wives, especially women from the early twentieth century who were trained as geologists but perhaps not allowed to work after they were married, assisted in making maps, bookkeeping for independent oilmen, and many other tasks. Not as readily recognized as work associated with the economic well-being of a family is the work of the wife in a women's auxiliary. The women's groups associated with men's professional organizations assisted in planning conventions and held social events for those whose livelihoods depended on black gold. Of course, these conventions and events were networking and sales opportunities for husbands, so the involvement of their wives was crucial to the success of the husband. Any networking done by the wife in the women's auxiliary could benefit the husband in his work as well—the women's community could assist the individual man as well as the individual woman. And, along with the wives who worked in the background, sometimes it became necessary for wives to take over the family business through the death of a husband. In families that owned small, independent oil companies, this was a possibility that became reality for several women. In the case of the Little Nick Oil Company, the death of the husband and ascendance of the wife led to the hiring of an all-female office staff, and the management of the business by a woman. This company created its own community of women within the walls of its offices.

This study, while focused on the oil and gas industry, is not limited by the presence of oil derricks and geological core samples. The structure of life in oil and gas boom towns followed a model of life in the towns that sprung up surrounding other extractive industries, and the groups created by the women in those oil boom towns, as well as the class structure that emerged, can in turn be a model for studying women in small communities that followed other similar industries. The

patterns of employment described within the oil industry offices, both of the women working in scientific positions and those working in secretarial positions, can be used more broadly to illustrate the ways in which women were employed, and the ways that they sought community among themselves for mutual benefit within those careers. The women in the petroleum industry, and those who contributed through their associations with men in the industry, may have had some unique characteristics based on the nature of the industry, particularly in areas where the petroleum industry was more prevalent, but overall these women provide a lens through which historians and researchers can evaluate other, similar industries.

This dissertation covers topics ranging from the household economy to separate spheres; women in offices to women in boom towns; and women of science to women of the home. Despite the focus on the oil and gas industry, this work more broadly discusses women's achievement in male-dominated fields, and how women create communities for mutual benefit, whether that is career advancement or social interaction. While some anecdotes and stories specific to the oil and gas industry may appear to have little relevance outside that business, the reaction of the women described to the situations in which they find themselves can be generalized to other industries and circumstances. Historians of the petroleum industry will find this study useful, as will researchers in women and gender studies and labor historians who consider the role of gender in numerous ways.

Women were involved in all facets of the petroleum industry, whether as support staff back at camp for men working in the fields or as the scientists deciding where to send those men to drill. Women had a presence in the hallowed halls of university geology departments from their earliest days, and found acceptable fields of study that eventually became integral to the exploration for oil. They learned more about a complex industry to better assist their executive bosses, and used their skills to help their husbands succeed. This dissertation casts a wide net to capture the variety of women's involvement with the oil and gas industry. As a support system, as students, as scientists, and as secretaries, women have contributed to the oil industry both economically and culturally. More

than one hundred years after Nellie Babcock left her family behind in Ohio to join her wildcatting husband in the Osage hills of Oklahoma, women can be still be found on oil rigs, in boardrooms, in administrative offices, and in the role of supporting oil field husbands. Their importance may not lie in their influence on the industry itself, although that influence is considerable in light of their small numbers. The greater significance might be continuations of patterns of female employment, and the creation of environments in which women in similar circumstances could encourage each other and provide mutual support in both professional settings and family life.

CHAPTER II

"NOT ACCEPTED INTO THE MAINSTREAM OF LIFE"[36]: WOMEN IN OIL AND GAS BOOM TOWNS

The July 12, 1925, issue of the *Daily Oklahoman* featured an article entitled "Proving That Woman Can Handle Man's Job." It described Mrs. W. L. Umburn of Weleetka, Oklahoma, who was "proving she [could] handle any job around an oil well." Her husband was a drilling contractor, and while he was away from home taking tools from one drilling job to another, Mrs. Umburn maintained the household "just like a good wife should." During one of Mr. Umburn's absences, Mrs. Umburn purchased a farm that included a well that was producing six barrels per day. Because of the small output, the previous driller had gone bankrupt and Mrs. Umburn bought the land to raise chickens and plant a garden. Before she could do so, the well suddenly began producing prodigiously, so she hired men to work the rig and soon it was producing sixty barrels per day. After this success, Mrs. Umburn spudded in a second well on the property, serving as superintendent for the job and supervising a crew of men she had hired. When asked why she dove into such a masculine job, she replied "'Oh, I just like the game. . . . It gives me a chance to prove that a woman can do a man's work, no matter how hard it may seem.'" After watching her husband work in the oil industry for the duration of their marriage, and helping him drive drilling equipment from job to job in Texas, she was comfortable with the world of the oil field.

[36] Mary M. Porter in Roger M. Olien and Diana Davids Olien, *Life in the Oil Fields* (Austin: Texas Monthly Press, 1986), 128–29.

However, she stated that if her luck ran out, she supposed she would "'get a chance to raise the chickens and get a garden.'"[37]

The story of Mrs. Umburn is not common, although it is instructive. The Umburns traveled together to boom towns from West Virginia to Texas to Oklahoma, and in their marriage Mrs. Umburn assisted her husband in his work as a drilling contractor.[38] Because she spent time working in the oil industry with her husband, she did not hesitate when the opportunity came to purchase land with a well and to drill a new well when the first became successful. Mrs. Umburn also moved between two different categories of boom town women.

In oil boom towns, women could be categorized roughly into two groups: women who came to boom towns for economic gain, and women who came with their husbands who were working in the oil fields. Some came with their husbands as the men sought higher wages in the lucrative oil fields. Some followed the prospect of profits through providing services for oil field workers—cafes, laundries, boardinghouses, and prostitutes. These disparate groups of women were brought together through by the better pay available for men who worked for oil and gas companies in these isolated towns, each group of women using the boomtown phenomenon as a means of taking advantage of the earning ability of the men around them. As the men earned money, so did wives and town businesswomen. Mrs. Umburn was exceptional, managing to straddle both categories by starting her marriage as a wife joining her husband, but evolving into a woman working as a part of the oil field economy.

[37] "Proving That Woman Can Handle Man's Job," *Daily Oklahoman*, July 12, 1925, 2B.
[38] "Proving That Woman Can Handle Man's Job," *Daily Oklahoman*, July 12, 1925, 2B.

The Composition of Boom Towns

In *The Prize: The Epic Quest for Oil, Money & Power*, author Daniel Yergin states, "In the twentieth century, oil, supplemented by natural gas, toppled King Coal from his throne as the power source for the industrial world."[39] The modern petroleum industry's roots can be found in the discovery of the Drake Well at Titusville, Pennsylvania, in 1859, and soon the boom and bust cycle of the industry spread across the country to Texas and Oklahoma.[40] Oil industry historians Paul F. Lambert and Kenny A. Franks described the emergence of a "separate oil-field culture" during the early twentieth century. This culture moved as new boom towns arose next to oil fields.[41] The creation of wealth in the petroleum industry depended on finding deposits of oil and natural gas and moving quickly to extract it from the earth, which created the need for a work force that could follow the latest discovery. As cultural historian Bobby D. Weaver explained, "The resulting rush to the area is termed an oil boom, and the affected towns within the oil boom area are termed oil-boom towns."[42] The burgeoning industry needed workers, and companies promised wages that were much higher than farm labor, but generally the work itself was no more intense than agricultural labor. Men began to follow booms from town to town to take advantage of the high wages while a boom took place, as the high-production times only lasted about one to three years in a particular area. People flooded these oil fields, setting up makeshift towns with limited infrastructure and "a generally lawless atmosphere."[43] This image of petroleum boom towns persisted throughout the first half of the twentieth century, and contributed to the view of oil field workers as "oil field trash" and undesirable members of polite society in more established cities and towns. In June 2012, the *Journal of American History* devoted an issue to

[39] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power* (New York: Simon & Schuster, 1991), 14.
[40] Yergin, *The Prize*, 26–34, 82–95
[41] Paul F. Lambert and Kenny A. Franks, eds., *Voices from the Oil Fields* (Norman: University of Oklahoma Press, 1984), 3.
[42] Bobby D. Weaver, "Oil-Field Culture," *The Encyclopedia of Oklahoma History and Culture*, www.okhistory.org/publications/enc/entry.php?entry=OI003.
[43] Weaver, "Oil-Field Culture."

the history of the oil industry and its impact on society and culture. In his article "Blessed by Oil, Cursed with Crude," Darren Dochuk sets the scene of boom towns from the earliest days of the oil and gas industry up through the beginning of the Great Depression by stating, "Boomtowns [*sic*], such as Tyler in 1931, took on the appearance of the 1901 Beaumont, with a landscape of derricks, brothels, and gambling houses. 'When you strike oil, you let loose Hades,' one person observed when viewing Tyler's tangled terrain."[44] Although mostly single men populated these spaces in the early days of the booms, women joined the society of these "lawless" places as cooks, waitresses, boardinghouse owners, prostitutes, and wives of workers.

The hasty creation of oil field boom towns resembles the rapid formation of small communities that surrounded military units as they moved from battle to battle during the Civil War. In his 1966 master's thesis, James Eddy Smalldon describes camp followers during the 1861–65 conflict. Many parallels can be drawn between the people who followed armies seeking monetary gain and the women who moved from boom town to boom town in search of economic advancement. Smalldon posits that the chaos of the early days of the war, and the failure of the United States government to organize its army properly, provided an opening for camp followers to take up the slack and deliver services to the soldiers. According to Smalldon, "These were the peddlers and hucksters, offering a thousand different commodities to the men in uniform; the laborer hoping to find employment with the army or the whiskey drummer, prostitute and professional gambler looking for easy soldier money."[45] Boom towns also were places of disorder that were created quickly out of necessity and, in many instances, faded nearly as fast. In both instances, men were separated from their wives and oftentimes paid for services that would have

[44] Darren Dochuk, "Blessed by Oil, Cursed with Crude: God and Black Gold in the American Southwest," *Journal of American History* 99, no. 1 (June 2012): 57.
[45] James Eddy Smalldon, "The Camp Followers of the Civil War," (MA thesis, University of Southern California, 1966), 1, 23–24.

been provided at no cost at home, such as laundry, cooking, and sexual favors. One could easily substitute "easy roughneck money" for "easy soldier money."

The petroleum industry bears many similarities to the various mining concerns of the late nineteenth and early twentieth centuries. Both extractive industries, petroleum and mining rely on natural resources taken from the Earth for profit. In both industries, boom towns emerged in areas surrounding the areas where resources were extracted. Recent studies of energy boom towns have yielded information that suggests the sudden growth of these areas has a detrimental effect on women. A study of two western Colorado coal boom towns in the late 1970s examined the effect of the rapid growth of these towns on women and families. Researchers compared conditions in what they termed a "preboom town" with a town in full economic boom from resource extraction. By interviewing women in the towns, the researchers created a picture of the structure of family and home life, as well as employment opportunities, for women in these two towns. The middle-class wives of professionals who migrate to these towns generally cannot find work to replace their previous jobs, and become homemakers—some by choice, some out of a lack of opportunity. Patterns of boredom and depression emerged, and women turned to volunteer work to fill their time. The families of working-class construction workers, however, experienced these towns differently. Most working-class men were either single or left their families behind in more permanent housing. Some families arranged to spend summers together, when their children were out of school. The study found that these women experienced "loneliness, frustration, and anger," as they bore responsibility for the children as well as, in most cases, holding jobs themselves.[46]

Along the same line of inquiry, Anna Charlene Walsh's 1988 doctoral dissertation in anthropology, "Sisterhood in the Oil Field: Informal Support Networks, Gender Roles and Adaptation Among Women in the Oklahoma Oil Field," explores the informal support networks

[46] Elizabeth Moen, "Women in Energy Boom Towns," *Psychology of Women Quarterly* 6, no. 1 (Fall 1981): 99–103.

created by women who followed their husbands to the oil fields in the 1980s. Walsh states, "The women, most of whom were not looking for work themselves, naturally began to form alliances. They discovered that the best way to 'make it' in the oil patch was with the help of others like themselves." The relationships formed and the communities created by these women were necessary in the conditions created by the oil field life. While Walsh's analysis centers on the premise that the development of oil and gas fields in the western United States had a similar impact on women to modernization in Third World countries—that of eroding women's position within society—her descriptions of female networks and family dynamics in oil field environments give insight onto how the wives who followed their husbands learned to live in the harsh oil industry environment and support one another despite the transient nature of the oil business.[47]

In the 1930s, workers from the Works Progress Administration's (WPA) Federal Writers' Project in Oklahoma conducted interviews to preserve the histories of certain groups in the state. Among these groups were African Americans who had lived in slavery, and American Indians and white settlers who came to Oklahoma and Indian Territories through removal or to homestead. Because of the industry's importance to the Oklahoma economy, interviewers also took the time to record the oral histories of oil field workers. In these interviews, the subjects describe the day-to-day workings of oil rigs, life in boom towns, and the advantages and disadvantages of following the boom and bust cycle of the oil field.[48] Because nearly all of the interviewees were men, there are only brief, second-hand glimpses into the lives of women associated with the petroleum industry, whether they were working in boom towns or following

[47] Anna Charlene Walsh, "Sisterhood in the Oil Field: Informal Support Networks, Gender Roles and Adaptation Among Women in the Oklahoma Oil Field," (PhD diss., University of Oklahoma, 1988), viii–ix, 3.
[48] Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK, described at digital.libraries.ou.edu/whc/nam/collection.asp?cID=1603&sID=7 (hereafter cited as WPA Collection, WHC).

husbands to the oil field. The thoughts and feelings of the women themselves, with the exception of a few female entrepreneurs, were not recorded as a part of the project. Any mentions of the lives of the wives of oil field workers in this interview series are interpreted through the lens of their husbands' experiences and biases. Other oral history sources, namely those found in the works of Roger M. and Diana Davids Olien, do include the voices of women relating their own experiences of boom town life.

As oil fields emerged across the United States, boom towns grew up alongside them to serve the needs to the workers brought in to extract the oil and natural gas from the Earth. With those towns came businesses, and entrepreneurs ready to provide goods and services to oil field workers. Among those entrepreneurs were women who wanted to take advantage of the need for their labor and companionship that would normally be supplied by a wife in the home—cooking, cleaning, and sexual relationships. These women created their own loose community of women who sought monetary gain from the booms, just as men who worked in the oil fields came in search of higher wages. Wives who joined their husbands in the boom towns formed networks separate from these female entrepreneurs. Wives created relationships with one another to combat loneliness as they moved from place to place as a part of the transient oil and gas industry. They also held fast to these friendships to fight the prejudice they experienced from nearby, established towns that did not want "oil field trash" invading their area. As more professionals from industry offices began to relocate to the oil field to supervise drilling, a stratification began to arise between the working-class and middle-class women that mirrored the divisions in the world outside the industry. Although the networks of friendships and the communities created by women in boom towns were disparate based on socioeconomic status, they existed for similar purposes—for protection, both physical and emotional.

Women Who Came for Economic Gain

The difficult, back-breaking work of rig building and drilling in the oil fields attracted men seeking higher wages. Historian Anne M. Butler describes "the world of the western industries," which arguably could encompass the oil and gas industry, as "produc[ing] a masculine labor group.[49] As these men moved to the oil fields to perform this hard labor, they required support industries to surround them—places to live, places to eat, places to purchase necessities. To fulfill this need, and to take advantage of a new and growing economic opportunity, people who could provide these services flocked to boom towns and set up shop. In some cases, these people were women. They followed men who had money, trying to obtain some small portion of the wealth that being pulled from the ground.

Roger M. Olien and Diana Davids Olien wrote several books that included interviews of oil field workers, painting portraits of the environments surrounding the oil booms. In their *Life in the Oil Fields* (1986), they take the stories of the men and women, mostly men, who populated boom towns and describe the various jobs filled by the inhabitants:

> A new oil field created as great a demand for those who provided basic services—nailing together jerry-built housing, cooking steak and eggs, renting cots, selling work clothes, repairing cars and trucks, and showing motion pictures. And there was no lack of others who catered to different needs—for cold beer, a fast-moving card or dice game, or easy-going female companionship.

[49] Anne M. Butler, *Daughters of Joy, Sisters of Misery: Prostitutes of the American West, 1865–1890* (Urbana: University of Illinois Press, 1985), 1.

> All these people joined those who worked out in the field in flocking to the scene of a discovery. They made the boom.[50]

According to Olien and Olien, the people who filled support roles in the boom towns—the cooks, boardinghouse owners, merchants, prostitutes, and others—were no less a part of the boom than the oil field workers themselves. Especially in the early twentieth century, when transportation was more difficult and equipment and housing less portable, it would have been impossible to sustain a boom without the services provided by the people in boom towns. The Oliens do concede that "oil boomtowns were rowdy around the clock; middle-aged and middle-class people were usually shocked by what went on in them."[51] This rough environment led women to band together for mutual protection and benefit, whether it be the wives of oil field workers or prostitutes in brothels.

Boardinghouse and Café Workers

The around-the-clock nature of oil field work meant that the work of boardinghouse owners and café workers never ended in the boom towns. Bessie Leonard, who ran a Humble Oil Company boardinghouse in 1927, told Olien and Olien, "It was just three square meals a day: breakfast, lunch, and supper. We must have been able to feed around fifty to seventy-five men at a time. And I worked in the kitchen and we'd set up the tables. . . . They'd pay about thirty-five cents a meal. Most them worked for Humble and they had cards, and we just punched the cards. When the card was all gone, they'd go to the company office and buy new cards."[52] Women

[50] Olien and Olien, *Life in the Oil Fields*, 2.
[51] Olien and Olien, *Life in the Oil Fields*, 6.
[52] Bessie Leonard in Olien and Olien, *Life in the Oil Fields*, 76.

working in cafes dealt with less than ideal conditions—in one boom town a café manager had to provide rubber boots for his waitresses because of the volume of mud tracked in by the workingmen.[53] The oral histories do not discuss the living conditions of these women who worked for wages or who owned these establishments, but the picture painted by the volume of mud inside the café does not speak highly of the places these women lived.

One roughneck described his mother's entrepreneurial spirit in establishing a boardinghouse, first in Ardmore, Oklahoma, and then in Seminole, Oklahoma, moving to follow the money from boom to boom. She ran her boardinghouse in Ardmore for five years before purchasing a two-story house in Seminole and starting her business there. She made good money in her ventures, but was generous with her boarders and did not turn away men who could not pay if they "looked half-way honest." Her boardinghouse rates priced out lower-level workers such as truck drivers and pipeliners, in an effort to ensure that she would only house men who made the best money in the oil patch, such as drillers.[54] Other women who owned boardinghouses would extend the stays of injured oil field workers on credit until they were able to work again and pay them back.[55] These women were in the business to make money, but may have also seen these men as an extension of their families—single men in need of care from a mother or wife who was not present. The matronly owner of the boardinghouse took on that role, creating a family of men loyal to them, if only because they owed her money and she sheltered them anyway.

In "The Oil-Field Cook," one of the WPA interviews, Sadie Duggett asserts that the oil fields are most assuredly a place for women, and that "one of the most important things 'bout oil or anything else, far as that goes, is eating, and I kind of made it my job to see that all the guys

[53] "I Take a Small Profit," 6, folder 18, box 43, WPA Collection, WHC.
[54] "The Roughneck," 3–4, folder 21, box 42, WPA Collection, WHC.
[55] "The Pipe-Liner," 12, folder 23, box 42, WPA Collection, WHC.

'round the oil field get enough to eat."[56] She describes how she built her café business by assessing in which boom towns she should establish and by trusting no one. She started her café in a tent, saving money to build a more permanent structure while also increasing the quality of her food and her prices. She hired waitresses, but never thought they worked hard enough until she met Lovie, a woman she assumed to be a prostitute based on her bedraggled appearance. Upon their first encounter, Lovie asked if Sadie "need[ed] a girl," which Sadie interpreted as a solicitation and responded, "What the hell do you think I am, a queer?"[57] What Lovie really wanted was a job as a waitress, presumably to leave the life she had been living. This initial misunderstanding led to a relationship that lasted for some time, with Lovie working as a waitress and following Sadie as she moved her café from boom to boom.[58]

Sadie's initial reaction to Lovie—an obviously negative reaction to a perceived proposition that would have been extremely taboo at the time, and potentially dangerous to Lovie if made to the wrong person—shows that, while neither woman identified as homosexual, lesbians were not unknown. Sadie assumed that Lovie was trying to make money any way she could, with men or women. In fact, Lovie was looking for a job, just not in the sex trade. She wanted to move into a more respectable position, although Sadie goes on to describe her many relationships with men that were sexual, but not necessarily transactional. Their one falling-out occurred when Lovie abandoned a child that she had with an oil field worker. The man was already gone and had no idea about the child, and before Sadie knew it Lovie had left the child at a hospital. In Sadie's description, it appears that Lovie had several abortions before giving birth to this child, and none of those instances caused any tension in their relationship. This abandonment, however, hit Sadie in a different way, as she was prepared to help Lovie to raise

[56] "The Oil-Field Cook," 1, folder 10, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC).
[57] "The Oil-Field Cook," 6, WPA Collection, WHC.
[58] "The Oil-Field Cook," 7–8, WPA Collection, WHC.

the child, and was upset that she had not been consulted. The two parted ways, but met back up when they both arrived in Oklahoma City, following the boom. Once again. Lovie asked Sadie for a job, and Sadie hired her, deciding to let bygones be bygones.[59]

The story of Sadie and Lovie is one example of women forming a bond for mutual benefit—Sadie needed someone who could work hard for her, and Lovie needed wages, room, and board. This transactional relationship, however, blossomed into more, as Sadie stated, "I got kind of used to Lovie being around, too, and I guess I'll look after her long as she stays with me."[60] Although Lovie, "ain't so smart" and goes "tom-catting around," her presence made Sadie feel content and comfortable.[61] Sadie makes a conscious decision to take care of Lovie, someone she perceives as needing help and guidance in the rough-and-tumble world of the boom towns. The two women seem to embrace their mother-daughter roles, with Sadie creating the business in which they work and, by extension, the rules by which they live, and Lovie following Sadie from place to place and allowing her to provide for her. Of course, because they are not actually related, Lovie does have to hold up her end of the relationship by supplying labor to make the café successful, but it is clear by Sadie's words that their relationship goes beyond that of an employer and employee. In a world surrounded by men, these two unlikely friends found one another, remained connected, and even found each other again after a period of separation. They provided food for men in the field, and companionship for one another.

Prostitutes

The gender split in boom towns was incredibly lopsided—there were far more men than women in the towns. Because of the gender disparity, the environment was suitable for a thriving

[59] "The Oil-Field Cook," 8–14, WPA Collection, WHC.
[60] "The Oil-Field Cook," 17, WPA Collection, WHC.
[61] "The Oil-Field Cook," 17, WPA Collection, WHC.

sex trade. Women would come to the boom towns to work in brothels or to sell their services on their own.[62] Respectable people, those who avoided sins and temptations of the flesh such as prostitution, looked askance at the women plying their trade, even as men of the boom towns looking for companionship purchased their companionship with enough frequency that the tales of prostitutes became common threads in oral histories of the oil patch.[63]

In Lindsey McMaster's work *Working Girls of the West: Representations of Wage-Earning Women*, she describes prostitutes as one of "the most visible groups of women to populate the early frontier boomtowns [sic]."[64] According to McMaster, in the early twentieth century—when women were not expected to work outside the home for wages—women's jobs were judged on a spectrum of morality, and prostitution was on the lowest end of the scale. She goes on to discuss the sex trade as a means for women to obtain economic autonomy in a society that devalued their wages in more socially acceptable types of work. Prostitution as an industry itself provided women with agency.[65] In many of the oral histories that will be analyzed below, McMaster's narrative rings true. In contrast to this, historian Anne M. Butler contends that, while prostitutes were not "helpless victims," the choice to become a prostitute was not as much of a "well-thought-out career decision" as McMaster argues.[66] As lucrative as prostitution could be, many women had to supplement that income by inflating the price of the alcohol they sold, or by "rolling" their clients—a slang term for stealing the money or valuables the men may have brought with them.[67]

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[62] Butler, *Daughters of Joy, Sisters of Misery*, 50.
[63] The works by Olien and Olien, as well as the WPA narratives, reference prostitution frequently. Books about individual boom towns often describe each area's "red light district," the place where a worker would go to spend his money on booze, gambling, and women.
[64] Lindsey McMaster, *Working Girls in the West: Representations of Wage-Earning Women* (Vancouver: University of British Columbia Press, 2008), 89.
[65] McMaster, *Working Girls in the West*, 13, 103–04.
[66] Butler, *Daughters of Joy, Sisters of Misery*, x.
[67] Butler, *Daughters of Joy, Sisters of Misery*, 56; "The Pipe-Liner," 15, folder 23, box 42, WPA Collection, WHC.

Of course, prostitution was illegal. As Nancy M. Forestell notes in her essay "Bachelors, Boarding-Houses, and Blind Pigs: Gender Construction in a Multi-Ethnic Mining Camp, 1909–1920," a prostitute could do quite well financially in a mining camp—analogous to an oil boom town—but she had to consider the risk involved in engaging in that area of the economy, as it could lead to her arrest.[68] In some towns, Forestell contends, authorities viewed prostitution as an "essential service in a community of bachelors," leading to few real consequences for the prostitutes and no arrests of male patrons.[69] Butler argues that this tacit approval led to prostitution maintaining its highly visible status during the frontier period, and this could also be applied to its prevalence in early-twentieth-century boom towns.[70]

The WPA oral histories record the tale of Annie, described as "a beautiful Madam with two gold teeth, a battered puss, and the form of a lopsided watermelon." She described her life selling her services, and the services of other young women under her supervision, in what the author titled "A Tale of the Booms." The writer records her rough, colloquial language that is littered with profanity. Annie painted the picture of her arrival in the Greater Seminole Field in colorful and lewd terms:

> Seminole? You goddamned right I was in Seminole. I come in with the first load o' pipe and went out with the Laws. I thumbed a ride up from Fort Worth, flatter'n a hotel rug. I got off and walked down the stem and hit a punk for the price of a bed. I got it, with him in it, and when he left I had to cut the old man that run the joint in for half of what I took in for usin' it the rest of the night.

[68] Nancy M. Forestell, "Bachelors, Boarding-Houses, and Blind Pigs: Gender Construction in a Multi-Ethnic Mining Camp, 1909–1920," in Franca Iacovetta, Paul Draper, and Robert Ventresca, eds., *A Nation of Immigrants: Women, Workers, and Communities in Canadian History, 1840s–1960s* (Toronto, Canada: University of Toronto Press, 1998), 257.
[69] Forestell, "Bachelors, Boarding-Houses, and Blind Pigs," 263, 268–69.
[70] Butler, *Daughters of Joy, Sisters of Misery*, 81.

> They had a whole row of flops there, Chancre Alley we called it. You could of throwed a club down it and knocked down three chippies ever' whack, but that wasn't nuthin to me. I never figured it was tough if you had the stuff, and I had it. I throwed my fannie twenty-one times that night, five bucks a throw.[71]

The Greater Seminole Field, which opened in 1923 at Wewoka, Oklahoma, ultimately encompassed thirty-nine separate pools of oil and covered four counties.[72] Annie, who arrived at the beginning of the boom to take advantage of the opportunity for financial gain, vividly described the proliferation of prostitutes on "Chancre Alley," a location named for the visible manifestation of venereal diseases—particularly syphilis—contracted in the area.[73] She uses common slang to describe her work, and if she is not exaggerating, she cleared $105 in one night's work. Her assessment of her own ability to take on this work is particularly significant. To Annie, prostitution is not difficult because she has "the stuff." While she does not elaborate on what type of moxie she means, based on her rough language and matter-of-fact descriptions, Annie appears to have become used to her lifestyle, and views it as merely transactional. She needs money, these men can provide money, so she will sell her services for a fee. She adapts to her surroundings, moving from boom town to boom town to engage in this economy. Her life, at least to this point, looks to the observer to be quite solitary.

Annie continued recounting her exploits, focusing on her drunkenness and two failed marriages. She mentions bribing the legal authorities to ensure that she could continue her work

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[71] "A Tale of the Booms," folder 7, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC).
[72] Bobby D. Weaver, "Greater Seminole Field," *The Encyclopedia of Oklahoma History and Culture*, www.okhistory.org/publications/enc/entry.php?entry=GR020.
[73] "Syphilis—CDC Fact Sheet (Detailed)," Centers for Disease Control and Prevention, www.cdc.gov/std/syphilis/stdfact-syphilis-detailed.htm.

without fear of imprisonment or banishment from town. She "cut 'em in, and then [cussed] 'em for a bunch of thievin' double-crossin' bastards." Eventually, however, she was made to leave Three Sands, another Oklahoma boom town located near Tonkawa, in which she had plied her trade. She vividly describes "the day they cleaned us out."[74]

> The U.S. rounded up all of us and hired a train to ride us out on. They took us out in day-time, 300 goddamned whores hollerin' at ever' punk they seen and throwin' their tails out the window when they'd pass through a town. They run us all over hell, and dumped some out in Kansas and Arkansas and down in Texas. . . . I got throwed off in Kansas and worked down into Texas, through Arkansas and Louisiana.[75]

Despite arrangements with law enforcement and town authorities, prostitutes were occasionally run out of town. In Annie's case, it took US marshals to clean up the red light district, putting Annie and her cohorts on a train bound for anywhere but Three Sands. The sheer number of prostitutes—300 by Annie's estimation—is difficult to imagine when talking about towns with little infrastructure, poor sanitation, and minimal housing. When the train stopped, the women would depart and just begin their work anew, in a fresh town with new clients. With luck, they would be near another oil boom town, and could once again avail themselves of the flourishing economy around the wells. This method of law enforcement neither stopped women

[74] "A Tale of the Booms," folder 7, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC); Bobby D. Weaver, "Tonkawa-Three Sands Field," *The Encyclopedia of Oklahoma History and Culture*, www.okhistory.org/publications/enc/entry.php?entry=TO006.
[75] "A Tale of the Booms," folder 7, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC).

from involvement in the sex trade, nor did it stop men from engaging in that economy. Sending prostitutes out of town merely displaced women who did not have ties to a specific area anyway, and perhaps sent them to a more lucrative market.

As Annie's "career" progressed, she expanded her business and became the owner of her own brothel. She details her methods for recruiting young women to work for her, preying on vulnerable runaways by exploiting their naiveté or innate rebelliousness:

> I never did have any trouble finding women. I been runnin' houses 15 years and I know. Some girl gets mad at her pa 'cause he won't let her stay out nights with some punk kid so she pulls out. She hits for the lights, and tries to save money by stayin' in the flops. I can pick out one just by lookin' at 'em take it down the street. . . . Some 'lady' ease up to her and get acquainted and feed her a square or two and give her a bed, she'll follow around like a damned dog. Get her in bed once and she's with you from then on. Can't go back then and wouldn't if she could.[76]

Because Annie has existed in this world for so long, she can read young women and know who to target as potential prostitutes for her brothel. She coldly describes the process of baiting a lost or rebellious young woman with food and shelter, then taking her to the point of no return through her first sex work transaction. In Annie's words, the differences between the idea of agency, as espoused by McMaster, and the poor decision-making, as argued by Butler, become clear. Annie's agency in the situation is evident, as is her willingness to remove agency from an

[76] "A Tale of the Booms," folder 7, box 43, WPA Collection, WHC.

unsuspecting young woman. The potential prostitute in this scenario is not necessarily a victim, but certainly does not possess many options for support beyond the offers made by Annie. The madam's origin story is unknown, so perhaps this is how she was lured into the life of a prostitute. But through her own telling, Annie appears to hold much more control over her own situation physically, economically, and emotionally.

Annie, or the portrayal of Annie in this oral history, did not adhere to the narrative of the "fallen woman" or the mythic prostitute—she is strictly concerned with making a profit and ensuring her own security.[77] Near the end of the text, Annie does indicate that she is concerned for the appearance of the brothel itself, as she states that she does not drink on the premises to make a better environment for the women working. Of course, the more money her girls can make translates into more money for her, so her motivations in creating a disturbance-free environment are not purely benevolent.

A brothel can be viewed as an association of women bound together for mutual benefit, but ultimately this exploitative environment benefits the madam, or whoever owns the brothel, more than the sex workers themselves. The brothel environment allowed for some measure of safety in a dangerous, but lucrative, profession. Rather than a lone prostitute on the street, responsible for her own well-being, there were other women nearby, and perhaps a male pimp or bouncer with some stake in the safety of the female workers. For the madam to maintain a profit, her girls had to work. Injured women could not work, so the madam had a vested interest in keeping her prostitutes safe from the aggression of clients. Although it seems strange to consider a whorehouse a community of women together for mutual benefit, the women working in that

[77] Mirya Rose Holman, "The Soiled Dove Takes Flight: The Introduction of Prostitutes into Common Western Mythology," Loyola University New Orleans College of Arts and Sciences, cas.loyno.edu/sites/chn.loyno.edu/files/The%20Soiled%20Dove%20Takes%20Flight_The%20Introduction%20of%20Prostitutes%20into%20Common%20Western%20Mythology.pdf.

environment, while still exploited, were able to make money in a safer workplace than a prostitute working on her own in a boom town.

Although a WPA interview with an African American man reveals that Black men could not obtain work in the oil fields, historian Bobby D. Weaver notes that, in the early boom towns surrounding the Spindletop oil field in Texas around 1901, there were African American women who worked as prostitutes.[78] The brothels that housed these women were run by madams known as "Gold Toothed Sadie" and "Big Annie," and they managed a group of eight to ten Black prostitutes. Because of their race, these women could not command the same prices as white prostitutes—a white woman could expect to receive $2.50 for her labors, whereas men only paid Black women $1.[79] Weaver does not indicate the race of the patrons, but the distinction in economic opportunity based on race is clear—white women could earn more from their sex work than Black women. The market, meaning men in the boom town, valued the labor of white women over the labor of Black women, even in the sex trade.

A prostitute working in a boom town was, to a great degree, at the mercy of the men she serviced. Dr. Cecil Robinson recalled one instance when a young woman walked into his office holding her intestines in her hand. Someone, presumably her client, had cut her abdomen open and left her to fend for herself. The doctor was able to quickly repair the injury and she survived. After relating this story, Robinson noted the cleanliness of these ladies, and that "they had the same maladies that would strike anybody in the community, and they were good people to treat. They helped one another out. . . . Always the highest respect, no ugliness, always helping one another."[80] Even professional people in the boom towns were struck by how the sisterhood of sex workers watched out for one another and took care to ensure each other's safety and wellbeing.

[78] "They Ain't No Room fo' a Black Man," 1, folder 2, box 42, WPA Collection, WHC.
[79] Weaver, *Oilfield Trash*, 11.
[80] Olien and Olien, *Life in the Oil Fields*, 223.

These women, who were not in the same class as the wives who followed their oil field worker husbands to the boom towns, created a noticeable community for themselves for mutual protection and benefit, despite their ostracism from more "proper" female society.

Two distinct groups of women emerged as more families followed male breadwinners to oil boom towns: the working women of the town, which included prostitutes but also waitresses and other service workers, and the wives and female family members of the oil field workers. Wives became friends with other wives, and the workers maintained the relationships they had fostered from the beginnings of these boom towns. The needs of these two communities of women within the same environment were different: the working women needed to protect one another and help each other succeed financially, while the family women needed companionship to stave off a commonly experienced loneliness that came from leaving behind other family members, or having a husband who was in the field the majority of the time. The boredom of life in the oil fields led men to blow off steam in boom towns by gambling, drinking, and generally causing disturbances. As the town of Seminole grew and families established homes and churches, people began to call for the removal of places like "Chancre Alley," sometimes also called "Chancre Flats." Sometimes the resistance to shutting down the red light districts was strictly logistical—authorities wanted to keep the seedy elements in one place, away from the newly founded respectable town, so that the debauchery would not infect "decent people."[81]

Propriety also had a hand in keeping these two groups separated from one another. As more wives and families moved to boom towns and the service industry catering to women in boom towns grew, one oil field wife, Alice Keene, noted that the sex workers would visit the beauty parlors to get their hair done. They would look just the same as the other women in the town, but they would come into the establishment through the back door, and the beauty

[81] "This is a Good Place to Live," 4–5, folder 34, box 43, WPA Collection, WHC.

operators would instruct their clients to sit on paper or some other form of barrier to protect them from any germs the prostitutes might have left on the salon chairs.[82] While racial segregation would have been expected in public areas of boom towns leading up to the Civil Rights Movement, particularly in Oklahoma, Texas, and Louisiana, the separation by class described by Keene might appear surprising. In the caste system of the boom town, the wives and "proper ladies" of the town were so privileged over the "ladies of the evening" that the prostitutes could not even use the same entrance to a service establishment. So afraid of infection, perhaps literally and figuratively, were the upstanding women of the boom town that they could not deign to sit on the same surface as one of the sex workers. Keene acknowledged that the prostitutes looked just as put together and clean as the family women of the town, but that appearance was deceiving. Olien and Olien observed that "of all the uprooted who followed oil field action, prostitutes were probably the most psychologically isolated."[83] Although cut off from proper society on "Main Street" in the boom town, prostitutes maintained relationships with one another that may have bridged the isolation from the increasingly family friendly boom town life. Later, however, as the lines between boom towns and existing cities blurred, oil field wives would receive similar treatment from established families, adding to the hierarchy of oil field life.

Tales of prostitution and other boom town vices make for engaging stories, and have captured the imaginations of people interested in various types of boom towns and the Wild West in general. While these activities were prevalent in petroleum industry boom towns, the attention they have received may outweigh their significance. Readers of these stories should not find the importance of these stories and these women in the salacious details or the hedonism on display, but in the ways that these women found opportunities to insert themselves into a booming economy, formed groups for protection and financial stability, and then were relegated to the

[82] Olien and Olien, *Life in the Oil Fields*, 223.
[83] Olien and Olien, *Life in the Oil Fields*, 213.

lowest social stratum when more respectable, family women joined boom town society. Also of significance, but difficult to discern, are the circumstances in which these women performed their labor, and the interactions they had with their clients.

Women Working the Rigs

Like Mrs. W. L. Umburn mentioned earlier in this chapter, there were a very few women who did some work out in the oil fields themselves. One such woman was Manila Kate of Seminole, whose story was recorded in the WPA oral histories. Kate came to Seminole with her driller husband, Charles Smalley. She worked rigs with her husband, serving as a tool pusher, bookkeeper, truck driver, and a driller when needed, all while maintaining "the neatest three-room shack in Seminole." When her husband was killed in a drilling accident, she rallied the drilling crew to bring in the well that had been the site of the tragedy. She made a fortune, then lost it through poor decisions in her personal life, leaving her no choice but to don her overalls and start afresh on the rigs. In the time since her success, however, technology had changed, leaving her behind. She became a cautionary tale, roaming the streets of Seminole dependent on the charity of the "old boys that knew her when."[84]

Manila Kate did the hard, manual labor of oil field work alongside her husband, and after his death took over his duties to finish the well he started. After making some money, however, she married a gold digger and became dissolute—at story that mirrors the way that men who made money in the oil fields lost their small fortunes. Kate is never described in the oral history as particularly feminine, and is surrounded by male characters. It is as if by following the typically male path of oil field employment, she must be described by more male than female

[84] "Old Lady With a Crutch," folder 34, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC).

characteristics. The opportunistic spouse in her story is a man who found that she had made a significant amount of money, not the typical female gold digger pursuing a man who has made his fortune and is ready to spend it.

According to the story, Manila Kate only worked in the oil fields because her husband did. She took up the family business because he could not complete it. Would Kate have entered such a masculine profession without the impetus of her husband's death? This question cannot be answered. But it is certain that Kate did not give up on the industry because it was a man's domain. She continued to pursue work in the oil industry, and returned to it when she squandered her fortune instead of turning to more feminine means of earning wages. A narrator tells Kate's story, describing her as she walks down the street in her old age, hobbled by a tough life in the oil patch. She is a solitary figure, perhaps because she chose to pursue a field where other women did not venture. She did not have the opportunity to cultivate a group of female companions, because she surrounded herself with the men of the oil fields.

Oil Field Wives

As men left for the oil fields in search of higher wages, each family had to make a decision. Would the family accompany the husband to the fields, or stay in an established home, creating a separation in the family unit? Because of the terrible conditions and horrible reputations of the oil boom towns, many families chose to separate, with the husband sending much of his earnings home to his wife and children while he lived in the filth and squalor of the boom town. One oil field worker stated that

> even if I could've found a house I doubt if I'd brought 'em down there. I didn't want to put 'em in a shack a dog wouldn't sleep in, and the water wasn't fit to drink and half of us had typhoid. There weren't any schools till the boom was almost over, and the wife would've had to stay home all the time and kept the door locked to keep out drunks and fools. . . . What kind of a damned life is it when you've got a family and still haven't got one?[85]

The man lamenting about leaving his family does not fit the hypermasculinized stereotype of an oil field worker in a boom town, but based on the oral history interviews many of the men coming to the boom towns faced this dilemma, and genuinely missed families that they left behind.

To avoid this pitfall, or because they could not afford to support more than one household, some women came with their husbands as they followed the oil booms.[86] These women endured terrible housing conditions, were separated from their extended families, faced illness and sometimes heartbreaking death, and loneliness to support their husbands' work. As one man interviewed for the WPA collection put it, "To get a story of the oil fields you ought to talk to my wife; she can tell you what it's like to follow the booms and have to live in oil-company camps most of her life and bring up children in them."[87] Of course, the interviewer does not speak with this man's wife to get her view of the transient life of an oil field wife, but the oral histories include snapshots of the world surrounding these women.

Because of the high demand for housing, and the lack of family friendly options in living arrangements in these newly established towns, women had to make due with setting up

[85] "Hot Oil," 7, folder 1, box 43, WPA Collection, WHC.
[86] For example, see "The Driller," 19, folder 7, box 42, WPA Collection, WHC; "Take It Away, Cat-Head!," 12, folder 18, box 42, WPA Collection, WHC.
[87] "Production Foreman," 7, folder 26, box 43, WPA Collection, WHC.

housekeeping in whatever shelter could be had. For the lucky ones, it was a house or apartment. Some families, however, had to spend time living in tents near the hustle and bustle of the town or of the rig. *Life in the Oil Fields* records that "for married couples or families with children, hotel living was not as economical or convenient as apartment living. Ideally, a family hoped to rent a place that would at least allow for some individual privacy and permit cooking simple meals. Most housing fell considerably short of the ideal."[88] Not only was housing inadequate, but life in boom towns could be expensive. Men underestimated the amount of money it would take to support their whole family, rather than just themselves, resulting in their children having to work odd jobs to contribute to the family's income.[89] Boom town life was hard, but for some families enduring these hardships was worth staying together and not living separate lives, supporting separate households.

The boom town of Drumright, Oklahoma, was established around the completion of the first oil well in the prolific Cushing-Drumright Field on March 12, 1912. Many of the men who came to work the oil field in the early days brought their families, and the only available housing were tents. Earl Bartley, a driller on the Wheeler No. 1 well, brought his wife and children with him to Drumright, and they lived in a tent upon their arrival, until Bartley could find the time to build a house for them.[90] Rumors that snakes were slithering into the families' tents at night prompted rig-building foreman Lloyd Zumwalt's wife Emma to only agree to a move to Drumright if they could immediately live in a house.[91] The tent city that was created by the sudden influx of workers caused problems for Mrs. Frank Wheeler, on whose farm the initial well was drilled.[92] Oil field workers and their families began to show up on the Wheeler doorstep, expecting the woman of the house to provide them with a meal. By August of 1912, Frank

[88] Olien and Olien, *Life in the Oil Fields*, 63.
[89] "The Old Hand," 17, folder 6, box 43, WPA Collection, WHC.
[90] D. Earl Newsom, *Drumright!: The Glory Days of a Boom Town* (Perkins, OK: Evans Publications, Inc., 1985), 25.
[91] Newsom, *Drumright!*, 39.
[92] Bobby D. Weaver, "Cushing-Drumright Field," *The Encyclopedia of Oklahoma History and Culture*, www.okhistory.org/publications/enc/entry.php?entry=CU008.

Wheeler eliminated this awkward situation for his wife by moving his family away from the area to Stillwater.[93] Housing in Drumright improved over time with the addition of hotels and shotgun shacks, but shortages still existed because of the sheer numbers of men coming to the Cushing-Drumright field to work. The transient nature of oil field work added to the expense of housing. One oil field worker noted, "A little dump like we're living in now rents for about as much as a good house, but we have to pay more because we're liable to pull out anytime."[94] Workers had to follow the booms to continue to make money, but landlords had to maintain renters to make money. This conflict led to higher prices in oil boom towns, and consequently most families could only afford lower quality housing. These conditions also bred diseases, and death was not an uncommon occurrence. One man, described by his interviewer as "The Tankie," lost his wife to typhoid because of the contaminated water in the boom town of Ranger in Texas. She had been the fiscally responsible one in their relationship, and he brought her with him as he followed the booms.[95] The inconveniences, hardships, and fears associated with living in boom towns made women think twice about following their husbands to these raw, rough places—these considerations are why many families separated rather than expose women and children to these conditions. The women who did accompany their husbands, however, had to find ways to cope with the situations in which they found themselves. Commiserating with one another over shared experiences was one way these women could deal with the difficult lives they were living.

In an interview with Olien and Olien, oil field wife Vera Lacefield described the transient life she led:

[93] Newsom, *Drumright!*, 39.
[94] "The Truck-Driver," 5–6, folder 25, box 43, WPA Collection, WHC.
[95] "The Tankie," 15, folder 28, box 43, WPA Collection, WHC.

> You'd just be there long enough to get it cleaned up, and then you'd go on to another town. Maybe it wouldn't be too far, but you'd just get a place cleaned up and move on. Sometimes it was two or three months. Some of them would last longer than that if there were deep oil wells. We would know from the time they'd start tearing down the rigs, which would be three or four days. One time I refused to move into a house. Oh, it was dirty! So we didn't stay in that place but about three weeks. But we did stay, so I decided I was going to have to clean it up. Then my husband didn't have the nerve to come and tell me that we was going to move again, but I knew. When he finally came, I was already packed![96]

These oil field wives found themselves in disgusting conditions, without any choice as to where they could live. Their only recourse was to take up the mantle of a proper housewife and clean the horrendous place they were to call home, regardless of how long or short their stay might be. Because of these short stays, it was difficult to create communities of wives, unless groups of families traveled together. As Vera Lacefield stated, "It's just like you have your own little group. We all moved. One would move, well, we'd all move."[97] While part of Lacefield's "group" included her sister and brother-in-law, other members of the group likely were people they had met during stays in other boom towns or families who had started oil field life together. By staying together, the women in these communities of oil field families could share childcare responsibilities, help with moving, and stave off the inevitable loneliness that accompanied a rootless life.

[96] Vera Lacefield in Olien and Olien, *Life in the Oil Fields*, 65–66.
[97] Vera Lacefield in Olien and Olien, *Life in the Oil Fields*, 31.

Mary M. Porter described the isolation and ostracism felt by oil field wives who lived near established communities. When her family lived in Nowata, she needed to find a doctor for her ill daughter. Porter related,

> I had only met one other woman whose husband also worked for Sinclair. I called her to get a referral to a doctor. She gave me the name of a doctor and said, 'Be sure and tell the doctor's receptionist that your husband is an engineer, or they won't see you.' They didn't want pipeline workers or roustabouts, people who did transient kind of work. We were considered transients, certainly, not accepted into the mainstream of life.[98]

Porter's interview gives insight into the way that oil field families were separated from the rest of the population around them because of the distrust the established families in these cities and towns felt toward the influx of migrant workers. Boom families might be living among non-oil field families, but a stratification still existed, creating a sort of caste system within towns and cities, with the oil field families on the bottom. When living in Sapulpa, the local librarian denied Porter a library card because "transients might take our books away. You just don't know what the public does to our books." This incident added to Porter's "terrible feeling of isolation.[99] She found an exception to this lonely life in Lindsay, Oklahoma, where she found that oil field people were more welcome as a part of the community. She noticed one woman who lived down the street from her family and who had children the same ages as her children who did not seem to be a part of the group of oil field wives to which Porter belonged. Porter was informed, "'But

[98] Mary M. Porter in Olien and Olien, *Life in the Oil Fields*, 128–29.
[99] Mary M. Porter in Olien and Olien, *Life in the Oil Fields*, 129.

Doris is from Lindsay. She doesn't need us. She has a sister. Her mother lives here. She doesn't need us. We need one another.' And I found that. We'd commiserate. . . . I think that people who had lived in places like Lindsay all their lives did not want to risk knowing you and becoming friends with you." Porter was hurt by this lack of interest in getting to know her, until she had oil field friends who moved away from her. Once she experienced being left instead of being the one doing the leaving, she felt sympathy for people who did not want to make friends with people they presumed would only be in a town for a short time.[100]

Porter makes several observations about her situation as an oil field wife in a larger community. First, in most established communities, oil field families were a suspect class. Labeled as "transient," a term now associated more with homelessness than with seasonal or migrant work, they were not trusted to follow through with paying bills to doctors or return books to public libraries. Oil field families were a rank below the established families of the cities and towns, but there was further stratification within the community of oil field workers. Porter's husband was an engineer, which afforded her family more respect in the eyes of the outsiders the roustabouts and pipeline workers. That measure of respect did not ensure that discrimination would not occur, but did provide some level of ease in interaction with the doctor she sought for her daughter. Had her husband been a pipeliner or a truck driver, she may not have been able to secure the needed medical attention. The stratification of oil field professions would impact the creation of communities within company towns that developed near boom areas as well.

Second, oil field families needed one another. In most cases, oil field families that followed booms did not have relatives nearby to maintain close family ties, and the relationships they built in boom towns or surrounding cities and towns had to be fluid to accommodate their constant movement in pursuit of the next big boom. In Porter's story, Doris was an exception to

[100] Mary M. Porter in Olien and Olien, *Life in the Oil Fields*, 129–30.

the rule—she had managed to remain in her hometown, near her closest relatives. It could be that Doris just had not experienced a move yet, but would inevitably have to leave her family as all oil field wives who followed their husbands on the job eventually did. Because Doris had a support system already, she did not feel the need to enmesh herself in the network of oil field wives. Perhaps she did not want to spend time and energy on relationships that she knew would only be short-term when she did not have a need to do so. The other women, including Porter, had to use their emotional and physical energy to create a community for themselves, because the alternative for them was isolation and loneliness. As Porter's friend wisely discerned, "We need one another."

Third, Porter discusses the reasons that people from the established community did not "want to risk knowing you and becoming friends with you."[101] According to Porter, people did not want to form relationships only to lose friends and have to deal with the grief of the loss. While this is a valid argument, and perhaps accounts for some of the lack of outreach from the established community to the oil field newcomers, there could be several reasons for the absence of interaction. One obvious reason comes from Porter's earlier stories of discrimination against oil field families—people looked down on the "tranisent" workers and did not want them in their communities, so they did not make an effort to make them feel welcome. Oil boom towns had a reputation for being wild places full of various forms of vice, and respectable people could have viewed oil field workers coming into their communities as a possible extension of that profligate lifestyle. The established families would stick to their own kind, and oil field families could stick to theirs. Or, it could be that established families simply did not feel that they would have anything in common with the oil field families, and that perhaps the newcomers would be uncomfortable trying to integrate into society. In their own patronizing way, the wives of established towns may have tried to spare the simple oil field wives from the embarrassment of

[101] Mary M. Porter in Olien and Olien, *Life in the Oil Fields*, 130.

trying to "fit in." Whatever the reason, the women who brought families and followed their husbands to oil field jobs were forced to create their own communities within the larger, established towns like Nowata and Sapulpa, much like the prostitutes of boom towns were kept separated from the respectable wives of the oil field workers in the fleeting boom towns. The caste system that developed—prostitutes on the bottom, unmarried working women just a rung above, wives of common laborers next, wives of more skilled laborers, and then the women of the surrounding established towns on the top of the ladder—gave structure and order to a society that was in constant transition. As much as it separated and segregated people along class lines, it also provided women with a road map for navigating the chaotic world in which they lived. They knew to which group they belonged, and, if they chose, could immediately begin the process of making connections within that group upon their arrival in a boom town. There was no question that they belonged, as long as they stuck with the women on their own level.

Beginning in the 1930s and 1940s, company camps began to emerge. As one rig builder said, "Say what you want about the major companies; they've cleaned up the fields now, mostly by themselves."[102] These were more controlled environments than rough-and-tumble boom towns, and housing became stratified by the occupation of the family member who worked for the oil company. While most families like the stability of company camp life, some bristled at the social hierarchy that emerged and the constant reminder of company loyalty that living in the camps involved.[103] Mrs. Joe Koesel, whose husband worked for Big Lake Oil Company, described the company town in which her family lived in the 1930s:

[102] "The Rig Builder #3," 5, folder 14, box 42, WPA Collection, WHC.
[103] Olien and Olien, *Life in the Oil Fields*, 109–10.

> We had everything here that you could think of for entertainment, and the company kept it up and everything. The best swimming pool between Fort Worth and El Paso, the best hospital. We had a good school, grade school. A good church, it was a nondenominational church. We had a big clubhouse over here, we had a guest house over here, just everything. We had polo teams. We had baseball teams. We had a nice golf course, the first golf course out in this country. And the company fixed it up. . . . The company paid for everything. They had their own plumber, they had their own painters. They had the gang for everything. We paid two dollars a month for electricity. We had our own electric plant.[104]

The company town in which the Koesel family lived included amenities designed to foster a sense of community and to keep the families living in the town entertained. By creating opportunities for sports teams and town events, Big Lake Oil Company ensured that the people living in its oil field town interacted with one another and created relationships that would both benefit the wives and families that had come to the company camps and the company itself. The close-knit environment of the company camp or town kept wives and children from feeling lonely, and heightened the sense of loyalty that workers felt toward the company. Also, by providing such a stable, welcoming environment with so many amenities, wives might encourage their husbands to remain with the company that fashioned a community for them, as opposed to other firms that might not provide company towns for their employees. Loyal employees meant less retraining and less expense, and the influence of happy wives in company camps who may never have experiences such comfortable circumstances should not be overlooked.

[104] Mrs. Joe Koesel in Olien and Olien, *Life in the Oil Fields*, 112.

Company camp life, however, was not all bridge games and swimming pools. As previously stated, the concentration of company employees into one town led to the creation of a sort of caste system based on the job of the male breadwinner. Olien and Olien interviewed Patience Blakeny Zellmer, who talked about camp life in terms of this stratification:

> The first row is the superintendent, assistant superintendent, and then the section heads of the departments. . . . And then there's the gang pushers. Instead of mixing, there was this definite break of your station with the company. If you were in the first row or the second row or the third row. Now, see, most of the roustabouts, they didn't qualify for a house. A gang pusher did. You had to be a gang pusher to get a house. Daddy was the inventory man, so he'd go out to the field maybe two or three times a week, maybe twice a week. The gang pushers, you know, they'd go out every day. Right next door to us was a gang pusher. We grew up with them, and we were the best of friends. You know, we were taught you're as good as anybody else, but you're no better. But then, the rest of the people that were roustabouts, and the yard men, the roughnecks, they didn't qualify for a house. They could buy a house or build a house in the lower camp. In the lower camp maybe there might be twenty, twenty-five houses. They would say, "I live in the lower camp." That in itself was discrimination. Class distinction in that camp, I don't know, it was there. You felt it. You knew it was there as children. . . . That's the first thing I noticed, that we were different. That Mother and Daddy were different. They didn't just socialize with anyone; they sort of picked their friends, too. . . . So when I married, and I knew that I could

leave camp life, I was relieved. I was tremendously happy to be free of that pressure.[105]

Where Koesel saw a relief from the terrible conditions and loneliness of boom town life, Zellmer saw a society that discriminated based on class. Koesel came to the company camps as a wife and mother, searching for a home for her family, whereas Zellmer grew up in the company camp environment, and perhaps had not experienced life in the rowdy, unhygienic boom towns following her oil field worker father from place to place. As the only oil field life Zellmer had known, she found the camp restrictive and snobbish. Again, just as in the early boom towns and in the established towns, different groups of women come together to form communities based on like characteristics—in the case of company camps, the groups align based on the occupations of the family breadwinners. This socioeconomic dividing line did not sit well with some in the company camps, causing a woman like Zellmer to look forward to the day when she could escape the strictures of camp life. The comfortable company camp life enjoyed by oil field wife Koesel instead created resentment in an oil field daughter, Zellmer.

By the 1950s and 1960s, it became more common for oil field families to own mobile trailer homes. Although they did not provide ideal living conditions, the trailer did make it possible for families to remain together as the male breadwinner traveled from boom to boom. As Martha Lyle, an oil field wife in the 1950s, recorded, "We started out in a trailer that was twenty-seven feet long and eight feet wide. . . . The three older children bunked on the couch in the front of the trailer house and I had a cedar chest that the baby slept on. . . . It was the only way we could all be together, to have a place to live as a family."[106] The advent of mobile trailer homes

[105] Patience Blakeney Zellmer in Olien and Olien, *Life in the Oil Fields*, 119–22.
[106] Martha Lyle in Olien and Olien, *Life in the Oil Fields*, 66.

ushered in a decline in the need for boardinghouses, and the presence of wives and families decreased the market for sex workers in the boom towns.

In the 1960s, Anne Swendig described her experiences living in a trailer home, following the oil booms with her husband and family:

> We had a great big forty-two-foot trailer, which we lived in for seven years, and hauled it around when we went to work in the oil field. Our trailer had a kitchen, bath, and a bedroom on each end. Really it was very adequate when you live in this part of the country. . . . It really works out quite well for people who are quite mobile. . . . At times I wondered if it was an advantage or a disadvantage for us to have a trailer, because I think when they decided which people would move, I think they said, "Hey, Swendig's got a trailer, they can go anyplace. . . . I enjoyed living in a trailer court; I really did. In fact, I sometimes wish we had never gotten out of them, in a way. Regardless of where you live, if you're in a house there is a certain amount of keeping up with the Joneses. If you have a neighbor who has a lovely yard, you feel kind of guilty, and you've got to get out there and do that. . . . When you're in a trailer court, there really isn't too much different that you can do from the next person. . . . You may have a couple of friends who are professional people and you may have a couple of friends that are laboring people.[107]

[107] Anne Swendig in Olien and Olien, *Life in the Oil Fields*, 66–70.

The Swendig's life in the oil field reflects the more egalitarian atmosphere of the trailer courts—trailer life was a relatively level playing field as all people living in mobile homes were living in similar conditions and could only improve their living spaces so much before being moved to another location. The trailer court was a unique community in the oil field, fostering relationships between "professional people" and "laboring people" due to the close proximity in which they lived. In other oil field housing situations, the different professions could remain more stratified, with the families of professionals in one area and the families of the common laborers in another. The permanence of the houses in oil company towns reflected, and perhaps shared a part in fostering, the divisions between classes of people and the formation of female communities based on socioeconomic status or the jobs of their husbands. The freedom implied by the mobile trailer home was a metaphor for the freedom to interact with whomever one chose—women could create relationships across classes because one never knew who beside whom they might park their trailer.

As Olien and Olien observed, after a slowdown of exploration in the 1960s, oil field workers began to give up their nomadic existences in favor of settling down in towns near the fields in which they worked. Post–World War II building programs bridged gaps between isolated rural communities, and newly paved roads made commuting to work manageable. No longer were men isolated from their families, thanks in part to automation in oil field equipment that allowed for workers to spend more time away from the rig. Oil field workers were able to put down roots in communities, and had to find new outlets for the masculine adherence to an ethos of physical strength and machismo. Olien and Olien point to high school football as that outlet—where aggressive male power can still be celebrated.[108]

[108] Olien and Olien, *Life in the Oil Fields*, 8.

With the "civilizing" influence of family life, men gave up their wild, profligate boom town ways and settled into a more structured pattern of work. As Olien and Olien remarked in *Life in the Oil Fields*, "By the 1970s, life in the oil patch was more settled and less rugged than it once had been. The traditional oil field lifestyle was largely a thing of the past."[109] Automation created a work day with more regular hours—workers could monitor rigs from a distance rather than having to by physically present every minute. As transportation became faster and more reliable, commuting to oil fields, even across long distances, became more normal. Families no longer had to maintain two households, or there was an option for the family to remain in a larger city or town while the oil field breadwinner traveled to a field for several days at a time, coming home on his days off. This new way of working in the oil fields brought an end to the physical isolation and loneliness experienced by wives who followed their husbands from boom to boom. Women could maintain their familial relationships, or the friendships they had cultivated in their hometowns, rather than needing the companionship of other oil field wives. Families could once again put down roots in a community, rather than being forced to move every one to three years.[110] This model has persisted to today in many areas, with oil field workers working schedules that include one or two weeks of work in the field with several days off in between to spend time with family. As booms in the United States slowed down in the latter part of the twentieth century, the oil industry lost the need for the traditional, rowdy boom town of old.

Conclusion

In the light of new oil and gas booms, a new type of boom town has emerged—one that merges the transient oil field population with the stable inhabitants of an established city. Once

[109] Olien and Olien, *Life in the Oil Fields*, 239.
[110] Olien and Olien, *Life in the Oil Fields*, 8.

again, men were traveling to meet the demand for labor, and in some cases leaving their own families behind for extended periods of time. In describing the results of the shale booms prompted by George Mitchell's discoveries in the Barnett Shale near Fort Worth, Texas, Diana Davids Hinton hinted at problems arising with a new era of boom towns: "Shale booms are now underway in places that are unaccustomed to intense industry activity, and the residents of those places are not uniformly happy with the attendant change."[111] The sudden incursion of mostly male oil field workers creates an atmosphere at what has now been termed "toxic masculinity," with an increase in domestic violence, sexual harassment and assault, and fear of aggression perpetrated against the entrenched female population of the city. In 2013 the *New York Times* published an article entitled "An Oil Town Where Men are Many, and Women are Hounded," describing the conditions in this city that has grown as a result of the oil boom in the Bakken Shale formation.[112] The female residents of Williston related and increase in incidents of sexual harassment and assault directly related to the influx of oil field workers, predominantly men. Female, lifelong residents of Williston in their 20s and early 30s described feeling unsafe while shopping at local stores in the middle of the day, let alone when out in the evenings at bars. Christina Knapp, a local Williston woman, was out for a night with friends when the men at the table next to them offered them $3,000 to come back to their house, remove their clothing, and serve them beer in the nude. The women refused, and the men upped the offer, eventually reaching a proposal of $7,000. Knapp then replied, "'I said I make more money doing my job than degrading myself to do that.'" Men, both single men and married men away from their families, aggressively pursued these women with the end goal of sex, many times thinking that their new-found wealth from working in the oil fields should be enough incentive to draw any

[111] Diana Davids Hinton, "The Seventeen-Year Overnight Wonder: George Mitchell and Unlocking the Barnett Shale," *Journal of American History* 99, no. 1 (June 2012): 235.
[112] John Eligon, "An Oil Town Where Men Are Many, and Women Are Hounded," *New York Times*, January 15, 2013, www.nytimes.com/2013/01/16/us/16women.html; Jennifer Oldham, "North Dakota Oil Boom Brings Blight With Growth as Costs Soar," Bloomberg, January 24, 2012, www.bloomberg.com/news/articles/2012-01-25/north-dakota-oil-boom-brings-blight-with-growth-as-costs-soar.

woman into bed with them. In response to the forceful sexual overtures of the oil field workers, some women took measures for self-protection, including obtaining concealed carry licenses for firearms.[113]

There appears to be more interaction between invading oil field workers and the native city population in early twenty-first century boom towns. With advances in transportation, oil companies can use the existing infrastructure in nearby towns to house their workers, rather than creating new towns for their employees. In the past, oil field families noted that they felt ostracized when they lived in established towns. While oil field workers seem to be more integrated into the life of Williston, the addition of so many men changed the gender dynamics in the town, creating a problem of supply and demand such as existed in boom towns in the early twentieth century. The ratio of males to females in modern boom towns may be closer to equal than those of early boom towns, the ratio still approaches two males to one female in the example of Williston. To take advantage of this uneven proportion, prostitutes and strippers from other US cities, such as Las Vegas, emigrated to Williston to make their fortunes, just as the oil field workers came to make their fortunes.[114] Today's boom towns, just like the boom towns of the early oil industry, are places where men and women seek economic advancement, whether in the field itself or through providing services to single oil field workers or those who are separated from their families.

The stories written about present-day boom towns directly reflect the perspectives of women, whereas most of the boom town oral histories from the early twentieth century were given by men, so any discussion of women was second hand. If the same level of harassment or assault was happening in early-twentieth-century boom towns, it would be difficult to discern from the sources available. As a rule, the men of boom towns did not comment on their fellow oil

[113] Eligon, "An Oil Town Where Men are Many, and Women are Hounded."
[114] Eligon, "An Oil Town Where Men are Many, and Women are Hounded."

field workers who were violent toward women in the service industries that populated the boom towns. It would not be out of the realm of possibility to assume that, if violence against women was occurring in a boom town in 2013, the same violence was occurring in 1913, even if the limited sources do not reflect it.

To combat the unwelcomed and, at times, vicious advances from male oil field workers, women in both early and modern boom towns had to band together for support. Although it was still sex work, which increased women's vulnerability to attack, work in the confines of a brothel provided a measure of protection because of the group setting and the oversight of a madam who had a financial interest in the well-being of her workers. In twenty-first-century boom towns, women report that they rarely go out alone, even to local stores. They use the community of women around them for protection.

Women came to boom towns for two overarching reasons—to become a part of the oil field economy or to follow male family members who were working in the oil fields. Regardless of the reason for their presence around oil industry centers, when they arrived they created communities for mutual benefit and to combat the loneliness of leaving family and friends behind to pursue a largely mobile life. These communities, however, did not encompass all women in boom towns or oil field communities. Women gravitated toward others who were in like circumstances—wives of laboring husbands with other wives of laboring husbands, prostitutes with other prostitutes, families of men with professional jobs with others of similar socioeconomic station. These distinctions were, in some cases, because of social propriety, as in the cases of the ostracism of prostitutes that caused them to form their own community as opposed to joining in society with other boom town wives. Other stratifications occurred because oil field families were "transient" and the "other" in established towns, leading the residents of those towns not to trust them or want to create relationships with them. In response, the oil field families in those towns became their own insular community. And socioeconomic divides in

company towns created groups of "professional" families and "laboring" families, despite the opportunities available in a company town to bridge those gaps and create a larger community. In lonely situations with little opportunity to make lasting relationships, women managed to find friend groups of women, mostly bound together by their situation, to combat homesickness, violence, and monotony.

CHAPTER III

"SHE'S MY CHI UPSILON"[115]: THE CREATION OF A WOMEN'S GEOLOGY FRATERNITY

It's a long way up the hillsides,

It's a long way to go.

It's a great game to find an oil well,

The greatest game I know.

Chi Upsilon will be a guide girls,

To bring you to the fore;

It's a big thing to know geology,

But you ought to know more.[116]

In 1900 the University of Oklahoma (OU) established what quickly became a thriving geology department. In response to the booming oil industry in the state and the surrounding Mid-Continent region, the geology department focused much energy on the training of petroleum

[115] "Chi Upsilon," folder 8, box C-22, Chi Upsilon Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as Chi Upsilon Collection, WHC).

[116] "It's a Long Way Up the Hillsides," folder 8, box C-22, Chi Upsilon Collection, WHC. The women of Chi Upsilon geology fraternity wrote verse to express their affinity for their chosen field and the women in their circle. This poem indicates that the pursuit of geological knowledge and the discovery of oil are both admirable things, but there is more to life—such as the sisterhood of Chi Upsilon—than these material accomplishments.

geologists who would use science to find the 'black gold' hiding beneath the earth's surface. As more students filled the ranks of the new department, they created professional associations to further their academic and social pursuits within the discipline. On a geology field trip in 1903, students at the University of Oklahoma, including two women, created the Rock Club, an organization that eventually came to be known as the Pick and Hammer Club. This coeducational group was not limited to geology majors, but was open to all interested in geology—male and female, major and nonmajor.[117] As a sign of the growth of the department, in January of 1916 male geology students from the OU sent a petition to charter a chapter of Sigma Gamma Epsilon, a professional fraternity for geologists that had been founded at the University of Kansas the year before.[118] Despite the fact that members of Sigma Gamma Epsilon acknowledged "that there were several women geology majors at the University of Oklahoma," the fraternity was an exclusively male organization.[119] In response to their exclusion from this growing national fraternity, in 1920 OU's seven female undergraduate and graduate women geology majors decided they should take matters into their own hands and create something new—a geology fraternity exclusively for women. Thus, Chi Upsilon was born.[120]

Despite the dearth of women pursuing geology majors in colleges and universities across the country, the women who did venture into this male-dominated arena actively sought fellowship, recognition, and networking opportunities as a part of their peer group. Because they were denied entrance into the males-only professional fraternity Sigma Gamma Epsilon, one group of women at the University of Oklahoma carved out their own space to share their research, create a career networking system, and enjoy one another's company. Through this entity, Chi Upsilon, the women of the geology department at the University of Oklahoma

[117] George G. Huffman, *History of the School of Geology and Geophysics, the University of Oklahoma* (Norman, OK: Alumni Advisory Council of the School of Geology and Geophysics, 1990), 127–31.
[118] Patricia L. Daniel, "The History of Sigma Gamma Epsilon: The First Twenty-Five Years, 1915–1940," *The Compass: Earth Science Journal of Sigma Gamma Epsilon* 87, no. 2 (December 2015): 36, 40.
[119] Ibid., 41.
[120] Huffman, *History of the School of Geology and Geophysics* 127–31.

constructed a safe haven for themselves in a sometimes hostile, male-dominated university environment, and believed so much in the advantages of this organization that they worked to expand Chi Upsilon to other campuses.

Although Chi Upsilon did expand to four other university campuses, mostly through the efforts of the women in the chapter at the University of Oklahoma, this chapter focuses on the founding of the Alpha chapter at OU and the women who were members of Alpha. The documents left behind by OU's chapter of Chi Upsilon, which existed intermittently from its founding in 1920 until roughly 1960, reveal the activities of a group of women who not only used the organization as a supportive space within their field of study to share research findings and as a means for career networking post-graduation, but also as a social space to enjoy luncheons, teas, and other, more traditional, women's activities. Chi Upsilon was focused academically on geology, but the patterns of social and professional interaction among the women of the fraternity point to broader concepts of creating a female community in an environment dominated by men.

The women who formed Chi Upsilon followed the pattern set by collegiate women who came before them. As Diana Turk observed in her work *Bound by a Mighty Vow: Sisterhood and Women's Fraternities, 1870–1920* (2004), when women began forming the literary societies that would become the women's social fraternities of today, they were "making a place for themselves both academically and socially on campuses hostile to their presence . . . believing that collective rather than individual action would help them achieve that goal."[121] Although Turk's study focuses on nonprofessional women's fraternities and is set in an earlier time period, there are many parallels between the women who joined together to form Chi Upsilon in 1920 and the

[121] Diana Turk, *Bound by a Mighty Vow: Sisterhood and Women's Fraternities, 1870–1920* (New York and London: New York University Press, 2004), 3. Turk describes the difference between the term "fraternity" and the more common term "sorority" as used by the women's Greek letter organizations she studies, and for consistency I have chosen to use the word "fraternity," as that is how the women of Chi Upsilon referred to their organization at its inception. Turk studies women's fraternities that comprise the National Panhellenic Conference, a group of women's Greek letter organizations more social and philanthropic in nature than Chi Upsilon, which might be classified as a professional women's fraternity.

women who pledged loyalty to one another in the earliest women's Greek letter organizations of the 1870s and 1880s. The women of Chi Upsilon, like the women in Turk's study, "acted in response to opposition they faced from male students, faculty, and other critics of coeducation"—in the case of Chi Upsilon, opposition faced both within the department and in making Sigma Gamma Epsilon fraternity into a coeducational organization.

Since their creation on college campuses, fraternities and sororities have been viewed by their members as excellent avenues for networking, as well as ways to socialize among people with common values. In *The Sorority Handbook* (1907), Ida Shaw Martin details the early evolution of sororities, including both "literary" (what today would be regarded as social Greek letter sororities) and musical sororities, along with honorary Greek letter societies, such as Phi Beta Kappa. She remarks that "when opportunities for collegiate training became a possibility for women it was but natural, especially in the coeducational institutions, that college girls should be anxious to enjoy the manifest advantages that membership in these secret organizations secured."[122] The advantages to which Martin refers could mean different things to different organizations. For social women's fraternities it could be sisterhood with a certain group or class of women, or connections to marriageable men through activities with men's fraternities. For a professional women's fraternity like Chi Upsilon, though, it could be helpful feedback on research or a contact in the oil business. Barbara Miller Solomon describes women undergraduates as "indefatigable joiners," indicating that university women joined organizations they felt would make them well-rounded students, or, more broadly, well-rounded women.[123] Once given the opportunity to join an organization that might provide the advantages that either a social or professional women's fraternity might offer, university women would join almost out of

[122] Ida Shaw Martin, *The Sorority Handbook* (Boston: Ida Shaw Martin, 1907), 12, accessed on Internet Archive, https://archive.org/details/sororityhandbook00mart. Martin updated this work periodically as more sororities were created.
[123] Barbara Miller Solomon, *In the Company of Educated Women: A History of Women and Higher Education in America* (New Haven, CT, and London: Yale University Press, 1985), 97.

a sense of duty, both to herself and to the wider world she might be able to serve through that organization. Turk notes that, over the years leading to the twentieth century, women's fraternities changed from organizations that emphasized academic achievement to the more familiar picture of a women's fraternity today, more focused on social events.[124] The emphasis on social engagements, however, does not diminish the importance of the organization for forming connections between women that might be beneficial later in life. This was another aspect of traditional Greek affiliation that Chi Upsilon model—the use of ones sisters as connections for employment. Turk describes Greek sisters assisting one another in finding placement, as well as in pursuing nontraditional careers.[125] Both Martin and Turk argue that fraternities and sororities are useful tools for women as places for creating communities, and within these spaces women could further their academic pursuits while also expanding their social circles. Women who planned to pursue careers could then use that expanded social circle as a foundation for networking.

The women who founded Chi Upsilon Women's Geology Fraternity at the University of Oklahoma fit into a pattern of university women who created communities for themselves within hostile environments. In these communities, the women could grow both professionally and socially, making career connections and ties of sisterhood. The women of Chi Upsilon studied geology, but their story extends beyond the confines of the oil industry and can be an exemplar for the creation of communities of women within other male-dominated professions or spaces.

[124] Turk, *Bound by a Mighty Vow*, 43–44.
[125] Turk, *Bound by a Mighty Vow*, 152, 157.

The Foundation of Chi Upsilon

Chi Upsilon held its preliminary meeting on February 9, 1920. At that meeting, they considered "the advisability of organizing a National Geological Fraternity for Women in the University of Oklahoma."[126] Two days later, on February 11, the seven women—Fredreka Fitch, Vita Lee Waters, Jessy Kelsey, Dollie Radler, Mildred Bobeck, Dorine Guthrie, and Bess U. Mills—met to elect officers and create committees to write a constitution and decide on a name for the organization.[127] Their stated purpose was "to encourage scholarship and to bring the girls of the geology department in closer contact with other members and to create congenial friendships among those interested in geology." The general feeling among the women in the department was that they had to exceed the accomplishments of their male counterparts in order to be chosen for employment over a man.[128] These ladies found it particularly necessary to "stand together and get all they could from the courses and the laboratories." These women also encouraged promising young women who took lower level geology classes to consider majoring in the subject.[129] All of the original members of Chi Upsilon were white women.[130] As the women built their organization, their primary goal was the pursuit of academic enrichment, but they included social activities as well to help form friendships, or at least relationships that might benefit them later in their careers.

When the original seven members met to create Chi Upsilon, they formed committees to write a constitution, bylaws, and ritual for the organization. These were typical steps in legitimizing a sorority or fraternity and giving an organization a sound foundation for future

[126] Memo, February 9, 1920, folder 2, C-22, Chi Upsilon Collection, WHC.
[127] Minutes, February 11, 1920, folder 2, box C-22, Chi Upsilon Collection, WHC.
[128] Ibid.
[129] "Chi Upsilon Geology Fraternity," folder 6, box C-22, Chi Upsilon Collection, WHC.
[130] African American students were not admitted to the University of Oklahoma until 1948, when George McLaurin was admitted to the graduate program in education. Eric Lomazoff and Bailie Gregory, "Thurgood Marshall's 'Broom Closet': The Structure of Segregation in McLaurin v. Oklahoma State Regents," *The Chronicles of Oklahoma* 97, no. 1 (Spring 2019), 29–31.

growth. The constitution states that "Whereas, the relations and principles of College Women working in the geologic field will be strengthened and broadened CHI UPSILON FRATERNITY is hereby established under this constitution. (1920)."[131] From its beginning and in its founding document, this fraternity was meant to provide social and professional opportunities for its members.

Article V of the constitution describes two different categories of membership: pledges and honorary. Women could pledged at any time during the semester, as long as they had completed sixteen hours of geology coursework, attained a grade point average of B, had a major card in geology, and were in good standing (although the latter is not explained in the requirements). Honorary members, a category that included women such as Nina Gould and other wives of professors, required the consent of every member of the chapter. Honorary members were not allowed to vote in fraternity matters, but were duly initiated and paid fees, although their fees were half the cost of regular pledges.[132] At the outset, honorary membership was intended to be a mechanism through which the chapter could initiate faculty wives and other notable women who did not qualify for regular membership, but were involved in the OU geology department in some capacity. Since there were no female faculty members to serve as sponsors for the fraternity, Chi Upsilon turned to the spouses of their professors, the women within their orbit who were closest to the discipline. In 1937, Article V was amended to include a new category of membership: associate membership. Associate membership was for "girls who have an especial interest in Geology," had completed twelve hours of geology coursework as opposed to the sixteen for full membership, and whose majors were closely related to geology (such as zoology, botany, and geography). These women were allowed to participate fully at the local level by voting in fraternity elections and being eligible to hold chapter offices. The amendment describes

[131] Constitution of Chi Upsilon, folder 4, box C-22, Chi Upsilon Collection, WHC.
[132] Constitution of Chi Upsilon, folder 4, box C-22, Chi Upsilon Collection, WHC. Taking a major card in geology appears to be the equivalent of declaring a geology major in modern parlance.

the reason behind the creation of this membership status, stating, "Chi Upsilon is and should be a professional organization for women in Geology but this type of membership allows for an increase in chapters by the addition of some avocational rather than professional members."[133] The addition of associate membership was a potential solution to the problem of low membership numbers in the five chapters of Chi Upsilon. The ability to include women with an interest in geology without having to pass the more rigorous standards of regular membership opened the door to greater numbers of women to join the organization. The available records do not suggest that chapters needed to increase membership to maintain financial solvency; it is implied that chapters needed to recruit more members merely to maintain an adequate number of sisters to continue normal functioning. It is unclear whether or not this level of membership affected the survival of the chapters, but the decision-makers of the fraternity clearly saw a challenge and thought that creating a slightly more inclusive membership category would address that problem.

In similar manner to other social and professional fraternities and sororities, the founders of Chi Upsilon wrote an initiation ritual for the fraternity. Diana B. Turk describes the ritual for women's social fraternity Kappa Alpha Theta as "designed . . . to teach new sisters that fraternity membership entailed responsibilities as well as rights, and that it bore costs as well as benefits." The initiation service would "instruct their initiates on the basic tenets of fraternity life."[134] These ritual ceremonies were a means to convey the ideals of the organization in a reverent, awe-inspiring way that would impart gravitas to the club, making it more than just a loosely connected group of people. Rituals were meant to be kept secret, a privilege that only members would know or understand. These women were joined together by the common values set forth in the Chi Upsilon ritual.

[133] "Amendments ciruclarized [*sic*] to Chapters of Chi Upsilon (1937)," folder 4, box C-22, Chi Upsilon Collection, WHC.
[134] Turk, *Bound by a Might Vow*, 133.

In the following description of the Chi Upsilon ritual, the imprint of geological education is obvious, as is the idea of women as vessels to provide service to the world. As these early female geology students struggled to find a place for themselves in a male-dominated department, and prepared to fight for employment and respect in a male-dominated scientific field, it is important to examine the values that they deemed necessary to their academic and social pursuits. The ritual that these women wrote for their fraternity is a window into how the women of OU's geology department viewed their place in society. It is also a lens through which to see how they thought of their eventual contributions to their workplaces and the field of geology, and for some the oil and gas industry, in general.

In this initiation service, the new members would encounter five Goddesses: Goddess Truth, Goddess Sacrifice, Goddess Courage, Goddess Co-Operation, and Goddess Loyalty. These five Goddesses represented the five primary values of Chi Upsilon. Each initiate stood before the Goddesses and learned of the significance of each trait during the course of the initiation service, led to each by a member who was designated a Sergeant of the Inner Room. The Goddess Truth serves as the master of ceremonies, introducing the initiate to the other Goddesses in turn. First, the Goddess Sacrifice reminds the initiate that "sacrifice is the proof of an unselfish active life. . . . Do not work for mere Things—Things cannot be Great, but work for a Purpose—a Great Service to mankind."[135] While monetary gain and professional accolades might be a byproduct, the real goal of a Chi Upsilon woman's career in the field of geology was to serve humankind by providing something needed by all people. Whether that was knowledge of the natural world, natural resources to fuel industry and growth, or unselfish and unacknowledged labor in an office setting, that was free for interpretation by each individual member.

[135] Ritual for Chi Upsilon, 1, folder 8, box C-22, Chi Upsilon Collection, WHC.

Next, the initiate was directed to the Goddess Courage, who admonished the potential member that sacrifice required courage. The symbol of Chi Upsilon, the trilobite, was the embodiment of this courage.[136] Trilobites were three-segmented marine animals related distantly to the modern horseshoe crab that were ubiquitous in the Cambrian Period, about 542 million years ago, and became extinct in the Permian Period, approximately 252 million years ago.[137] The ritual likened the three-fold courage valued by the organization to the three segments of the trilobite: mental courage symbolized by the cephalon, "Courage of Heart for Cheerfulness at all times" represented by the thorax, and "Strength of Courage to do Right" as symbolized by the pegidium.[138] For women trying to make their way in a male-dominated field, courage would be a necessary trait. The "courage of heart" that manifested as cheerfulness fulfilled an expected role of women—to remain positive in the face of adversity. Women's courage should manifest itself as cheerfulness, not ambition. The third trait of courage, the courage to do right, was unique to women. Hearkening back to the idea of Republican Motherhood and the passing of virtue through the mother to her children, women were expected to be pure. It was thought that contact with the public sphere would taint the purity of women, thus they were limited to the hearth and home.[139] Most of the women pursuing geology degrees had some desire to work outside the home, so it was imperative that they maintain the strength to do what was right, even in the face of a corrupt outside world.

After learning the virtue of Courage, the initiate moved on to the Goddess Co-Operation, where she learned the value of being a coworker. As the Goddess stated, "As a Co-worker, there are several principles to be considered: Fair Dealing, Specific Service, Ideal Workmanship.

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[136] Ritual for Chi Upsilon, 1–2, folder 8, box C-22, Chi Upsilon Collection, WHC.
[137] Natalie Angier, "When Trilobites Ruled the World," *The New York Times*, March 3, 2014, www.nytimes.com/2014/03/04/science/when-trilobites-ruled-the-world.html; "Trilobite," Encyclopedia Britannica, www.britannica.com/animal/trilobite.
[138] Ritual for Chi Upsilon, 2, folder 8, box C-22, Chi Upsilon Collection, WHC.
[139] Linda K. Kerber, "Separate Spheres, Female Worlds, Woman's Place: The Rhetoric of Women's History," *Journal of American History* 75, no. 1 (June 1988): 28, 39; Alice Kessler-Harris, *Women Have Always Worked: A Historical Overview* (Old Westbury, NY: The Feminist Press, 1981).

Fashion your energies in conformity with the Ideal but not in dis-conformity with those of others." The Goddess continues by describing the significance of the pick and hammer that appear on the shield of the organization: the pick representing service to attain an ideal and the hammer symbolizing stability, securing, and fairness.[140] The ideal of cooperation could manifest itself in different ways in a woman's career—cooperation with other women for mutual advancement, or cooperation with male counterparts in the hope of earning a place at the table in a company. Cooperation and courage would have to work hand-in-hand, however, to ensure that a man would not get credit for a woman's work in the case of a collaborative effort in the workplace.

The Goddess Loyalty was the next to impart her wisdom on the initiate. The Goddess warned the initiate to maintain loyalty to the fraternity and keep secret its ritual.[141] Loyalty's only function is to bind the members to each other, reminding the initiate that the common ideals that have just been explained to her mark her as a member of Chi Upsilon and grant her the privilege of sisterhood with like-minded women to whom she owes loyalty. Presumably, that loyalty would pay off through the opportunities afforded by association with the fraternity. Career networking opportunities, the ability to share research, speakers brought to meetings for the edification of the membership, and even social events could be counted as benefits of maintaining the loyalty of sisterhood in Chi Upsilon.

After each station, the Goddess Truth asks the initiate if she is willing to abide by the ideals outlined by the Goddess who just spoke. At the end of the ceremony, Truth gives a speech to the initiate that likens the process of education and growth to evolution: "the struggle for supremacy, the survival of the fittest and the downfall of those not able to adapt themselves to the continual change, a readjustment to meet new conditions imposed upon them. . . . So we, as

[140] Ritual for Chi Upsilon, 2, folder 8, box C-22, Chi Upsilon Collection, WHC.
[141] Ritual for Chi Upsilon, 3, folder 8, box C-22, Chi Upsilon Collection, WHC.

Sisters of Chi Upsilon must grow by a process of evolution not as individuals but as units of a system, always co-operating and holding a steady, true light to the World."[142] This section of the text of the initiation ritual makes distinct references to geological terms and phenomena that would have significance to the women of Chi Upsilon. The language might have been flowery and meant to evoke an emotional response, but there was an element of the academic world in the ritual as well. These women were committing themselves not only to each other, but to the geological profession itself. The language of struggle and evolution would have been particularly evocative to these women who were working twice as hard as their male counterparts for recognition in a male-dominated field. For female members of geology departments, particularly members of Chi Upsilon, survival of the fittest meant working together with other women to help one another achieve what their male classmates could expect to receive without the same amount of toil: assistantships, internships, and careers in the discipline.

Once the initiate affirms that she is willing to assume the responsibilities and obligations set forth in the initiation ritual, she is requiredto take an oath of loyalty to these ideals—the ideals of Chi Upsilon—and is "permitted to wear the badge and enjoy the privileges of the Fraternity." She is then pinned by a member of the fraternity.[143] After this, the initiate is a member of Chi Upsilon. The five ideals in the ritual—truth, sacrifice, courage, cooperation, and loyalty—were characteristics that would serve well as they ventured out into the field of geology, whether it was in the oil and gas industry or other branches of the profession. Most importantly, the connection to other professional women gained through membership in Chi Upsilon and the sharing of these ideals, fostered by the ritual, helped women gain employment opportunities through networking with their sisters in the organization. The ritual of Chi Upsilon is public because the organization no longer exists and the members saved a copy of the service so that future generations would

[142] Ritual for Chi Upsilon, 3, folder 8, box C-22, Chi Upsilon Collection, WHC.
[143] Ritual for Chi Upsilon, 3, folder 8, box C-22, Chi Upsilon Collection, WHC.

know the words that bound the members together. While it may seem trite, ritual services such as the one created by Chi Upsilon's founders served as a glue between the women of Alpha Chapter at the University of Oklahoma as well as the women at the other four chapters that they founded across the United States. The ritual explicitly stated the shared values of the women of Chi Upsilon, and each member affirmed her agreement with the ideals stated in the service upon taking the oath of membership. These vows helped to reinforce the community of Chi Upsilon, and were a universal bond between members at various chapters.

After Alpha Chapter was established, they sought mentorship from nearby women. Since there were no women in the geological field in close proximity to the university, the women of Chi Upsilon invited faculty wives to join the chapter as honorary members to serve in advisory roles. They began with Nina S. Gould, the wife of the man who had created the School of Geology at the University of Oklahoma, Charles N. Gould. Nina Gould was knowledgeable in the field and assisted her husband in his independent business, but she herself was not a geologist.[144] This assistance to her husband served as an extension of the household economies of earlier generations—when men ran businesses from their homes and, because of that, the entire family was involved in that economic venture. In the preindustrial domestic economy, men and women worked side-by-side in the home, but on different tasks. As men moved into work outside the home and women remained in the home, women's domestic work, including their contributions to their husbands' careers, ceased to be recognized as work when compared to the wage-earning work of men.[145] While women were not the public faces of these ventures and did not have a role in the public sphere, their contributions to their husbands' careers were invaluable to the success of the business. Rather than paying an employee to do administrative work, or, in some cases, more specialized work, husbands relied on wives to perform these tasks. As a wife who was

[144] Charles N. Gould, *Covered Wagon Geologist* (Norman: University of Oklahoma Press, 1959).
[145] Kessler-Harris, *Women Have Always Worked*.

intimately involved in her husband's business, and in the absence of female faculty members with geological experience, Nina Gould would have imparted valuable insight to the women of Chi Upsilon. On April 2, 1921, the corresponding secretary of Alpha Chapter sent a letter to Mrs. Gould inviting her to join Chi Upsilon, describing the organization as "a Fraternity whose business it is to keep you in touch with the work of other women in the country (there are numbers of them), and thereby will broaden your field."[146] Mrs. Gould accepted the invitation and was initiated with the second group of initiates on Tuesday, April 26, 1921, at the Geology Building on the university campus. She was charged a $7.50 initiation fee, which was one-half the fee of a regular member.[147]

Not only did the women of Alpha Chapter seek out mentorship from local women, but they also sought support and membership from at least one high-profile woman in the field. Later in 1921, the women of Alpha Chapter sent a letter inviting Lou Henry Hoover to join as an honorary member.[148] At the time the women solicited her membership, Mrs. Hoover's husband, Herbert, was the US secretary of commerce. While the women of Chi Upsilon did not explicitly state their reasons for sending the letter to Mrs. Hoover, it would have been invaluable publicity to a burgeoning organization to have such a noteworthy member. Mrs. Hoover attended Stanford University and pursued a degree in geology, and was serving as the chair of the membership committee for the Woman's Auxiliary to the American Institute of Mining and Metallurgical Engineers.[149] The newly minted women's geology fraternity sent Mrs. Hoover a letter inviting her

[146] Chi Upsilon corresponding secretary to Nina S. Gould, April 2, 1921, folder 1, box C-22, Chi Upsilon Collection, WHC.
[147] Chi Upsilon corresponding secretary to Nina S. Gould, April 16, 1921, folder 1, box C-22, Chi Upsilon Collection, WHC.
[148] Chi Upsilon President to Mrs. Herbert Hoover, May 16, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC. The letter includes a list of members at the time the letter was sent: Mrs. Charles E. Decker,; Mrs. Frank A. Edson, B.A., M.A.; Mrs. Charles N. Gould; Mrs. Vita Lee Chase; Miss Juanita Ramsey; Miss Bess U. Mills, B.S.; Miss Dollie Radler, B.A., M.S.; Miss Lucile K. Carson, B.F.A., B.A.; Miss Jessy Kelsey, B.A.; Miss Frederika Fitch, B.A.; Miss Helen Personette [*sic*], senior; Miss Mildred Bobeck, senior; and Miss Dorine Guthrie, senior.
[149] "First Lady Lou Henry Hoover," Herbert Hoover Presidential Library and Museum, accessed July 24, 2018, https://hoover.archives.gov/hoovers/first-lady-lou-henry-hoover; Invitation card to join the Woman's Auxiliary to the American Institute of Mining and Metallurgical Engineers, file 2, box C-22, Chi Upsilon Collection, WHC.

to join, perhaps hoping that a high-profile member would increase the visibility of the organization and help increase the number of chapters and the number of members. Mrs. Hoover was another example of a woman who was trained in the same field as her husband, only to have her career subsumed by his. No records in the file indicate that she joined, or details her response, but the women of Chi Upsilon possessed lofty ambitions for their organization, and reached for the stars when recruiting members in the early days of the fraternity.

University women of 1920 would have modeled themselves after the Progressive Era ideals of the Gibson Girl and the New Woman. These somewhat contradictory icons were both middle class, but while the New Woman was progressive and subversive of traditional gender roles (particularly in regard to the pursuit of women's suffrage and working outside the home), the Gibson Girl was described as more playful and frivolous.[150] The women of Chi Upsilon embraced both of these aspects of university life—they not only pursued education in a male-dominated field and met together for supplemental learning opportunities, but also held teas, parties, and events to celebrate milestones in each others' lives. The fraternity itself functioned as a hybrid of a professional organization and a social sorority. One day the women of the group might organize a guest speaker on geological topics, and on another occasion a bridal showers for its members. Even in its earliest days, the women took up the social obligations of the day for the members of the organization. Members of the fraternity planned a pottery shower for Juanita Ramsey to celebrate her impending marriage on November 31, 1921.[151] The faculty wives who served as honorary members invited the fraternity members to their homes for tea and other social engagements. Because Chi Upsilon never limited itself to solely professional activities, the women were able to create a more personal community for themselves, in which they shared in

[150] Lynn D. Gordon, "The Gibson Girl Goes to College: Popular Culture and Women's Higher Education in the Progressive Era, 1890–1920," *American Quarterly* 39, no. 2 (Summer 1987): 211–13, 226.
[151] Chi Upsilon corresponding secretary to Nina S. Gould, November 17, 1921, folder 1, C-22, Chi Upsilon Collection, WHC.

the events of young adulthood. The social events could be construed as a type of networking—building relationships between these women so that, in the future, they might use their friendships to leverage jobs or career advancement.

Expanding Chi Upsilon

Chi Upsilon moved beyond their local chapter, spending a great deal of energy trying to extend the organization to campuses across the country. In spring of 1921, Chi Upsilon at the University of Oklahoma began an aggressive expansion campaign by sending letters to geology departments across the United States inquiring as to their interest in creating a chapter of the women's organization at their institutions. Reactions to the inquiry letters ranged from interested to hostile. One of the first responses received came from the Missouri School of Mines in Rolla, Missouri. Professor Garrett A. Muilenburg wrote back to Chi Upsilon Secretary Helen Personett, regretting that a chapter could not be formed on his campus because the university was not coeducational. Despite that, Dr. Muilenburg was supportive of the idea of Chi Upsilon, stating, "I have known several young women who took up geology and I wish to encourage it in every way. The idea of an organization is a splendid one and if it works out as intended it will serve to unite the ladies in their work and thereby help us all."[152] The responses from the geology departments at the University of New Mexico in Albuquerque and the University of Kansas in Lawrence were similar, citing a lack of female students but wishing the endeavor success.[153] Gilbert H. Cady, head of the Geology Department at the University of Arkansas in Fayetteville, responded that he was "heartily in favor of such an organization, assuming of course that it is properly organized and conducted to encourage the members in their work and democratic in its ideals." The women

[152] Garrett A. Muilenburg to Helen Personett, April 4, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[153] R. W. Ellis to Helen Personett, April 7, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC; R. C. Moore to Helen Personett, April 15, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.

of the OU Geology Department formed Chi Upsilon less than two years after the end of World War I and in the midst of the first Red Scare, leading Professor Cady to emphasize the need for "democratic ideals" in the organization. Institutions were anxious to avoid the stain of Communism. He expressed his desire that the department should include a sufficient number of women to organize a chapter in the coming years.[154]

Some geology departments, however, were not open to the idea of this kind of organization for their students, and it appears that the attitude of the department chair may have been the deciding factor in whether or not a chapter of Chi Upsilon would be welcomed on a university campus. Although some responses cite a general lack of such organizations on the campus as a whole, the vitriol expressed in some of the letters can be attributed to the strong, negative opinion of the writer, whether it be toward a geology fraternity for women in particular, or such organizations in general. E. B. Branson from the Department of Geology at the University of Missouri in Columbia, Missouri, made it abundantly clear in his response to the expansion letter that his department not only did not have enough female students to constitute a chapter, but also would not welcome a chapter of any geology fraternity.[155] R. D. George, chair of the University of Colorado Geology Department and the Colorado Geological Survey, had an unfavorable view of "fraternities and sororities for individual sciences in the Universities and colleges." The department at Colorado did not have enough women who had "made any practical use of the science except in teaching or in secretarial work," also describing the women in the Geology department as "without any thought of . . . professional use of the science," giving Professor George more reason to reject the idea of Chi Upsilon at the school.[156] Without asking any of the women in the department, the chair of the University of Colorado Geology Department decided that the women who studied in his department were not interested enough in the

[154] Gilbert H. Cady to Helen Personett, June 9, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[155] E. B. Branson to Helen Personett, April 8, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[156] R. D. George to Helen Personett, April 29, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.

discipline to warrant an organization devote to their professional development. The women who studied geology at his school and actually used the knowledge of the science merely became teachers and secretaries, not practicing geologists in the field. Of course, these may have been the only careers open to the female graduates of the University of Colorado Geology Department at the time in which they could use their geological training at all. Some of the women might have become secretaries in oil company offices, and their knowledge of geology could be a valuable asset. Or they may have become integral parts of a home economy by helping a geologist husband with map making or other tasks. As a female gendered profession, teaching was an acceptable way women could use and impart their knowledge of geology. Professor George's assumption that the career paths of the female graduates of his department meant that they were not worthy of an organization dedicated to the dissemination of geological knowledge and fellowship among female geologists displays his bias against women being involved in the profession. Had he given the green light to a chapter of Chi Upsilon, some of his female graduates might have made connections with graduates from other universities, subsequently finding employment within the discipline, not merely on its fringes.

Despite the pushback, the women of the OU chapter of Chi Upsilon still saw merit in the idea of expanding their fraternity to the geology departments of other colleges and universities to give those women the same opportunity to create a community that they had found for themselves. Because of their persistence, chapters of Chi Upsilon did organize at four other campuses across the country. The first of these chapters was at the University of Texas in Austin. In a letter from Chi Upsilon Corresponding Secretary Helen Personett to Professor H. P. Bybee at the University of Texas, Chi Upsilon is described as in the "business to keep the women in touch with other women in the country who are in the same kind of work (there are several of them) and to aid them in their work by broadening their field." Personett extolled the benefits of membership in the organization, relating that within the span of one year, "two of the women

have gone into the field of geology, several of us are employed by the State Geological Survey and the Department of Geology in the University."[157] Bybee's response was positive, writing that he agreed that it was "a very good thing for the women engaged in geological work to have such an organization." Because he had some previous knowledge of Chi Upsilon's existence at the University of Oklahoma, he took the time to survey the female students in the department to determine their level of interest in Chi Upsilon. He determined that they favored the idea of such a group "quite a little."[158] Although he was concerned that the number of women in the University of Texas Geology Department was insufficient to constitute a chapter, Personett reassured him that they only needed four women to make a viable chapter.[159] By the following fall, a chapter was organized at Austin. The University of Oklahoma Chi Upsilon Chapter voted to accept the membership petition of the Beta Chapter from the University of Texas on November 19, 1921.[160] The women installed the new chapter in January of 1922, presumably at the beginning of the spring semester.[161] Much like the initial creation of the organization at the University of Oklahoma, it made a great deal of sense for a chapter to exist at the University of Texas. The thriving oil and gas industry in the region made geology a popular major, and with women entering the department in numbers favorable to the establishment of a single-sex fraternity for them, it followed that women appreciated the opportunity for academic growth and social networking would be appreciated by those women, and the department administration encouraged it.

It appears that the women of Chi Upsilon were not satisfied with their initial expansion efforts, so another expansion campaign began in 1927, and with the goal of adding more chapters in the geology departments of other colleges and universities. The letters originated from Chi

[157] Helen Personett to H. P. Bybee, April 2[unreadable], 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[158] H. P. Bybee to Helen Personett, April 25, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[159] Ibid.; Helen Personett to H. P. Bybee, May 18, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[160] Minutes, November 19, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[161] "Chi Upsilon Geology Fraternity," folder 6, box C-22, Chi Upsilon Collection, WHC.

Upsilon member Alta Fairrell, with an Austin, Texas, address. Letters were sent to many of the same colleges and universities that were solicited in the 1921 expansion campaign. Based on the responses, it seems that the professors interpreted the inquiry to be in regard to women majoring in geology who might be candidates for membership individually as well as the ability of the departments to support the creation of a chapter. Representatives from the University of New Mexico, the University of Montana, the University of Utah, the University of Colorado, the Johns Hopkins University, the University of Minnesota, and the University of Washington at Seattle sent letters recommending individual women to contact for membership, but stating that their departments had too few women to sustain a full chapter of Chi Upsilon.[162] Frederick Ehrenfeld of the University of Pennsylvania Geology Department sent a terse reply indicating that not only did the department not include enough women to comprise a chapter, but also the department was not in the habit of sharing student information in response to solicitation through the mail. In addition to those refusals, he was against the formation of honorary organizations in the department. He politely but firmly stated, "I think it is better not to make any further moves in that direction."[163] During the 1927 expansion effort, Chi Upsilon made another attempt at starting a chapter at the University of Colorado. R. D. George once again replied to a letter from Alpha Chapter. This time Professor George was more gracious in his response, writing about two women who were outstanding geology majors. He did not indicate, however, that he was any more amenable to the idea of a chapter of Chi Upsilon on campus.[164] One of the most intriguing responses came from Lilian Dumble of Texas Christian University. In her letter to Fairrell,

[162] R. W. Ellis to Alta Fairrell, November 26, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC; J. P. Rowe to Alta Fairrell, November 30, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC; Frederick J. Pack to Alta Fairrell, December 5, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC; R. D. George to Alta Fairrell, December 9, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC; Edward B. Mathews to Alta Fairrell, November 28, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC; Mary A. Van Cleve to Alta Fairrell, November 25, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC; Mary Berdue to Alta Fairrell, November 29, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC. Ms. Fairrell's name is sometimes spelled with one "l" at the end. I have chosen to use the spelling with two.
[163] Frederick Ehrenfeld to Alta Fairrell, November 25, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC.
[164] R. D. George to Alta Fairrel, December 9, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC.

Dumble describes an egalitarian department, where "the men and women . . . are on the same plane, belonging to an undergraduate society, The Pick and Hammer Club, No. 8."[165]

One result of the 1927 expansion campaign was the formation of Gamma Chapter of Chi Upsilon at the University of Michigan in January 1928. Because the structure of the chapter meant that faculty wives were excluded from active membership and maintained the role of "patron," the chapter was inactive by 1939.[166] Delta Chapter of Chi Upsilon was installed with five charter members at Cornell University on August 12, 1928, by a member from Beta Chapter at the University of Texas.[167] According to a letter written in 1938, the female faculty members at Cornell were initiated as members of the organization and provided continuity, ensuring "that it is carried on."[168] Epsilon Chapter of Chi Upsilon was installed in early June 1931 at George Washington University in Washington, DC, with four members to start and several more women ready to be initiated in the fall.[169] By 1939 it was reported that the women of the chapter were very active socially and gained employment in the nearby federal offices of the United States Geological Survey or other government bureaus.[170] With the addition of these three chapters, Chi Upsilon had a presence in the eastern United States. Each chapter formed at a school with a significant geology department catering to different needs. While the OU and University of Texas chapters were housed in geology departments that emphasized petroleum geology, Epsilon Chapter at George Washington University focused on government service. While the geographical locations of the chapters had an impact on the academic pursuits of the members,

[165] Lilian Dumble to Alta Fairrell, November 28, 1927, folder 2, box C-22, Chi Upsilon Collection, WHC.
[166] Unknown to Mary Jo Bledsoe, November 14, 1939, folder 2, box C-22, Chi Upsilon Collection, WHC.
[167] Bess Mills Bullard to Mildred Kelly, February 10, 1929, folder 2, box C-22, Chi Upsilon Collection, WHC; "Chi Upsilon Geology Fraternity," folder 6, box C-22, Chi Upsilon Collection, WHC.
[168] Unknown to Mary Jo Bledsoe, November 14, 1938, folder 2, box C-22, Chi Upsilon Collection, WHC.
[169] Grand President Bess Mills Bullard to Blanche Davis Ratliff, May 27, 1931, box 1, C-22, Chi Upsilon Collection, WHC. It is also reported that Epsilon Chapter began with nine members; "Chi Upsilon Geology Fraternity," folder 6, box C-22, Chi Upsilon Collection WHC.
[170] Unknown to Mary Jo Bledsoe, November 14, 1938, folder 2, box C-22, Chi Upsilon Collection, WHC.

the fundamental values espoused in the Chi Upsilon ritual united all women pursuing a degree and career in geology, regardless of their area of concentration.

A few universities showed interest in the idea of forming a chapter of Chi Upsilon but never succeeded in creating one. In April of 1935 the Geology Club of Hunter College in New York, New York, expressed an interest in forming a chapter of Chi Upsilon. A representative of the women in the department sent a letter to Grand President Bess Mills Bullard stating that they had been given information about Chi Upsilon from a University of Oklahoma graduate and had many students interested in forming a chapter.[171] Hunter College, a women's college that did not begin admitting a limited number of men until 1946, would have been an excellent fit for a chapter of Chi Upsilon, but a chapter of the organization never materialized at the institution.[172] By 1938 attitudes toward fraternities and sororities for professional departments at the University of Colorado seemed to have thawed from their previously icy disdain, and information was sent to Miss Mary Jo Bledsoe concerning a petition to form a chapter of Chi Upsilon.[173] Bledsoe contacted Chi Upsilon Grand President Bess Mills Bullard to obtain information on starting a chapter of Chi Upsilon at Boulder. According to Bledsoe, "Mr. C. B. Carpenter, of Golden and secretary of Sigma Gamma Epsilon, referred me to you. He told me that the name of one of the fraternities for women was Chi Upsilon."[174] Carpenter likely put Bledsoe in contact with Bullard through his ties to Bullard's husband, Fred, who spent many years as a national officer in Sigma Gamma Epsilon, the male-only geology fraternity. The National Council of Chi Upsilon was "delighted with the prospects of having The University of Colorado as one of [its] Chapters."[175] A follow-up letter dated April 14, 1939, indicates that the National Council was waiting for a

[171] Wilma Junger to Bess Mills Bullard, April 7, 1935, folder 2, box C-22, Chi Upsilon Collection, WHC.
[172] Christopher Gray, "The Vestige of What Might Have Been," *New York Times*, April 20, 2008, www.nytimes.com/2008/04/20/realestate/20scap.html?_r=0.
[173] Unknown to Mary Jo Bledsoe, November 14, 1938, folder 2, box C-22, Chi Upsilon Collection, WHC.
[174] Mary Jo Bledsoe to Mrs. Fred M. Bullard (Bess Mills Bullard), November 1, 1938, folder 2, box C-22, Chi Upsilon Collection, WHC.
[175] Unknown to Mary Jo Bledsoe, March 15, 1939, folder 2, box C-22, Chi Upsilon Collection, WHC.

petition from the women at the University of Colorado, reminding them that they would be "more than welcomed."[176] Despite any information Bledsoe may have received, the women of the Geology Department at the University of Colorado decided to create their own organization with its own requirements rather than becoming a part of the five-chapter national Chi Upsilon fraternity. Why this decision was made is not known, but regardless of the decision, a new club to provide opportunities for women geologist was formed at a major public university. By March 1948 the Alpha Eta Chapter of Sigma Gamma Epsilon at the University of Colorado mentions the creation of an honorary geological organization for women majors called Sigma Sigma Sigma, noting that "apparently these women did not know about Chi Upsilon."[177]

Why would a small group of women at the University of Oklahoma expend so much time and energy sending letters to all colleges and universities with thriving geology departments to plant their fraternity on other campuses? While no source directly states the intention of the fraternity members, Chi Upsilon's expansion to the University of Texas, University of Michigan, Cornell University, and George Washington University, and the numerous letters sent to geology departments that were not fruitful, would appear to be a testament to the belief held by the members of the Alpha Chapter at the University of Oklahoma that this fraternity could benefit all women pursuing a degree and career in geology. If they did not believe that Chi Upsilon could benefit women like them in other parts of the United States, there would be no reason to expend the effort to attempt expansion. Chi Upsilon may have been driven by the example of its male counterpart, Sigma Gamma Epsilon, which began expansion after its founding in 1915 and eventually numbered two hundred chapters.[178] If men could have a single-sex organization that provided academic enrichment and career networking within the university geology department,

[176] Unknown to Joanne Blackmer, April 14, 1939, folder 2, box C-22, Chi Upsilon Collection, WHC.
[177] Patricia L. Daniel, "History of Sigma Gamma Epsilon Honorary Society for Earth Scientists: The Second Twenty-Five Years, 1941–1965," *The Compass: Earth Science Journal of Sigma Gamma Epsilon* 87, no. 2 (December 2015): 78.
[178] "About Us," The Society of Sigma Gamma Epsilon, accessed August 2, 2020, www.sigmagammaepsilon.com/index_files/Page375.htm.

women should have one also. Perhaps these women wanted all women in geology departments experiencing alienation, discrimination, or lack of opportunity in their academic careers to have the same refuge that they had created for themselves. While Chi Upsilon chapters did not appear at very many schools, the schools that did welcome the fraternity were diverse both in structure—three public universities and two private universities, including one Ivy League school—and geographic location. Once a department chair was willing to welcome a chapter of Chi Upsilon, the camaraderie and academic opportunities of the fraternity were appealing regardless of university, geology department, location or size.

Maintaining a Chapter

The women who founded Chi Upsilon enthusiastically sought to expand the organization beyond the confines of the University of Oklahoma's Alpha Chapter, but that did not prohibit the founding chapter from problems in finding members. The membership pool for Chi Upsilon was dependent on the number of women geology majors, and as that number varied over time, so did the existence of the chapter at OU. Despite a strong beginning in 1920 and an aggressive expansion campaign in its earliest years, Alpha Chapter of Chi Upsilon had already closed in 1923 due to low female enrollment in the geology department at OU. In her article on women's higher education in the Progressive Era, Lynn D. Gordon describes a backlash against women in higher education following the relative freedom of the first two decades of the twentieth century. The white, middle-class women who attended universities were warned in magazines about placing too much emphasis on their careers to the detriment of their home lives. According to the popular literature of the day, only a successful home life could truly make a woman happy.[179] Magazine articles touting the bliss of domesticity might have discouraged college women from

[179] Gordon, "The Gibson Girl Goes to College," 225.

pursuing degrees in scientific fields such as geology, which would more likely be useful to those who pursued careers outside the home.

Four years later the department once again had enough interested women to restart the chapter, so a group of women petitioned for reinstallation on March 24, 1927.[180] They sent their appeal to Bess Mills Bullard, one of the founders of the fraternity who had since married and moved to Ann Arbor, Michigan. Mrs. Bullard maintained an interest in Chi Upsilon after her undergraduate days, eventually becoming a prominent grand president of the national organization. Her husband, Fred Bullard, was a professor at the University of Texas and held several offices with Sigma Gamma Epsilon, the men's geology fraternity.[181] The connections between these two organizations will be examined later in this chapter, but it is notable that a wife and husband held positions of power in these national organizations during a period when the men's fraternity was discussing extending membership to women. Although Mr. Bullard's views on the matter are not known, his wife's position as president of the female counterpart to his organization may have influenced his opinion on the matter of allowing women into Sigma Gamma Epsilon. It is possible that her leadership of Chi Upsilon made him see women as fully capable to be members of his organization, or it may have reminded him that women had a viable alternative organization and had no need of admission to Sigma Gamma Epsilon. As for Chi Upsilon in 1927, there were seven women in the geology department who wished to revive the fraternity at the University of Oklahoma with the help of two honorary members, faculty wives Mrs. Decker and Mrs. Gould.[182]

[180] Grand President Bess Mills Bullard to Mildred Kelly, March 27, 1930, folder 1, box C-22, Chi Upsilon Collection, WHC.
[181] Ibid.
[182] Ellen Posey to Bess Mills Bullard, March 14, 1927, folder 1, box C-22, Chi Upsilon Collection, WHC. Bess Mills Bullard is not listed as "grand president" in this letter, but she spent many years as the grand president of Chi Upsilon National Fraternity.

Alpha Chapter had a membership crisis again in 1930 when the two women graduated, two women completed their master's degrees, and Ellen Posey took a position with Empire Oil Company in Bartlesville. The dire situation necessitated an urgent letter from Mildred Kelly to Grand President Bess Mills Bullard requesting the immediate initiation of Lois Johnston, a woman who missed the membership requirements by one credit hour.[183] In her response, Mrs. Bullard related that Beta Chapter at the University of Texas was having similar problems with membership and likely would have to drop its chapter unless a solution could be found. The grand president approved the request to initiate Johnston. In the course of the correspondence between Kelly and Mrs. Bullard, the initiation of two more faculty wives as honorary members, Mrs. Monnett and Mrs. Merritt, was also encouraged.[184]

It seems that this emergency solution may not have saved Alpha Chapter, as a letter of December 28, 1931, reveals that the chapter had been reorganized at a meeting on November 11 of that year. The members who reorganized the group were inquiring about basic fraternity information, including membership lists, certificates for initiation, and minutes of the original fraternity meetings.[185] There again was a membership crisis in April of 1934 when Virginia Butcher contacted Mrs. Bullard to express her concern over the loss of member Helen Bird to employment at Humble Oil Company, leaving Butcher as the only active member with two potential pledges.[186] Rather than being disappointed in the falling membership, Mrs. Bullard was pleased to hear that the chapter would be continuing in any form, supported honorary member Mrs. Decker.[187] Fewer women enrolled in college in the 1930s, as the Great Depression took hold and jobs after graduation became more difficult to find.[188] Only families who were protected from

[183] Mildred Kelly to Bess Mills Bullard, March 17, 1930, folder 1, box C-22, Chi Upsilon Collection, WHC.
[184] Grand President Bess Mills Bullard to Mildred Kelly, March 27, 1930, box 1, C-22, Chi Upsilon Collection, WHC.
[185] Virginia Butcher to Bess Mills Bullard, December 28, 1931, folder 1, box C-22, Chi Upsilon Collection, WHC.
[186] Virginia Butcher to Bess Mills Bullard, April 12, 1934, folder 1, box C-22, Chi Upsilon Collection, WHC.
[187] Bess Mills Bullard to Virginia Butcher, April 18, 1934, folder 1, box C-22, Chi Upsilon Collection, WHC.
[188] Claudia Goldin, Lawrence F. Katz, and Ilyana Kuziemko, "The Homecoming of American College Women: The Reversal of the College Gender Gap," *Journal of Economic Perspectives* 20, no. 4 (Fall 2006): 133–37.

the economic blight of the Dust Bowl and Great Depression had the means to send their daughters to colleges and universities during the 1930s. Adding extra expenses—such as membership in a fraternity, no matter how beneficial it might be to the woman's academic pursuits—was likely a luxury that most students could ill afford.

By the 1943–44 school year, Alpha Chapter President Eloise Tittle reported to Grand President Margaret Primm that the chapter would include five members, plus one or two potential members.[189] Despite the war causing drops in enrollment, particularly for men, Chi Upsilon was maintaining an active membership. This could perhaps be attributed to the opportunities afforded women because men were away at war. With fewer men enrolled in the geology department, more women could take advantage of smaller classes and less pressure of comparison with male cohorts. Since OU was not integrated until US Supreme Court actions in the late 1940s and 1950s, Chi Upsilon's membership was still composed of only white women. As men came home from World War II, many enrolled in college using the GI Bill to provide funding. In 1947, undergraduate college enrollment reached its highest level of gender imbalance, with a ratio of 2.3 men to every 1 woman. While the gender imbalance began to slowly correct itself, it was not until 1980 that the gap disappeared.[190] With fewer women in the geology department, it was not always possible for Chi Upsilon to remain active.

The interruptions in active membership led to gaps in knowledge of the way in which the organization had been run in the past. Without institutional memory, the women who restarted the organization had to rely on extant meeting minutes or outside sources for the history of their own chapter. Their most stalwart supporter was Bess Mills Bullard, who continued to answer questions throughout her tenure as grand president and beyond. Each time Alpha Chapter of Chi Upsilon reinvented itself, it likely was different than its previous incarnation. Would these

[189] Eloise Tittle to Margaret J. Primm, July 16, 1943, folder 1, box C-22, Chi Upsilon Collection, WHC.
[190] Goldin, Katz, and Kuziemko, "The Homecoming of American College Women," 133–37.

changes cause the focus of the fraternity to be more professional or more social? Over time, it seems that the scrapbooks indicated more social activities and less of an emphasis on academic pursuits. This was a cycle that plagued the fraternity throughout its existence, a problem easily attributed to the dearth of women majoring in geology at any one time. It also reflected the societal norms of the late 1940s and 1950s, with the emphasis on the nuclear family consisting of the breadwinning father, the homemaking mother, and two children at home. In this model, women participated in social activities like teas, bridal or baby showers, and galas, but did not attend lectures or more educational events. Because the membership requirements were so rigorous, not just any woman who took a course in geology could join. The effort to maintain stringent membership requirements to ensure that the organization catered to those women who were focused on obtaining degrees and employment in geology, including petroleum geology, severely constrained the number of potential members and left the group open to lulls in activity.

One way Chi Upsilon chapters maintained some institutional memory was through national newsletters. In June of 1941 the national fraternity published its first newsletter that included information from four of the five chapters across the country. At this time, the national officers were headquartered at Epsilon Chapter at George Washington University in Washington, DC. Prior to this, Bess Mills Bullard, a graduate of the University of Oklahoma's Alpha Chapter who had then moved to the University of Texas with her husband, had been grand president of the organization, with her tenure beginning in 1924. The newsletter includes updates about membership from each chapter, with brief biographical sketches of the members of Alpha Chapter, a list of members of Beta Chapter, a slowdown in membership at Delta Chapter due to a lack of women geology majors and a concern about finances for the women who were eligible for membership, and a long report from Epsilon Chapter including a list of activities and noting that there were "some 30 active members, with associate members in Mt. Shasta, Californa [*sic*],

Dallas, Texas, Star City, Arkansas, Pikesville, Kentucky, and Cynthiana, Kentucky."[191] Gamma Chapter does not appear in the reports, presumably because the chapter was no longer active by 1941 or because a report was not sent to the national office. A subsequent issue of the *Chi Upsilon News* contains similar information on all five chapters of the organization, although the information from Gamma Chapter at the University of Michigan is limited to a list of graduates and their contact information. The second newsletter focuses more on the employment prospects of women involved in Chi Upsilon, highlighting where members of the fraternity found employment following graduation.[192]

Occasionally scrapbooks and newsletters would include poetry written by Chi Upsilon women. The poem at the opening of this chapter is an example of such verse. Another poem found, entitled "Chi Upsilon," reads:

Monday she takes physiography,
Tuesday it is geography,
Wednesday cartography and petrography,
The OKU geology student;
Thursday she's mineralogical,
Friday paleontological,
Saturday she teaches
Sunday she preaches,
But the rest of the week
She's my CHI UPSILON.[193]

[191] *Chi Upsilon News* no. 1, June 1941, 5, folder 7, box C-22, Chi Upsilon Collection, WHC.
[192] *Chi Upsilon News* no. 2, n.d. folder 7, box C-22, Chi Upsilon Collection, WHC.
[193] "Chi Upsilon," folder 8, box C-22, Chi Upsilon Collection, WHC.

Like much of the poetry printed in the newsletters, this poem describes the various activities women did on a daily basis. This poem, however, is different in that it emphasizes the academic achievements of Chi Upsilon women, highlighting the science courses taken in fulfillment of the geology degree. It is careful to include that a Chi Upsilon woman takes time out on the weekends to teach, a common vocation for women, and to spend time in religious pursuits. The members of Chi Upsilon might be academically different from other women, but socially they conformed to the normal roles assigned to middle-class women. These roles displayed some of the characteristics found in the nineteenth century Cult of True Womanhood, as described by Barbara Welter: "piety, purity, submissiveness and domesticity."[194] While Welter is describing the mid-nineteenth century, some of the same traits that were valued in middle-class women of that time carried into the early twentieth century. The women of Chi Upsilon pushed against that view in some ways, but did not want to be seen as wholly unfeminine. In the poem above, the ideal Chi Upsilon woman does her academic work throughout the week, but on "Sunday she preaches." Of course, this does not literally mean every member of Chi Upsilon preached at a church—likely they attended churches that did not allow women to preach—but it does imply that they attended religious services and participated. The sentimentality connected with writing a verse like the one above for the newsletter would also be associated with femininity.

Another poem, written by Beatrice Raw of Epsilon Chapter at George Washington University, is entitled "To a Geologist":

Alone, you sit beside the little stream,
The highway thronged with traffic, the airplane
Roaring above, cannot disturb your dream,

[194] Barbara Welter, "The Cult of True Womanhood: 1820–1860," *American Quarterly* 18, no. 2 (Summer 1966): 151–74.

Nor yet the gathered clouds which threaten rain.
Lost in a prehistoric mist, you sit,
Forgetting everything entirely
Because in the gray rock your pick has split,
You found a creature of an ancient sea.
Warm waters flow around you, overhead
Strange armored fishes swim with pulsing fin;
Weird cephelopods [*sic*] crawl slowly past your head,
Creatures of some far age which long has been.
You have gone backward from this age of men,
And you are an invertebrate again.[195]

This poem translates a scientific idea—the discovery of a fossil that indicates the location of an ancient sea—into a fanciful, imaginative dream of devolution from human to invertebrate. The tone of this work is more serious and reflective than the doggerel describing the Chi Upsilon woman's busy week. While this poem is the work of only one woman geologist, it opens a window onto how other women may have interpreted the work they performed; they felt a deep connection to the earth and the rhythms of time that resulted in the formations and deposits that they studied.

The women of Alpha Chapter also kept a scrapbook of achievements and activities. Although most of the news items are undated, the items contained within the scrapbook appear to be taken from newspapers and event invitations from the late 1940s and early 1950s based on a dateline of January 4, 1950, and one invitation from an event on September 28, 1948. These items give a snapshot of the lives of Chi Upsilon women in the time period and demonstrate the types

[195] Beatrice Raw, "To a Geologist," folder 7, box C-22, Chi Upsilon Collection, WHC.

of activities in which they participated and the ways they were perceived by their peers and the press.

A photograph caption news item appears in the scrapbook congratulating "pretty Dorothy Ann Pierce" upon receipt of the first Bee Woods Davidson Memorial Scholarship from the Desk and Derrick Club of Oklahoma City. The Desk and Derrick Clubs were established in 1949 in New Orleans, Louisiana, as an organization for professional women in the oil and gas industry.[196] Ms. Pierce's affiliation with Chi Upsilon was not mentioned in the caption of this photograph of the young lady examining geological samples, but her work with the student senate was recorded. Also included in the description of her accomplishments, as another way of validating her selection for this scholarship, the caption highlights entries from her father's résumé in the oil and gas industry.[197] Despite the fact that Ann Pierce had earned a scholarship in a scientific field—a field that was not typically occupied by women—she still had to characterized as "pretty" and defined in terms of her father's position in the industry. Her own affiliation with a professional geological fraternity was not mentioned, even as her father's qualifications were. This description of her reinforced the traditional role of a woman as an object of beauty and subordinate to a male family figure.

Another article spotlights Marlene Miller, a senior geology major from Oklahoma City who "chalked up more activities in four years of college than some people do in a lifetime." One of those activities was Chi Upsilon. Miller is described as very busy, earning the title of "BWOC," presumably Big Woman on Campus. She belonged to a social sorority as well as the professional one, was involved in religious activities, athletics, and achieved scholastic honors.[198] This well-rounded woman was not described in the same terms as Ann Pierce—her achievements

[196] Cecilia Gutierrez Venable, "Desk and Derrick Clubs," Handbook of Texas Online, tshaonline.org/handbook/online/articles/dod06.
[197] "Scholarship Winner," folder 5, box C-22, Chi Upsilon Collection, WHC.
[198] "Who's Who at OU: Marlene Miller," folder 5, box C-22, Chi Upsilon Collection, WHC.

stood for themselves and she was not described by her physical attributes. What is remarkable about the organizations to which Miller belonged is that many were homosocial clubs or honor societies, including only women. Some, such as Chi Omega social sorority and the women's hockey team, might be expected, but her academic honor society is listed as one for women. Men and women, it seems, were not included in the same organizations across the spectrum of university activities and academic endeavors. She did belong to Pick and Hammer, which was, according to the article, "the first geology club formed at OU" and coeducational, but she still felt the need to maintain her membership in Chi Upsilon despite the availability of a coeducational alternative.[199] Belonging to same-gender organizations may have been as much a matter of choice as a matter of course in some cases—Miller did not have to belong to both Pick and Hammer and Chi Upsilon, but she chose to belong to a coeducational and female-only organization. Perhaps the society of her Chi Upsilon sisters was a safe haven to share her research or discuss her academic pursuits after spending time in the mixed-gender Pick and Hammer Club.

The scrapbook also contains an article dated Wednesday, January 4, 1950, featuring Peggy Cantrell, who at the time was the only female instructor in geology at the University of Oklahoma. Cantrell served as national president of Chi Upsilon for a time, and spent part of World War II as a junior geologist with Humble Oil Company in Mobile, Alabama, after receiving her bachelor of science in geology from OU. After the war ended, Cantrell returned to OU to pursue a master's degree. She was granted a graduate assistantship in 1948 and taught six geology labs while supervising several more.[200] Despite being an instructor in the geology department, Cantrell is described as a "girl" in the article, a demeaning term now that would have been a commonplace descriptor of a younger professional woman at the time. The article also mentions her affinity for outdoor activities, noting her chaperoning of geology field trips for the

[199] "Who's Who at OU: Marlene Miller," folder 5, box C-22, Chi Upsilon Collection, WHC.
[200] Johnston, "Variety is Spice of Life for Woman Geology Prof," n.d., folder 5, box C-22, Chi Upsilon Collection, WHC.

women of the department. She also was made a member of the Faculty Wives Club, since the other members of the geology faculty were men. Instead of socializing with her peers in the department, she was expected to socialize with their wives. While many of the faculty wives likely had interest in their husbands' careers, it likely would be more beneficial professionally to engage in social interaction with the professors rather than their spouses. As the only woman in the department, however, it would be inappropriate for her to interact in such a manner. Cantrell's gender limited her opportunities for advancement by restraining the amount of access she had to time with her academic peers—the time spent socializing and discussing research among professorial colleagues could have been beneficial to her professionally, but she was relegated to the company of her gender peers instead.

The keeper of the scrapbook wanted to preserve an article describing the novelty of the employment of "a girl 'rock-hound'" from among the ranks of Chi Upsilon. Virginia Fowler, a 1945 graduate of the University of Oklahoma Geology Department, was hired by Carter Oil Company to work in its Shreveport, Louisiana, office, along with two new male employees. She had previously worked for Sun Oil Company in Dallas, Texas, in the company of three other women in the geology division. In the text of the article, Fowler is described as an "attractive brunette with brown eyes," a "girl," and is identified by her family affiliation as one of four children of a practicing physician. The one place in the article where we hear Fowler's voice comes when she is asked why she chose the study of geology, besides just liking the subject. She responded, "Liking it was the only reason . . . I guess I didn't want to teach." The men with whom she was hired are identified by name, college affiliation, and previous work experience, but with no other descriptors, although the article does not focus on them.[201] Fowler's response to the question of why she chose geology is telling in two ways. First, she chose a career path not

[201] "Girl Geologist Follows Unusual Profession Because She Likes It," folder 5, box C-22, Chi Upsilon Collection, WHC.

because it was expected, but because it was a field that sparked her interest. She did not feel compelled to conform to societal norms, but instead opted to take a more difficult but personally rewarding path. Secondly, she eschewed the idea of teaching. Many women in geology ended up teaching at some point in their careers, particularly those who obtained employment after men began returning to the field following World War II. Fowler, however, had no desire to join their ranks. What became of Virginia Fowler after her employment with Carter Oil Company is not known, but she met her goal of not becoming a teacher in her early career. The description of Fowler, however, is equally telling. Fowler, like Pierce, is describe by her physical attributes and her affiliation with a patriarch, whereas her male counterparts are described by their professional credentials. The writer wants to assure the reader that, despite her interest in geology, Virginia Fowler is actually an attractive woman who has not been made masculine by her choice of profession. Because no such assurances are necessary for her male colleagues, the author of the piece does not feel the need to describe them physically.

In order to cultivate these desirable qualities in the members of the chapter, Chi Upsilon planned regular speakers for their meetings, covering topics ranging from discoveries in geology to career planning advice. During one such meeting, Dr. Doris Curtis spoke to the assembled group about "women's place in geology." Dr. Curtis was particularly qualified to speak on this topic, as she was hired as an instructor for Geology I and II after the departure of her husband, Dr. Neville Curtis, for a department chairmanship at Marietta College in Ohio. Doris Curtis taught his classes during her husband's leave of absence. Geology, said Doris Curtis, was "not just a job, because I'm really interested in it." Doris implored the women of Chi Upsilon to continue in their study of geology, as more and more companies were "realizing women can do a lot of work men have been doing, particularly with maps and other assembled data."[202] Dr. Curtis was known for encouraging young women in the field, and continued her geological work and teaching after

[202] "Dr. Curtis Plans Talk," *Oklahoma Daily* (Norman, OK), n.d., folder 5, box C-22, Chi Upsilon Collection, WHC.

divorcing her husband.[203] She was on equal academic footing with her husband, and by the time she was working in the field it was more accepted for married women to continue to work. With this type of meeting and a speaker like Dr. Curtis, Chi Upsilon was fulfilling its mission of supporting young women as they pursued degrees and then employment in geological fields. The information given in the talk, however, was realistic based on data available—women had gained ground in office jobs and teaching, not in fieldwork. Working out in the field on oil rigs or on various job sites was still a man's world. This article also gives insight into the graduation rate of women in the department for that year, which was likely the late 1940s or early 1950s. Three women—Cara Jean Moore, Ann Pierce, and Barbara Bale—were graduating that year.[204]

Other social events included recruitment activities, bridal showers, baby showers, and other events marking milestones in the lives of the women of Chi Upsilon. The spirit of fellowship was encapsulated in the password of the organization, *xenalyuga*, a word taken from the Greek meaning "gracious hospitality."[205] The chapter sent out an invitation to all women geology majors to join them for coffee on Tuesday, September 28, 1948, from 7:30 to 9 p.m. at an off-campus residence. While it is not listed as such on the invitation, this was likely a recruitment event to entice prospective members to join Chi Upsilon.[206] In a written history of the organization, the historian describes the early Chi Upsilon sisters "enjoy[ing] a social life few fraternities have enjoyed" as a result of the faithful help of the wives of the professors in the OU Geology Department.[207] Again, because the professors in the OU Geology Department in the early days of Chi Upsilon were all male, the members had to rely on the professors' wives to serve as surrogates for their husbands. Their limited experiences in the geological profession could not prepare the women for careers in the discipline; the faculty wives could only provide an

[203] Robbie Rice Gries, *Anomalies: Pioneering Women in Petroleum Geology, 1917–2017* (Denver, CO: JeWel Publishing LLC, 2017), 147.
[204] "Dr. Curtis Plans Talk," *Oklahoma Daily*, n.d., folder 5, box C-22, Chi Upsilon Collection, WHC.
[205] Ritual of Chi Upsilon, 4, folder 8, box C-22, Chi Upsilon Collection, WHC.
[206] Coffee invitation, September 28, 1948, folder 5, box C-22, Chi Upsilon Collection, WHC.
[207] "Chi Upsilon Geology Fraternity," folder 6, box C-22, Chi Upsilon Collection, WHC.

outsider's view of the profession, or the perspective of a supportive wife who might assist her husband who was the primary breadwinner. As time passed, however, a few women broke into the ranks of the teaching staff, including the formidable Doris Curtis. With more female role models within the profession, the need for faculty wives to serve as sponsors dwindled.

Beyond the University

Throughout the history of Chi Upsilon, the women involved in the fraternity took advantage of the opportunities afforded them in the geology department. In 1937, Chi Upsilon women attained positions as departmental assistants by Dean Victor Monnett, who Bess Mills Bullard described as "most friendly and gracious to the girls in the school."[208] Dr. Monnett's progressive view of the women in the geology department was so evident as to be noted by an alumna who had graduated fifteen years prior to writing the letter describing his generosity. The existence of Chi Upsilon showed the dedication to research and academic excellence of the female students in the OU Geology Department, and Dr. Monnett valued the impact of the organization in choosing assistants.

A vital tool used to teach geology to university students was, and still is, field study. Students take field trips to various locations away from campus to obtain practical experience identifying formations, surveying terrain, and integrating information learned in the classroom into real-world experience. By their very nature, these field trips involve spending several nights, if not weeks, making camp in a remote area. Because geology departments were primarily male, and geology field camps were overnight excursions away from the boundaries of society, it is not surprising that these field trips excluded women geology majors in the early days. It would have

[208] Bess Mills Bullard to Helen Tappan, March 1, 1937, folder 1, C-22, Chi Upsilon Collection, WHC.

been unseemly for men and women to camp alongside one another without supervision, and the camps would have been rough environments for proper, college-educated ladies. Without the training that these field trips afforded, women found themselves at a disadvantage in the job market when it came to practical experience. The men had worked in the field, the women had not had that opportunity.

The University of Oklahoma was unique in its approach to field trips. Because of the abundance of geological formations in the area, field trips began almost as soon as the School of Geology was founded. In 1901, Professor Charles N. Gould took three men to the Arbuckle Mountains to collect fossils. The next year, four male students accompanied Dr. Gould. By 1903, however, this field trip to the Arbuckles included two female students, Rose Catlett and Minnie Rose Gould.[209] According to a written account of the 1903 field trip by Charles A. Long, the women were afforded the comfort of a tent while the men on the trip slept under the stars. This "gentlemanly behavior" supposedly protected the women from the harsh environment, but it also served to reinforce the idea that women could not handle the rough-and-tumble life of a field geologist. This also created a natural separation between the genders to avoid any perception of impropriety on the trip. By sleeping in two distinct areas, chastity could be ensured. The story of the trip indicates that the women were included in the general fellowship of the trip and were not necessarily expected to tend to housekeeping chores any more than their male counterparts.[210] This is perhaps surprising, especially considering the sleeping arrangements previously described. On this point, the women were viewed more as equals—not expected to fulfill their traditional domestic roles on top of the professional role they were on the field trip to pursue. The inclusion of women in geology field trips predates the founding of Chi Upsilon, indicating that the

[209] Huffman, *History of the School of Geology and Geophysics*, 37, 128.
[210] Huffman, *History of the School of Geology and Geophysics*, 128.

professors were willing to grant opportunities to the women with especial interest in geology regardless of their organized status.

As long as there were women in the School of Geology in the early years, they were allowed to attend field classes, with accommodations made for propriety and for comfort. At some point between 1904 and 1946, enough women went on the field trips to justify taking the genders on two separate trips. A wooden barracks building was moved to the banks of the Washita River south of Davis, Oklahoma, to house female students on field trips following World War I.[211] Eventually a summer field camp was established in Colorado, and women were included in those excursions beginning in 1953.[212] A peculiarity in the reporting of women being allowed to attend field camps from the University of Oklahoma is that each successive group of women thought they were the "first" to achieve equality with their male peers in gaining this opportunity. It seems that, in some instances, either time passed between groups of women who were eligible to attend by the standards of the School of Geology for fulfillment of a degree, or the school changed its policies at different times to either include or exclude women depending on some capricious decision of a school director or field trip coordinator. These decisions could have been based on the societal norms of the times—a desire to conform to the prevailing social context of male and female roles. This might have been particularly true in the period immediately following World War II until the 1953 opening of field camp to women, with the return of men to college campuses, the introduction of the GI Bill to pay for school, and the displacement of women from the workplace back to the home (and consequently their potential displacement from majors such as geology). The lapses in membership of Alpha Chapter of Chi Upsilon also might account for this lack of institutional memory. It also could have been that there simply were years when there were no women geology majors, or the women who were in

[211] Huffman, *History of the School of Geology and Geophysics*, 38.
[212] Huffman, *History of the School of Geology and Geophysics*, 40–41; Thalia Eddleman, interview by Elizabeth Bass, Oklahoma Historical Society Research Center, Oklahoma City, OK.

the OU Geology Department chose not to attend field camp. Women were included in these opportunities for hands-on learning nearly from the beginning of the OU School of Geology, and they were afforded the chance to be a part of these trips at different times until the time they were permanently included in the 1950s, but whether or not they were consistently included until that time is unknown. It is likely that there were years when no women attended field trips or field camps, and the reasons for their exclusion are the mystery worth investigating.

Throughout the life of the organization, the women who participated found themselves well positioned to find work in the field of geology upon their graduation. Many of the seven founders of the organization "were offered excellent and responsible positions and earned good salaries." Once Beta Chapter was formed at the University of Texas, the women who were members of that chapter found themselves in similar situations upon graduation. Gradually a network of Chi Upsilon women in geological work formed, creating a pipeline for recent graduates to utilize to find employment.[213] The newsletters the early 1940s show that the women of Chi Upsilon were able to find gainful employment in the field of geology after graduation. Members of Epsilon Chapter from George Washington University in Washington, DC, found work in government service due to their proximity to federal agencies.

Chi Upsilon and Sigma Gamma Epsilon, the female and male geology fraternities, were linked by their shared purpose from the establishment of Chi Upsilon in 1920. The OU chapter of the male fraternity took notice of Chi Upsilon's activities, as the men of Oklahoma's Sigma Gamma Epsilon commented on the new women's organization in their correspondence with their national office in 1921. An article sent by Rolf Engleman to the Sigma Gamma Epsilon newsletter The Compass mentioned that there were "several women geology majors at the University of Oklahoma," and that the women in the department had organized a "'women's

[213] "Chi Upsilon Geology Fraternity," folder 6, box C-22, Chi Upsilon Collection, WHC.

honorary geologic fraternity.'"[214] While these two organizations were separated by gender, they held common goals of creating learning and socializing opportunities for geology majors.

The Sigma Gamma Epsilon national organization discussed the idea of admitting women to its ranks as early as 1927. Xi Chapter of Sigma Gamma Epsilon at Washington State College proposed an amendment to the fraternity's constitution to allow women members. The amendment failed handily, and among the reasons given for its failure was the existence of Chi Upsilon. Women did not need to join Sigma Gamma Epsilon because they had their own organization to join, despite the fact that Chi Upsilon only had five chapters at its height, compared to twenty chapters nationwide for the men's fraternity in 1928. One chapter of Sigma Gamma Epsilon threatened to secede from the fraternity if women were admitted.[215] The animosity of these men toward the very idea of including women in their organization hearkens back to the notions of separate spheres and women's inability to function in a male-dominated realm.[216] Despite not being allowed membership in their organization, the men of Sigma Gamma Epsilon were more than happy to enjoy the hospitality of the women of Alpha Chapter of Chi Upsilon when the fraternity held its eighth national convention in Norman, Oklahoma, on April 4 and 5, 1930.[217] Instead of joining the men in their convention activities and business, the women performed hostess duties that would have been traditionally relegated to members of their gender. Although those duties are not described, they might have included holding receptions for the men, assisting with registration activities, or other typically secretarial responsibilities. Men assumed the responsibilities of the public sphere, while women were relegated to the duties associated with the private sphere. The members of Chi Upsilon were complicit in the separation of genders by embracing their domestic role and allowing the men from geology departments across the country

[214] Daniel, "The History of Sigma Gamma Epsilon: The First Twenty-Five Years, 1915–1940," 41
[215] Daniel, "The History of Sigma Gamma Epsilon: The First Twenty-Five Years, 1915–1940," 47, 49.
[216] Welter, "The Cult of True Womanhood."
[217] Ibid., 52.

yet again to deny them the advantages of communion with fellow majors and men already working in the field. The hope is that the men assembled recognized the work of the women beyond their hospitality, but that was not their primary job at the convention.

In 1935 the Kappa Chapter of Sigma Gamma Epsilon again proposed admitting women to membership, primarily because the chapter had "a candidate who is highly endowed with all of the necessary qualifications for membership, except a very important one, that of masculinity." Again the idea was voted down.[218] Despite the example of a woman who was wholly qualified for membership, and who the men of Kappa Chapter recommended in spite of the national restrictions, the majority of Sigma Gamma Epsilon would not relent and admit the woman to membership. Regardless of the qualifications of an individual female, she could not hurdle the gender obstacle. The presentation of evidence showing that, at least in once case the men of Kappa chapter deemed this one particular woman worthy of inclusion, the national Sigma Gamma Epsilon fraternity as a whole was not willing to make an exception, or consider a change. Even as discussions such as this happened at the national level, the women of Chi Upsilon at the University of Oklahoma in 1937 planned to work together with the men of Sigma Gamma Epsilon during the fall semester to "promote a more interesting program."[219] The two clubs worked together, but maintained their gender separation. Despite the fact that the men and women could engage in the same activities, they still could not be a part of one gender-inclusive organization.

The November 1946 issue of *The Compass*, the Sigma Gamma Epsilon national newsletter, reported that Alpha Iota Chapter of Sigma Gamma Epsilon, located at Augustana College in Rock Island, Illinois, was one of the few chapters of the fraternity that was able to remain active during the shortage of men on campus as a result of World War II. They

[218] Ibid., 60.
[219] Martyna Garrison to Bess Mills Bullard, May 17, 1937, folder 1, box C-22, Chi Upsilon Collection, WHC.

accomplished this by incorporating a Women's Auxiliary of Sigma Gamma Epsilon, and including women geology majors as members and officers. The members of Alpha Iota Chapter also stated in the newsletter that they "hope[d] that other chapters will do the same if there are fully qualified women who might be eligible for membership, if the constitution were so changed."[220] Augustana College did not have a chapter of Chi Upsilon, so including women in the activities of Sigma Gamma Epsilon, especially as a solution for the dearth of men caused by enlistments and conscriptions during World War II, created an opportunity, albeit brief, for female geology students to possess a measure of equality with their male counterparts. This exposure to competent women in their department, despite the fact that it came as a last resort to keep their organization afloat, may have been formative to these men who might not have previously had contact with women in a professional setting. The absence of a chapter of Chi Upsilon, while detrimental to the women before the war in that they may not have had an outlet for professional networking and growth, provided an opportunity at the outset of the war for the women of the Geology Department at Augustana College to become part of a briefly integrated professional organization.

The efforts to include women in the geology fraternity Sigma Gamma Epsilon quieted immediately following World War II as men resumed their places in geology departments. A May 1949 entry in *The Compass* newsletter included a report on a "Geology Wives" class that had recently been held on one campus to "inform wives and sweethearts of what to expect as the wife of a geologist."[221] Of course, there was no corresponding class to inform gentlemen of the responsibilities associated with being the husband of a geologist wife. The idyllic postwar return to "traditional" gender roles of the husband in the work force with the wife at home was reflected even in this presumably educational opportunity presented by the geology fraternity. To the

[220] Daniel, "The Second Twenty-Five Years," 75.
[221] Daniel, "The Second Twenty-Five Years," 79.

men's way of thinking, this session was a service—letting these uninformed women know just what they were getting into by marrying these rough-and-tumble geologists. The women who attended may very well have been grateful for the opportunity to learn more about their men's profession and what to expect in the future. It does, however, presume that the wives or "prospective wives" will spend their lives in a solely supportive role to the husband and his career—the perfect corporate wife.

In 1953 the Theta Chapter of Sigma Gamma Epsilon at Cornell University proposed the inclusion of women in the fraternity, citing the increasing number of female geology majors at Cornell and assuming that other colleges and universities were experiencing the same phenomenon. Cornell University's Geology Department organized a chapter of Chi Upsilon at one time, although its status in 1953 is unknown. [222] Theta Chapter also argued that Sigma Gamma Epsilon was primarily an honorary society, not a fraternity, thus making the gender of the members irrelevant.[223] Essentially, Theta Chapter argued that the word "fraternity" had been used to maintain the homosocial nature of the organization, and as the group more resembled an honor society or professional club than a traditional fraternity, it made little sense to continue to call it such and perpetuate the gender exclusivity. It would be another two years before the Grand Council of Sigma Gamma Epsilon would agree with Theta Chapter and unanimously vote to remove the word "fraternity" from the name of the organization in favor of the word "society."[224]

Despite this change, heated debate at the fiftieth anniversary convention of Sigma Gamma Epsilon at Lawrence, Kansas, on March 30 through April 1, 1965, resulted in yet another failed vote to admit women. Arguments for including women in the organization were wide ranging. Some were the laudatory: "everyone will admit that women are recognized and there are

[222] "Chi Upsilon Geology Fraternity," 2, folder 6, box C-22, Chi Upsilon Collection, WHC.
[223] Daniel, "The Second Twenty-Five Years," 86.
[224] Ibid., 89.

many worthwhile contributions made by women." Others pointed to practical reasons: "an individual . . . had requested information on forming a chapter, but once they learned that women were excluded had decided not to form a chapter." As strange as it may sound, there were also blatantly sexist arguments for including women: "women geologists, although few and relatively limited in number, nevertheless are just as capable as men geologists and not only that but they are doggone good people to have in a chapter to serve in a secretary position or to see to it that the coffee is made and a few items like that." In this scenario, women could not be judged merely on their merits as geologists or geology students, but had to bring something extra to the table—an ability to perform menial tasks that men should not be bothered to do. Just qualifying for membership by meeting the same criteria as male applicants was not enough; female geology students also had to display the traditional traits of their gender by providing secretarial and domestic support. This showed that, while some men in Sigma Gamma Epsilon understood that female members were qualified by virtue of their academic accomplishments, there were still men who could not put women on an equal footing with male members of the organization. Even those who sought to admit women for practical reasons were inclined to do so out of a sense of obligation to the fraternity through expansion and financial security, not by the thought that inclusion would better the organization. Those members opposed to allowing women into the society cited the shrinking number of male refuges, problems that might arise on coeducational field trips and activities, and the lingering idea that the organization should remain a fraternity.[225] Yhe men opposed to the inclusion of women thought that the mixing of genders only could result in problematic interactions, because men and women could not be trusted to have strictly professional or platonic interactions with one another. Once inside the male inner sanctum of the organization, women who had joined because of their interest and qualifications would become

[225] Ibid., 103–05.

objects of desire, wreaking havoc on the fraternity. Women finally gained eligibility for membership in Sigma Gamma Epsilon in 1966.[226]

Conclusion

With the advent of organizations that welcomed both male and female students, there was less need for the small number of female geology majors in any given department to sustain an organization on their own. Women could take advantage of the greater resources available to previously male-only organizations, including better funding, more educational opportunities, and greater networking prospects. The women geology majors of the 1920s, 1930s, 1940s, and 1950s needed an organization like Chi Upsilon to consolidate their collective energy toward the goal of furthering their educational and professional goals. These early women majors had to exist in a world apart from their male counterparts, creating opportunities for themselves and building each other up through social events, lectures, and service to the profession. By the 1960s, however, their presence within the geology departments could no longer be ignored, and whether for reasons of recognizing their contributions, of increasing organization numbers, or of ensuring their social events would be planned with style, the predominant men's geology society, Sigma Gamma Epsilon, invited them to join. Chi Upsilon had outlived its usefulness.

The creation of Chi Upsilon at the University of Oklahoma and its subsequent expansion to the campuses of the University of Texas, the University of Michigan, Cornell University, and George Washington University filled a need for women geology students of the time. Denied entrance into Sigma Gamma Epsilon, the men's professional geology fraternity, the women of these geology departments wanted to experience the same camaraderie that the men felt, and

[226] Richard L. Ford, "Major Milestones in the Development of Sigma Gamma Epsilon's Core Traditions," *The Compass: Earth Science Journal of Sigma Gamma Epsilon* 84, no. 1 (January 2012): 15–16.

needed to band together to help each other advance in a male-dominated field.Through the efforts of the seven founders of Chi Upsilon and many male professors who provided opportunities for female students through teaching assistantships and field trips, the women of the geology department at the University of Oklahoma, at least in the early years of the twentieth century, had many of the same academic experiences as their male counterparts. This may not have been the case at other universities, but the four other universities geology departments that sponsored chapters of Chi Upsilon at least gave the female members of their departments a homosocial space in which the members could socialize, network, and work toward mutual advancement in the field.

The decision in 1966 by the previously men's only Sigma Gamma Epsilon to initiate women sounded a death knell to Chi Upsilon. Membership had been low at most chapters, with several already inactive. Once the professional fraternity began admitting women, the upstart geology sorority had officially outlived its usefulness. Since Chi Upsilon had never had a significant national presence, it was likely an easy transition from the single-sex organizations to a coeducational Sigma Gamma Epsilon. It is unclear when the organization disbanded, but information on Alpha Chapter of Chi Upsilon is not found in the files at the Western History Collections past 1960. In the present day, Sigma Gamma Epsilon at the University of Oklahoma has been supplanted by college groups tied to specific industry organizations, such as collegiate chapters of the American Association of Petroleum Geologists and the Society of Exploration Geophysicists.[227] These organizations provide greater connection to the industry outside the collegiate environment, and thus greater networking opportunities for students to obtain employment after graduation.

[227] Huffman, *History of the School of Geology and Geophysics*, 135.

While the numbers of women in geology departments across the United States may have been low, the women who entered these male domains sought recognition for their work, an outlet for their research, and opportunities to network and to socialize with their peers. When denied the opportunity to do so with their male cohorts, they created a space in which they could learn from one another and from experts, utilize the skills and experience learned from their predecessors, and socialize with like-minded people. They were so convinced of the benefit of the organization that they founded that they sought to spread it far and wide, succeeding on a small scale. Chi Upsilon women's geology fraternity is an example of women carving out a place for themselves in a hostile environment and thriving in the community that they created.

CHAPTER IV

"DAINTY, EFFICIENT WOMAN IN THE MAIN OFFICE": WOMEN GEOSCIENTISTS

In the early twentieth century, the offices of oil companies were a male domain. In April 1917, Roxana Petroleum became one of the first companies to change this when Richard Conkling, the company's chief geologist, hired Helen Jeanne Skewes as an office geologist and his assistant.[228] Skewes earned her bachelor's degree in geology from Northwestern in 1913 and her master's degree from the same institution in 1925.[229] After hiring Skewes, Roxana hired Margaret Campbell, Mary Emily Wright, Esther Franz, and Fredrica Probst as office geologists (as opposed to geologists in the field) in 1918. While these women held the title of "geologist," they were likely responsible for other, more secretarial office work as well. By holding the dual-purpose roles of office geologist and secretarial assistant, these women maintained an element of the traditional role of females in an office environment. They could step slightly outside their sphere by doing some geological work, but had to remain anchored to the gender role assigned to them through the additionally expected clerical work.

[228] Robbie Rice Gries, *Anomalies: Pioneering Women in Petroleum Geology: 1917–2017* (Denver, CO: JeWeL Publishing LLC, 2017), 4, 5; "Memorial: Helen Jeanne Plummer (1891–1951)," Plummer file, Robbie Rice Gries private archive, Lakewood, CO (hereafter cited as Gries Archives). The author owes a great debt to Robbie Rice Gries, former president of the American Association of Petroleum Geologists who made it her mission to record the stories of early women geologists in the organization. Her archives, insights, and the work produced from her research, *Anomalies: Pioneering Women in Petroleum Geology, 1917–2017*, were invaluable to the analysis in this dissertation.
[229] "Signature Record, The American Association of Petroleum Geologists, Helen Jeanne Plummer," Gries Archives.

To accommodate the hiring of these women, the company had to actually change the physical structure of its headquarters, as it did not include a bathroom facility deemed appropriate for members of the so-called fairer sex. In the August 1918 issue of the company magazine, *Roxoleum*, a news item highlights the addition of a ladies' restroom to the offices:

> One of the novel features of Roxana's new suite of offices in [*sic*] the installation of a ladies, rest room. This room is located on the ninth floor. It is exquisite in its appointments, the walls being decorated in a beautiful Tiffany blend. The draperies and rugs harmonize beautifully and the wicker and mahogany furniture is the finest of its kind. Wall lights and a beautiful chandelier makes the lighting plentiful but subdued. Mirrors and pictures adorn the wall and as a whole this room, exclusively for the use of the lady employes [*sic*], is about as attractive as it could be made.[230]

Why all the fuss over creating a space for women to perform the most basic of bodily functions? Simply, it had never been necessary to consider the needs of women in the environment of an oil company, because the office—like the oil field—had been a strictly male domain. There had never been a need for specific accommodations for women. The *Roxoleum* goes into detail describing the furnishings of this new oasis for the female employees, and it is doubtful that the men were afforded such luxuries as a chandelier and mahogany furniture in their bathroom. The expectation that women would

[230] "Ladies' Rest Room a Novel Feature of Our New Offices," *Roxoleum* 1, no. 8 (August 1918): 12.

feel more comfortable in a finely appointed restroom speaks to the gender stereotypes of the day. The addition of a well-appointed women's restroom could be seen as a way to make women feel more welcome in the male-dominated office. It was a female-only space in a workplace dominated by men, giving women a small sanctuary to fulfill the female stereotypes of gossiping and primping. While men were expected to look professional, women's physical appearance was more complex, with a combination of makeup, hairstyle, and fashion that might require refreshing during the course of the workday. Women not only needed a facility to attend to nature's basic needs, but also a sanctuary in which they could powder their noses, reapply their lipstick, and adjust their clothing and undergarments. The lighting, which is described in great detail, was very important for these purposes. Women in the workplace were expected to still want to look like women, rather than trading in their feminine appearance for a more masculine one to complement their masculine profession.

Roxana was an anomaly among oil companies, although a few other companies would soon follow in hiring women due to the labor shortage caused by World War I. Many of these women were connected by family or friends to the men who hired them, giving them an advantage over other female candidates, but the lack of prospective male employees factored into their hiring.[231] The idea that the creation of a ladies' restroom was newsworthy points to the uphill battle women faced when joining the workforce in the oil industry.

Women who found employment in scientific occupations with oil companies, particularly geologists, sought each other out, creating networks, friendships, and associations that helped to further their research assist in the promotion of their careers.

[231] Gries, *Anomalies*, 4–5, 7–9.

Some of the women who became office geologists came from the ranks of Chi Upsilon geology sorority, and the need to form new communities followed these women from college to the professional world. Like women in boom towns, women in scientific fields found kinship in their shared experiences and developed friendships based on mutual respect. This chapter presents evidence for this in three sections: first, describing the work of three female micropaleontologists; second, featuring the career of one pioneering woman geologist who earned supervisory responsibilities but never was given the title of chief geologist; and third, relating the work of women who stepped in during wartime to fill roles in the oil industry left vacant by men who were shipped off to World Wars I and II.

Women in Scientific Fields

As female geology majors attempted to transition from college and universities to real-world working environments, they often received a rude awakening when seeking employment. While in college they enjoyed a "'little Eden of liberty,'" where they could study and participate in academic and social activities that might generally be considered outside their gendered sphere, but once they graduated and moved back out into society they found that this freedom "to do whatever men did" was squashed.[232] The career aspirations that had been fed by the fertile ground of the college environment were met by a culture that still demanded domesticity from women.[233] Some women, however, did make a place for themselves in the oil industry, particularly in the areas of micropaleontology and geology.

[232] Lynn D. Gordon, "The Gibson Girl Goes to College: Popular Culture and Women's Higher Education in the Progressive Era, 1890–1920," *American Quarterly* 39, no. 2 (Summer 1987): 226.
[233] Gordon, "The Gibson Girl Goes to College," 226.

To understand the place of women in the geosciences, it is important to explore the ways in which women appeared in scientific fields in general. Historical analyses of women in scientific fields in the first half of the twentieth century reveal patterns in employment that are somewhat counterintuitive. While lay observers assume that women did not figure in the scientific professions in the early 1900s, the literature shows that women did have a presence in the scientific professions in the early 1900s, even if their numbers were not large. In *Women in Science: A Report from the Field* (1985), a collection of essays edited by Jane Butler Kahle, the various authors identify and discuss barriers to women in scientific fields, both in school and in professional life. These barriers were compounded by race. One of the factors that the authors pinpoint as determining the early success or failure of women pursuing education and work in scientific fields is the attitude of educators toward the female members of their classes.[234] In the first chapter, Marjorie Perrin Behringer discusses a 1913 book by H. K. Mozans (a pseudonym for John A. Zahm) entitled *Women in Science: With an Introductory Chapter on Women's Long Struggle for Things of the Mind*. In that work, the author advocated for women to have opportunities in scientific fields, although he did so under a pseudonym to avoid having to make a public stand for gender equity. Behringer concludes that "with more years in science and with the support of men in science, we will learn how to walk with full confidence in our abilities."[235] The idea of relying on men established in the sciences was necessary in the early twentieth century. As the century progressed and more women entered scientific fields, particularly geology, they could rely on other women to provide them entrée in the industry.

[234] Jane Butler Kahle, ed., *Women in Science: A Report from the Field* (Philadelphia, PA: The Falmer Press, 1985), 1–3.

[235] Marjorie Perrin Behringer, "Women's Role and Status in the Sciences: An Historical Perspective," in Jane Butler Kahle, ed., *Women in Science: A Report from the Field* (Philadelphia, PA: The Falmer Press, 1985), 4.

In *Women in Scientific and Engineering Professions* (1984), Violet B. Haas and Carolyn C. Perrucci edit a series of chapters that discuss the conditions that have allowed for women to become enmeshed in the scientific professions. These conditions include education, market demands, and family concerns. In her chapter on women in science-based professions, Lilli Hornig highlights the changes from the 1960s to the 1980s in the analysis of why women were not present in scientific professions in significant numbers. In the early 1960s, the dearth of women was attributed to characteristics of women themselves, whereas the women's movement of the late 1960s brought about the growth of women's studies programs, and a focus on the societal structures and educational limitations that led to gender inequity in scientific employment. Not long after this shift in perspective, changes to hiring practice were established by the United States government in the form of Affirmative Action. In a chapter by Naomi McAfee, the author discusses the underrepresentation of women as managers, particularly in engineering fields.[236] These arguments set forth by McAfee inform the story of Dollie Radler Hall, a geologist who was denied the title of chief geologist, which will be told later in this chapter. Essentially, over time the literature states that women in scientific workplaces, including oil industry geology offices, reflected the change in attitude toward the lack of women's advancement—from a focus on the individual woman's characteristics and stereotypical traits of women to societal constructs that forced women to take a backseat to their male counterparts due to circumstances that were usually out of their control.

In the preface to their edited volume *Women of Science: Righting the Record* (1990), G. Kass-Simon and Patricia Farnes relate some probing questions that were asked

[236] Violet B. Haas and Carolyn C. Perrucci, eds., *Women in Scientific and Engineering Professions* (Ann Arbor: University of Michigan Press, 1984), 1–5.

in the late 1960s as the history of women in science was being reframed to fit with the women's movement and the emerging women's studies programs:

> Were so few scientific achievements attributed to women because so few women had participated in science? Or, were there so few because women had produced so little of any real importance? Or, had women simply not been properly acknowledged for their work? And, if any or all of these things were true, what had produced this state of affairs? Was there systematic discrimination against women scientists, or was this simply an accurate assessment of their inferior abilities?[237]

This book includes an entire chapter by Michele L. Aldrich entitled "Women in Geology." While the focus of this chapter is geology in general and not the oil industry itself, the work of some of these women had indications that were important to the search for oil and natural gas. Aldrich points out that there were women publishing in geology before 1850, and much of the work of female geologists in the nineteenth century was performed under the auspices of state geological surveys and the United States Geological Survey (USGS) after its establishment in 1879. They began as scientific artists, drafting drawings of samples and fossils for surveys. One of the women who worked at the USGS was Florence Bascom, who later developed a geology department at Bryn Mawr College, where she mentored a new generation of female geologists and created a community of women interested in the field. Aldrich also notes a number of wives who worked with their husbands as draftswomen, foreshadowing the women, like

[237] G. Kass-Simon and Patricia Farnes, eds., *Women of Science: Righting the Record* (Bloomington: Indiana University Press, 1990), preface.

Nina Gould and Fanny Carter Edson who will be discussed in Chapter Five, who would work in an unofficial capacity to assist their husbands in the search for oil.[238]

Aldrich argues that, by the twentieth century, women geologists were also present in oil companies. They contributed in two different ways: "practical, economic results which increased productivity or found new petroleum resources, and scientific, theoretical contributions which grew from laboratory and field studies that benefited academic as well as applied geology." One of the women she features is Louise Jordan, who worked for the Oklahoma Geological Survey, the Florida survey, and Sun Oil. She spent time at the Oklahoma Geological Survey documenting formations and topics of interest to the oil and gas industry, and was known for mentoring students at the University of Oklahoma and younger colleagues in what is termed "economic geology."[239] Jordan used her position in the 1940s and 1950s to assist other women, and men as well. Aldrich also writes about the contributions of Esther Applin and Alva Ellisor, who are both discussed later in this chapter. She reminds the reader that, while women's achievements in geology are remarkable, they were only a small percentage of the people working in the field. These women faced discrimination in the job market and in obtaining equal pay, although there were many men in the industry who were supportive of women working in the industry and worked to help them advance their careers. This is evidenced by women who were elected to offices in geological societies, largely on the votes of male organization members. Aldrich, using the example of Helen Plummer, also emphasizes that women who were raising families or were shut out of

[238] Michele L. Aldrich, "Women in Geology," in G. Kass-Simon and Patricia Farnes, eds., *Women of Science: Righting the Record* (Bloomington: Indiana University Press, 1990), 42–55.
[239] Michele L. Aldrich, "Women in Geology," in G. Kass-Simon and Patricia Farnes, eds., *Women of Science: Righting the Record* (Bloomington: Indiana University Press, 1990), 62, 57–59.

regular employment with a company could become consulting geologists and remain active in the field with some success.[240]

Micropaleontology: Finding the Pebble Puppies Among the Rock Hounds

"What is Geology, and what is the oil geologist, (rockhound or pebble-puppy) trying to do?" Richard Conkling asked this question in the Roxana Petroleum's newsletter *Roxoleum* in 1918.[241] While Conkling acknowledges that there are women working for the company through the use of this gender-distinctive terminology, the comparison of men to women in this imagery is not favorable. The term "pebble-puppy" automatically places women as subordinate to men, the hounds, much like calling a woman in the office "little lady" might serve to diminish her contributions to a corporate environment. The visual images that these two words conjure are huge contrasts: in the literal sense, the rockhound invokes the picture of a bloodhound confidently on the scent of oil versus the pebble-puppy, which raises the image of an awkward puppy checking all the small rocks at random for black gold. Through this language, men are the protectors of women, as hounds would protect puppies. In an environment with few women, the struggle for equal footing with their male counterparts was hindered by the existence of cutesy nicknames like this one. Through language, women were categorized as unequal in the petroleum industry.

The US Congress passed the Selective Service Act on May 18, 1917, instituting the draft to increase the number of men in the US military to fight the Central Powers in Europe.[242] This order drained the male work force, affecting the oil and gas industry. Women geologists walked

[240] Michele L. Aldrich, "Women in Geology," in G. Kass-Simon and Patricia Farnes, eds., *Women of Science: Righting the Record* (Bloomington: Indiana University Press, 1990), 62–66.
[241] Richard Conkling, "Geology, What It Is," *Roxoleum* 1, no. 7 (July 1918): 10.
[242] Selective Service Act of 1917, Pub. L. No. 65-12, 40 Stat. 76 (1917), www.loc.gov/law/help/statutes-at-large/65th-congress/session-1/c65s1ch15.pdf.

through the door opened by their male counterparts who were enlisting or being drafted into military service. Roxana Petroleum Company in Tulsa hired the first woman geologist in 1917, with Empire, Gypsy Oil Company, and Amerada Petroleum Corporation following suit in the ensuing months. Richard Conkling of Roxana Petroleum hired Helen Jeanne Skewes as an office geologist in April 1917, making her the first female geologist hired as a full-time employee for an oil company. She was not only expected to do geological work, but also to serve as Conkling's assistant. Soon after she was hired, she met a male geologist named Fred Plummer and left the working world to get married.[243] It was common practice at the time for women to stop working once they married, since they no longer needed to support themselves with the addition of a male breadwinner to their family.[244] In 1924 the Plummers moved to Houston, where Helen developed a friendship with three female micropaleontologists who were employed by oil companies near the gulf coast. These women were Esther Richards (later Applin), Alva Ellisor, and Hedwig Kniker, who were pioneers in the use of micropaleontology to search for black gold.

In 1921 there were twelve women members of the American Association of Petroleum Geologists. Of those, six continued working in the oil industry for an extended period of time: Constance Eirich, Vita Lee Chase, Dollie Radler, Alva Ellisor, Hedwig Kniker, and Esther Richards. Alva Ellisor and Esther Richards (later Applin) were also members of the Paleontological Society.[245] Just like men, women joined the professional organizations associated with their specific branches of the oil industry. These organizations provided continuing education and networking opportunities for their members, and women saw the benefit of the prospects presented by professional organizations just as their male counterparts did. By joining these groups, women were reaching out to become part of the larger oil industry community to

[243] Gries, *Anomalies*, 2–6. Roxana Petroleum Company became Shell Oil Company, Empire became Cities Service Oil Company, Gypsy Oil Company became Gulf, and Amerada Petroleum Corporation became Amerada-Hess.
[244] Mary E. Cookingham, "Combining Marriage, Motherhood, and Jobs Before World War II: Women College Graduates, Classes of 1905–1935," *Journal of Family History* (Summer 1984): 182–84.
[245] Dollie Radler Hall, "Women in Exploration: Abstract," *Tulsa Geological Society Digest* 33 (1965): 295–98.

advance their careers. They were accepted into these organizations as equal members, in contrast to the male-only geology fraternity that necessitated the creation of Chi Upsilon geology sorority at the University of Oklahoma. Not only did women seek to network with other women, but also with the men in the industry in hopes of career advancement.

A byproduct of joining these organizations was continued fellowship with other women in the industry—women who understood the challenges of working in male-dominated petroleum industry offices, despite being employed by different companies. Alva Ellisor worked for Humble Oil and Refining Company of Houston, Esther Richards was hired by Rio Bravo Oil Company, and Hedwig Kniker was employed by the Texas Company. All three women worked in the micropaleontological field around the Gulf of Mexico, and made major discoveries that had a huge impact on the ability of exploration geologists to find oil and natural gas.[246] These three trailblazing women cowrote a paper in 1924 entitled "Subsurface Stratigraphy of the Coastal Plain of Texas and Louisiana."[247] In this paper, they outlined their work in micropaleontology, which "involved the identification of the tiny, microscopic fossilized shells of the most primitive, single-celled animals—foraminifera." By analyzing where these fossils were found in core samples taken from potential drilling sites, geologists could determine the best places to drill for oil and gas.[248] Pioneering geologist Sidney Powers understood how significant the contributions of Ellisor, Kniker, and Richards were to exploration geology, as he discussed their stratigraphy work with his staff at Amerada.[249] According Robbie Rice Gries, the first female president of the American Association of Petroleum Geologists, "Micropaleontology was a technological

[246] Ruth Sheldon, "The Ladies Find Oil," Scribner's Commentator 10 (May 1941): 31; Robbie Rice Gries, *Anomalies: Pioneering Women in Petroleum Geology, 1917–2017* (Denver, CO: Jewel Publishing, 2017), 91, 94, 105.
[247] "Program of Ninth Annual Meeting American Association of Petroleum Geologists," March 27–29, 1924, Houston, TX, Robbie Rice Gries Archives, Lakewood, CO.
[248] Gries, *Anomalies*, 89.
[249] Dollie Radler Hall, "Women in Exploration: Abstract," *Tulsa Geological Society Digest* 33 (1965): 295–98.

breakthrough of revolutionary standing. It was the most important subsurface correlation tool available for decades and, even today, it continues to contribute to better geological science."[250]

The professional relationship that these women fostered despite working for competing companies, and the personal relationship they created shows the importance of women building communities for themselves within the oil industry for career advancement and friendship. Esther Richards wrote a memoir that was quote extensively by Robbie Rice Gries in her work *Anomalies: Pioneering Women in Petroleum Geology, 1917–2017*. In this memoir, Richards recorded her memories of living and working with Ellisor and Kniker in the Houston area. These three women were competitors, coworkers, roommates, and friends. Richards, who earned her bachelor's and master's degrees in geology from the University of California at Berkeley, arrived at the Texas Gulf Coast on Labor Day 1920 to set up Rio Bravo's micropaleontology lab. Ellisor, who was a stand-out student from the University of Texas at Austin, established Humble's micropaleontology lab shortly thereafter, and the Texas Company brought in Kniker, another well-regarded University of Texas graduate, almost immediately following the other two women.[251] It seemed fitting that these three women who shared common interests and common careers would become roommates. As Richards wrote, "All of the women specializing in geology and paleontology knew about each other, and Alva [Ellisor] was one of the two at the Univ. of Texas. I had had some correspondence with her, so when she arrived in Houston I was delighted to meet her."[252] Even before they met in person, the women who majored in geology knew of each other, and made a point to write to one another, starting personal and professional relationships that would produce innovative research as well as personal fulfillment. Richards, Ellisor, and Kniker would take swimming trips to Galveston on weekends, and spend their

[250] Gries, *Anomalies*, 89.
[251] Frederic Simmonds to W. J. Battle, September 23, 1914, Robbie Rice Gries Archives, Lakewood, CO; F. W. Rolshausen and R. D. Woods, "The Search for Oil," Robbie Rice Gries Archives, Lakewood, CO; "Alva C. Ellisor, Distinguished Geology Alumna," *University of Texas Department of Geology Newsletter* 11 (July 1962): 2; Gries, *Anomalies*, 94–95.
[252] Esther English Richards Applin, quoted in Gries, *Anomalies*, 95.

evenings "talking shop." In this small, female-only network, Richards, Ellisor, and Kniker could be free to exchange ideas, try new theories, and potentially fail without the fear of doing so in front of their male counterparts, who might use that failure to discount not just the individual but the entire female gender. Their isolation on the Gulf Coast gave these three women a safe space to collaborate without external pressure from male colleagues. It also gave them a place to build a friendship—a relationship beyond the science.

The three micropaleontologists would cooperate on projects, despite the pressure in the oil industry to produce big discoveries for your company and to not leak information to competitors. The desire to strengthen their professional and personal relationships overrode their desire to keep proprietary information secret for their companies. On one occasion, Richards discussed a new technique with Ellisor:

> The materials they had worked with were much older, geologically, than any we would expect to find in sub-surface deposits in our Houston area, but when I got back to my office, I began to try out their mud-washing techniques on the well samples I was working with. Of course, I told Alva and she began to try it too. After what seemed to us to be a very long time, we hit pay dirt. It so happened that both Alva and I were working on samples from the same well on the same day, and found a nice collection of forams independently and at approximately the same time.[253]

[253] Esther English Richards Applin, quoted in Gries, *Anomalies*, 96.

In the search for oil and gas, knowledge of the location of deposits is the key to making money. Richards, Ellisor, and Kniker all worked for different companies and "lived peaceably together," but shared scientific information with one another while keeping "company secrets."[254] The oil and gas industry is not one known for collaboration between companies, as the ultimate goal is to profit from the discoveries made beneath the earth's surface. The relationship that these three women created flew in the face of that logic, and in turn benefitted the companies for which all three worked. The collegial environment they created in Houston by working and living together was a fertile field for discovery and innovation, as they could discuss their successes and failures at home in the evenings and then build on each other's work in the lab during the day. The relationship that these women fostered made it possible for them to write important scholarly papers together and receive recognition for their work as a group. If there had only been one woman down at the gulf, it might have been more difficult for her voice to be heard. Because these women had each other, they could create an environment that fostered inventive thought—scholarly discussion among colleagues who viewed one another as equals. Had it been two men who were assigned to the region after Ellisor was hired by Humble instead of Richards and Kniker, there likely would not have been the same rapport among the three micropaleontologists and thus, between the three companies. The community that these three women created for themselves—by living together, working together, and playing together—was a unique space that allowed for innovation as well as friendship, and that innovation might not have been possible without the environment created by these women.

Ellisor, Richards, and Kniker did not limit themselves to their own small community of three that they created on the Gulf Coast. They reached out to other geologists in the area, including other female geologists, to engage a larger network of professionals. In 1923 Ellisor, Richards, and Kniker were integral in the founding of the Houston Geological Society (HGS).

[254] Alva Ellisor, "Rockhounds of Houston," 1947, Gries Archives, Lakewood, CO.

The HGS was founded with the goal of bringing the annual American Association of Petroleum Geologists meeting to Houston. Out of the seventy-three or seventy-four founding members, nine were women—Ellisor, Richards, Kniker, Laura Lee Lane, Grace Newman, Emma Jane Coffman, Elizabeth Stiles, Helen Plummer, and Reba Masterson—making roughly 12 percent of the organization female. The HGS successfully wooed the AAPG meeting to Houston in 1924, and the nine women in the organization were active on the committees that planned the convention, particularly the reception, banquet, and ladies entertainment committees. Ellisor went on to serve as vice president of the organization twice, but was never voted president.[255] Considering the proportion of women working in the oil industry at the time, it is significant that so many women were represented in this group. Women took advantage of the opportunity to join a club or organization for mutual professional benefit in proportionally large numbers. Once they became members, they found ways to assist in the work of the club in whatever ways might be most acceptable for women—in the case of the AAPG convention, party planning. The women could socialize at HGS meetings, sharing both their personal lives and their professional lives with like-minded people of the same gender who would understand their experiences. In 1933 a newspaper in Houston mentioned the women who attended the AAPG convention, noting, "Among the hundreds of delegates to the petroleum geologists' convention are seven women who are making a success at what usually is considered men's work."[256] After finding a small group of women with whom they could work and socialize through the happenstance of being assigned to the same place at the same time to study the same phenomenon, Ellisor, Richards, and Kniker branched out to meet new colleagues through an organized club, finding other local women with whom they could network and socialize.

[255] Alva Ellisor, "Rockhounds of Houston," 1947, Gries Archives, Lakewood, CO.
[256] "Women Attend Convention of Oil Geologists," unknown Houston, TX, newspaper, March 25, 1933, Gries Archives, Lakewood, CO.

Unlike the informal social groups that these women formed, or Chi Upsilon geology sorority, the HGS was a heterogenous group of men and women. In some instances, this created uncomfortable situations for the women in the organization. As they planned the 1937 AAPG convention, a "stag party" was proposed as an activity. The stag party was intended as an all-male event with alcohol and conversation among men, and would be an exclusively male opportunity for networking. As a consolation to the two women members of the HGS who were specifically not invited to the stag party, the male members sent them each "a lovely basket of flowers" as a "peace offering," with a note that stated, "While stag members of the HGS are enjoying their stag dinner, we hope you will enjoy this expression of the appreciation of the Society for the non-stag members."[257] Instead of the opportunity to meet other members of their profession and make connections with people who could potential help them rise in their chosen field, these women were told to stay home and were sent baskets of flowers with thank-you cards. Over the course of the next seven years, two more of these parties were organized, until 1944's iteration was a "flop" when they ran out of beer and sandwiches, provided "home-made entertainment" (whatever that might be), and the party ended before nine o'clock.[258] The concept of the stag party, an all-male environment for networking in a manner that might make women uncomfortable—be that with copious alcohol, cigars, or "exotic" entertainment—inherently demeans the status of female geologists. This provided yet another distinction between male and female geologists; the pebble-puppies were not invited to carouse with the rockhounds. Once again, as they were in college with the male-only geology fraternity, women were denied a networking opportunity, but in this case women were expected to help plan the event for the men. Instead of being viewed as geologists, as equals, these women were viewed as party planners—a more traditional female role. Instead of showing their appreciation by allowing the women to attend and potentially make connections to further their careers, the men sent flowers, as they might to their wives. The stag

[257] Alva Ellisor, "Rockhounds of Houston," 1947, Gries Archives, Lakewood, CO.
[258] Alva Ellisor, "Rockhounds of Houston," 1947, Gries Archives, Lakewood, CO.

party institutionalized the practice that likely took place on a regular basis anyway, although informally, by which men would discuss prospects or other geological work over drinks, just as Ellisor, Richards, and Kniker discussed their work in the evenings at home. But by making this practice a scheduled part of the convention, the HGS recognized that the "old boys' network" existed and did not have a need to invite women to join. The demise of these parties did not reflect a change in attitude toward allowing women to attend, but disappointment in the planned event—something that potentially could be blamed on the women who planned, or assisted in planning, the party. Women may have made strides in leadership in the HGS, but their male counterparts did not view that as reason enough to include them in certain networking opportunities.

Despite the gains these Houston women made in the leadership of the HGS, their influence waned over time. By 1941, women only worked on one committee for the convention—the reception committee—and only four women served—Ellisor, Stiles, Doris Malkin Curtis, and Dorothy Jung Echols. Some of the women may have moved away, as Kniker did, but regardless of this, the fact that in the early days of the HGS women made significant contributions, particularly to the planning of the AAPG conventions in the area and then were relegated to only one committee and left completely out of certain activities specifically targeted at networking and making connections show that women were finding themselves pushed to the background in an organization they helped to created and bring to prominence.

The legacy left by these women has evolved over time. While now they are best remembered for their scientific contributions to the field, those who knew them personally remembered more than their professional achievements. Esther Richards Applin was described as a person who knew the value of collaboration, as evidenced by her work with Kniker and Ellisor,

as well as a "mentor to many young geologists throughout her professional life."[259] Some of these remembrances, however, were couched in the language of the era in which they were written, and inform the reader of both the impact of Applin and the values of the 1970s. In Applin's memorial in the Geological Society of America's publication in 1972, Applin, Kniker, and Ellisor were referred to as "girls who helped to launch the field of applied micropaleontology."[260] Instead of being called geologists or even simply women, the terminology used again, as in the case of the term "pebble-puppies," highlighted inexperience and youth rather than professionalism. The memorial also discusses Applin's presence in a male-dominated field as it relates to the "Women's Liberation" movement of the 1970s.

> In these days of raucous talk about Women's Liberation, Esther stands as an example of a truly "liberated" woman who made an outstanding reputation in a profession dominated then and now by men, before most of the more vocal advocates of "Women's Lib" were born. Not only did she contribute significantly to basic and applied micropaleontology, she also brought up two children with outstanding success. In fact, she had two careers—that of micropaleontologist and stratigrapher, and that of wife, mother, and homemaker—and was superlative at both. . . . She did not suffer fools gladly, but was always more than willing to contribute her time and fund of knowledge to the earnest but inexperienced student who came to her for help. Her work was also her hobby, and I suspect

[259] KumKum Ray and Jessica Moore, "Esther Richards Applin—Micropaleontologist Par Excellence (1895–1972), Gries Archives, Lakewood, CO.
[260] Jean M. Berdan, "Memorial to Esther Richards Applin, 1895–1972," *The Geological Society of America* (1972): 15, Gries Archives, Lakewood, CO.

> that, although grateful for the recognition that came her way, she would have worked just as hard without it.[261]

This description of Esther Richards Applin gives as much insight about the attitudes of people toward women pressing for equality in the time period in which it was written as it does biographical information about Applin and celebration of her achievements. Among those traits that are lauded was her assistance to younger members of the geological and micropaleontological community. She provided resources to students, and though it does not specify gender, it could be interpreted that she mentored both male and female students. Jean M. Berdan, writing for a predominantly male audience in the Geological Society of America's publication, derides the "Women's Libbers" of the 1970s in favor of the hardworking, uncomplaining, career woman and mother Applin and conveys a disdain for the idea that women of the 1970s—possibly women hired through Affirmative Action processes—could attain pay equity and career progression while eschewing family life by choice. There are other examples of women geologists from this time period, one of which is detailed later in this chapter, who are described in a similar manner—as gracious and hardworking as opposed to the strident women of the later twentieth century who demanded equality and greater career opportunities through legal means. Berdan was careful to mention that Applin was a "superlative" wife and mother, as well as a fine geologist, and makes it sound as if Applin merely made a hobby into a career, rather than studying and persevering to make a name for herself in a male-dominated field. According to the memorial, her contributions to the field were significant, but it was equally significant that she did not lose her femininity or her motherly instincts in order to make those contributions. Men's memorials of the time did not include the disclaimer that they were also "superlative" fathers as

[261] Berdan, "Memorial to Esther Richards Applin," 15–16, Gries Archives, Lakewood, CO.

well as first-rate geologists, but this was a characteristic that needed to be included to allow Applin to retain her femininity while being remembered for her geological accomplishments as well. The author also notes that, while Applin received accolades in her life, she would have persevered in her work regardless. The implication that Applin, a woman, did not require affirmation but would continue to achieve without recognition is characteristic of the woman or mother as the "unsung hero," who carries on in the background and keeps the world moving in spite of being ignored.

Applin, in the view of the author of her memorial, was "liberated" without being a feminist. She could at least appear to be an excellent mother and a prominent micropaleontologist. The memorial not only describes the life and contributions of a woman who made incredible contributions to her field, but it also reflects the attitude of the time in which it was written. Applin worked in a male-dominated field that, at the time of her passing, was moving into the 1970s and the era of Affirmative Action. The response to imposed hiring quotas could have been a backlash against the women who filled those positions—women perceived as "the more vocal advocates of 'Women's Lib.'" By portraying Applin, a pioneer in the field, as the ideal combination of career and family woman, the author makes a statement about how women of the oil and gas industry in the 1970s should comport themselves.

The field of micropaleontology, which had become a small enclave of geology that women could claim, brought Alva Ellisor, Esther Richards Applin, and Hedwig Kniker to the Gulf Coast in the early 1920s. Despite working for rival companies, these three women started a friendship, became roommates, and collaborated professionally to write scholarly papers about phenomena that would become important in the discovery of oil deposits. The circumstances that bred their small clique—isolation, common interests, and desire to achieve in their profession—created an environment that had far-reaching ramifications for the future of petroleum geology. While they began their work in this small, safe space—a place that allowed them to fail or

succeed without judgment from male colleagues—they did not remain in this closed-off group. They joined organized groups, such as the Houston Geological Society, and used their knowledge and position to help up and coming micropaleontologists and geologists further their careers. Ellisor, Applin, and Kniker helped one another to construct legacies while still in the formative years of their careers, something that might have taken many more years to do on their own.

"Quite a Gal": Dollie Radler Hall

In the early twentieth century, some oil companies were willing to take the chance on hiring women to work as office geologists. One of the women who was hired in the early days of the petroleum industry was Dollie Radler Hall, and during her more than sixty-year career in oil she would become known as the "foremost woman geologist."[262] When the *Broken Arrow Scout* newspaper wrote an article in 1988 about the hopeful resurgence of the oil industry in Oklahoma, their reporter consulted Hall as an expert in the field. In the article, she described the beginning of her career in that line of work. Hall trained to be a teacher, but wanted to be able to support herself as a single woman and heard two female friends discussing their work in geology:

> I knew I needed to go into something where I could make a good living; I knew that it wasn't teaching, she notes. Two young women whom she knew each were making a 'good' living in geology at $125 a month! She entered the University of Oklahoma in 1919 to work on a degree in a field with a future . . . petroleum

[262] Joan Rose, "City, State Loses 'Pioneer' Lady Hall," *Broken Arrow (OK) Ledger*, May 18, 1995, 1, 4, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

geology. She thinks that was the first year that the course of study included petroleum in the title.[263]

Hall wanted to be self-sufficient—to earn an income with which she could support herself. According to this statement, she knew that teaching was not an avenue to independence, but had heard that geology could bring in more money. To Hall, petroleum geology was "a field with a future," and she wanted to take advantage of the opportunities for advancement that an up-and-coming industry afforded. But Hall was not the first to enter this field—she modeled herself on two women that she knew who were working in the field and earning a paycheck that guaranteed them the freedom to live as single women. Hall's initial goal was not distinction in a man's field, it was monetary compensation and the ability to support herself. The growing oil industry attracted many men with its possibilities for huge payouts, so why would it not attract women as well? Whether knowingly or unknowingly, these two women inspired Hall to pursue a career in geology, where she would thrive as one of the most well-known and well-respected women in the field.

During her time at the University of Oklahoma, she helped to found Chi Upsilon women's geology fraternity in 1920. She earned an undergraduate degree and a master's degree in geology, becoming the first woman to earn a master's in geology from the institution.[264] After graduating with her master's degree, she went to work for Dr. Sidney Powers at Amerada Petroleum Corporation in Tulsa as an assistant geologist. This career opportunity was open to her for two reasons. First, there were already women in oil companies doing excellent, profitable

[263] Roberta Parker, "Pioneer Geologist Says Oil to Make Comeback," *Broken Arrow (OK) Scout*, March 16, 1988, 10B, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[264] Paul S. Hendrick, "Who's Who in Petroleum," *Tulsa (OK) Daily World*, February 5, 1950, 33, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

geological work. Hall herself noted two OU graduates who came before her, Linda Green and Grace Jennings, who worked for Roxana and Marland, respectively. At Amerada, where Hall would build her career, they had already employed one woman who was only leaving because of her marriage.[265] Second, Sidney Powers, the chief geologist at Amerada, had noticed her when she was assisting one of her professors, Dr. Charles Decker, at an American Association of Petroleum Geologists (AAPG) meeting in Tulsa. Rebekah Edmond described the process Amerada used in hiring Hall in a piece about her that was written to celebrate her longevity as a working geologist, still working at age eighty-two, for the *AAPG Explorer* magazine:

> Shortly before graduation in 1921, she received a wire from Dr. Sidney Powers, chief geologist of the Amerada Petroleum Corporation (now Amerada Hess Corp.), requesting her to meet him for an interview in Oklahoma City. Powers' wire also said that if she couldn't meet him in Oklahoma City, to report for work in Tulsa on January [crossed out and "June" written over it] 15. (Earlier that year, Hall and two other women geologists had attended an AAPG meeting in Tulsa where, unknown to her, Powers was sizing her up). . . . "We met in a geology office in Oklahoma City and Dr. Powers asked me if I was in mourning. I said no, and he recalled that I wore a black dress in Tulsa at the AAPG meeting, and still was wearing a black dress. I told him it was the only good dress I owned. He said that if I came to work for him, I should never wear black. I haven't worn the color in years."[266]

[265] Dollie Radler Hall, "Women in Exploration: Abstract," Tulsa Geological Society Digest 33 (1966): 296–298, archives.datapages.com/data/tgs/digest/data/033/033001/295_tgs330295a.htm?q=%2BtextStrip%3Adollie+textStrip%3Aradler+textStrip%3Ahall#aff1, printed copy found in Gries Archives, original typescript found in folder 1, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[266] Rebekah Edmond, "Dollie Radler Hall—Still Practicing at 82," *AAPG Explorer*, November 1979, folder 8, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

As discussed in Chapter Two, members of Chi Upsilon, the geology sorority at OU, attended the AAPG convention and assisted with registration and other administrative aspects of the meeting. The women of Chi Upsilon were both fulfilling traditional female roles—hospitality and secretarial work—as well as using the opportunity to network with the oilmen for whom they hoped to work as geologists. Dollie was a founding member of that organization, and took advantage of the chance to attend the convention and network with other professional petroleum geologists. Because of networking opportunities at AAPG meetings and the recommendations of her professors, Hall had a job waiting for her upon her graduation. Powers knew that he wanted to hire her, and essentially told her that she could either meet him for an interview or just show up in Amerada's Tulsa office to start work in June. This would be an incredible opportunity for any graduate, let alone a woman graduating in a male-dominated field. The opportunity to work in her chosen profession in 1921 was enough to energize her and make her ready to accept the position, whatever irritations might accompany it. In fact, looking back on her hiring at Amerada, Hall "often recalled that Amerada appeared to have no bias against women; she actually was the second woman geologist to go to work for the company."[267]

Amerada hired qualified women, which was a huge leap forward in job equality in oil offices, but it seems they did make comments to these female hires that they might not make to their male counterparts. Would an executive or supervisor request that a male geologist not wear a certain color? Hall, like many of her contemporaries, only had one good dress, and it happened to be black. Because it was the only garment she could wear to make a professional impression, she wore on both occasions that she met with Sidney

[267] Joan Rose, "City, State Loses 'Pioneer Lady Hall," *Broken Arrow (OK) Ledger*, May 18, 1995, 1, 4, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

Powers. It is obvious from his comment that Powers did not like to see a young woman wearing black, and instead expected her clothing to be more ornamental than practical. It is likely that this type of inspection was reserved for female employees—Powers may have perceived a man's suit as a more utilitarian garment than a woman's dress. It appears that Hall was willing to swallow what she must have perceived as the small injustices, such as scrutiny of her clothing, to achieve her goal of employment in petroleum geology.

Dollie's involvement in the women's geology fraternity Chi Upsilon, and as a result her presence at the AAPG convention in Tulsa, led to an opportunity that she might not have otherwise had, or at the very least would not have come so easily. Through her club community and its work, she made the connections necessary to find employment that led to a long, successful career in the oil industry. Despite Sidney Powers's wish to hire her, even if he could not conduct a proper interview, he still judged her based on her clothing and appearance. While her dress did not change Powers's mind about employing her, even at the age of eighty-two Hall said that she had not worn the color in years. She took her male mentor's criticism of her appearance to heart, and long after his death heeded his advice not only about geology, but also about expected fashion.

By 1927 Hall's work was being noticed by her peers, and was discussed in articles about the industry. A story in the *Daily Oklahoman* in 1927 entitled "Call a Woman a Rock Hound?'" featured Hall and one of her contemporaries, Fanny Carter Edson, noting their successes in the field:

> Within the span of a very few years women have moved into another formerly exclusive profession for men and are now holding high positions in various

> geological capacities for oil companies. Miss Dollie Radler, graduate of the University of Oklahoma, administrative geologist for Amerada Petroleum corporation of Tulsa, and Mrs. Fannie C. Edson, geologist with the Roxana Petroleum, have reached high places in the profession. . . . Dr. V. E. Monnett, director of the school of geology at the University of Oklahoma, says that he is unable to fill the demand for women geologists. Introduction of microscopes into laboratory research has opened a new field for women, because they are more painstaking and patient than men and turn out better work in laboratory work as a whole. Only drawback to women geologists, oil company officials say, is marriage.[268]

Dollie Radler and Fannie Edson are mentioned by name, as they had moved beyond laboratory work and were then in "high places in the profession." In what may seem surprising for 1927, however, the article notes that women were in demand as employees in oil company labs. Companies sought women for micropaleontology—to work in their labs because of the perception that women were more detail oriented and patient. With those skills, women would be superior to men at finding microscopic fossils or other tell-tale signs of oil deposits. This was the same type of work that Esther Richards Applin, Hedwig Kniker, and Alva Ellisor did on the Texas Gulf Coast. Dr. Monnett, the director of OU's School of Geology, mentions that there are not enough women in the program to keep up with the demand for female geologists. This might explain why Chi Upsilon saw an increase in membership in the 1927 school year and began a new expansion program, as noted in Chapter Two.

[268] "Call a Woman a 'Rock Hound?,'" *Daily Oklahoman* (Oklahoma City, OK), April 17, 1927, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

The one barrier that could not yet be broken, however, was that marriage spelled the end of a woman's career. Once a woman married, it was expected that she would give up her job and stay home as a wife and, eventually, a mother. As will be mentioned later, Dollie Radler married at the older than average age of thirty-six, after she had established herself as an indispensable part of the Amerada operation. But most women of her time did not work as single women for that long, and were thus not as difficult to replace in the laboratory upon their marriage.[269] This may have been one reason why Monnett could not fill the demand—he had to replace women that he had already recommended, who had later gotten married, with new hires, and the demand exceeded the supply. The fact that the article mentions Monnett, whose wife was involved with Chi Upsilon at OU and who encouraged women in the geology department, shows that the growing network of women at OU was gaining esteem in the industry. The fraternity's activities to engage women in both greater academic pursuits and in career networking opportunities were bearing fruit on the job front.

The article goes on to point out that Hall supervised nearly one hundred men in her department, and oversaw a budget of about $500,000 annually.[270] These two administrative tasks would have been just as surprising, if not more surprising, than her scientific work. It was one thing for a woman to perform geological work; it was yet another for men to have to listen to her direction. As longtime Amerada employee Rolla Hudson related, "Men from other companies chided our geologists because they took orders from a woman. But she was one of the best subsurface geologists, man or woman, in the state of Oklahoma."[271] Her ability and proven

[269] The median age for first marriage for a woman in 1930 was between the ages of twenty and twenty-two. This did not leave most women much time to establish themselves in a career before being forced to leave the workforce for domestic life. US Census Bureau, "Figure MS-2 Median Age at First Marriage: 1890–Present," US Census Bureau, accessed August 16, 2020, www.census.gov/content/dam/Census/library/visualizations/time-series/demo/families-and-households/ms-2.pdf.
[270] "Call a Woman a 'Rock Hound?,'" *Daily Oklahoman* (Oklahoma City, OK), April 17, 1927, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[271] "Geology Pioneer Dollie Hall Dies," *Earth Scientist*, Fall 1995, 35, folder 8, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

knowledge in the field earned her respect among the men who worked with and for her, giving them the confidence to follow her instruction despite any ridicule they may have received from fellow male workers in the oil patch.

Despite her obvious skill, productivity, and management ability, Hall was not immune to the gender biases of the day. When her mentor, Dr. Sidney Powers, died in 1932, the position of chief geologist of Amerada was left vacant. Powers had been a giant in the industry, leaving huge shoes to be filled. Rather than promoting Hall to the position, as she was seen by many to be Powers's heir apparent, she instead was given the title of "acting chief geologist." She held this position until 1937, when Amerada hired a permanent senior geologist—a man who was Hall's protégé and friend, Rodger Denison.[272] There were few times when Hall would admit that her gender became an impediment to her career, but this seemed to be one, as she acknowledged in a letter to Denison that she never received a pay raise when she became acting chief geologist, attributing this unfair compensation to her gender.[273] Although she did the work of the senior geologist and was treated as such by the people she supervised, she was not afforded the title or the salary. This insult to her ability and seniority reflected the company's decision that it would not look good externally to have a woman in charge of this important department in a male-dominated field. She was Sidney Powers's "logical successor," but the executives at Amerada feared that "other men would not 'accept' her, so they gave her the work and the responsibility but not the title."[274] The men in her own office might respect her and her work, but the executives at Amerada did not feel that they could take a chance on men outside the company doing the same. Because she was an excellent geologist and made an impression on significant male geologists early in her career, she was able to push past many of the barriers that might have kept

[272] Roberta Parker, "Dollie Earned Her Place in a Man's World of Oil," *Southside Times*, October 17, 1973, 1, 4, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK; Gries, *Anomalies*, 37.
[273] Gries, *Anomalies*, 37–38.
[274] Joan Rose, "City, State Loses 'Pioneer' Lady Hall," *Broken Arrow Ledger*, May 18, 1995, 1, 4, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

her in lower-level positions or forced her to quit once she married in 1933. In fact, as Robbie Rice Gries observed, "Amerada was the only company that seemed to have a policy retaining women when they married, probably owing to Dollie and her important role."[275] Regardless of the faith Amerada had in Hall's work, they would not fight against gender expectations enough to give her the title she deserved for the work she was actually performing.

Any news coverage of Hall's career, both during her lifetime and in obituaries and tributes, glossed over the more unjust aspects of being a woman in the oil industry, including quotes from Hall that minimize the impact of her gender on the trajectory of her career. Hall always sounds grateful for the opportunities she did receive, never frustrated by, or even wistful for, any achievements denied her because of her gender. She related one anecdote to a reporter as an "amusing moment" in which a man refused to speak to her because he would not talk with a woman:

> Being a woman in a profession dominated by men has had its more amusing moments, Mrs. Hall said. She told of one occasion when she was acting chief geologist for Amerada. "A man came into the office and asked to speak to the chief geologist. The receptionist said he could speak to Miss Radler, who was acting geologist. 'A woman, I won't talk to a woman.' And he walked out the door. The receptionist was astounded. She came in my office and told me about it."[276]

[275] Gries, 4, 36.
[276] "Geology is Good Field for Women," *Houston (TX) Post*, March 28, 1963, section 2, 9, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

Hall's view of the man's dismissive attitude toward female geologists is, in a way, dismissive itself. Perhaps her own security in her skills and job performance gave her the confidence to be amused by such blatant sexism. Or perhaps she experienced this type of behavior so often that it was easy to ignore. It is unsurprising that men in the oil industry would question working with a woman in a powerful position—the only exposure that most of these men would have had to a female in an oil company office would be with secretaries. Transitioning from seeing a woman as a capable scientist and administrator rather than a subordinate or housewife would be a huge paradigm shift. The man who walked out the door missed a chance to interact with one of the elite geoscientists of his day, all because she was a "she." Despite these kinds of reactions, Hall continued to impress her colleagues and earn their respect, provided they gave her the opportunity.

Hall was not the only woman to hold a significant position in a Tulsa oil company. In a November 1927 article in the *San Angelo Daily Standard* titled "Tulsa Could Establish an Oil Firm with Women Holding Down the Big Positions," Hall is listed with three other prominent Tulsa women as the core of a hypothetical, female-led oil company:

> If anyone doubts that this is the day of opportunity for women in the business world, let him make a brief survey of the oil industry—and be convinced. Tulsa, center of the Oklahoma oil world, has a population of more than 100,000. Of this number fully 15,000 women and girls are employed in various phases of the producing and marketing of oil. Furthermore, not all of them are stenographers and filing clerks, either. Some of them have reached the very top of the ladder; there are high-salaried women executives, other women who conduct their own

> business in a most efficient and prosperous manner, women who have any number of men taking orders from them.[277]

This newspaper article paints quite a rosy picture of the female place in the oil companies of Tulsa. According to the author, a successful oil concern could be created with the high-profile women in Tulsa's industry. They list the wealthy Mrs. Marion D. Murray, who served as president of her own $15 million oil company despite never having worked in business until six years prior. She became intrigued with literature on the industry that her husband had laying around their home, and threw off her social engagements in favor of supervising leases. Hazel F. Rounds would be superintendent of production for the fictional organization. In her role, she interacted with "thousands of workers" and ensured that the black gold flowed sufficiently from the ground. The writer rounded out the hypothetical company with Ella S. Tumulty of Skelly Oil as treasurer, Dollie Radler as geologist, and Clara Gartman as sales manager.[278]

The article implies that these women would be a formidable force if they joined together to form their own company. It could just as easily be assumed, however, that these women were taken more seriously as anomalies in the company of men. As a group of women in a man's field, they may have been dismissed, but as individual women within the power structure created by men, they could be perceived in a context of being controlled by men, whether they actually were or not. Mrs. Murray would be seen as answerable to her husband; Dollie Radler was assistant geologist, never supervising geologist; and Ella Tumulty wrote large checks for Skelly Oil, but it was not her money or her decision. In the view of the male-dominated oil field culture, these

[277] "Tulsa Could Establish an Oil Firm with Women Holding Down the Big Positions," *San Angelo (TX) Daily Standard*, November 1927, folder 1, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[278] Ibid.

women were directed by men, whether their day-to-day work was really influenced by men or not.

It also feels as if there is a certain level of exaggeration to this article. Although the article mentions that sales manager Clara Gartman earned "a man's salary," it would be interesting to see the financial records of Skelly Oil to see if she was indeed making the same salary as a man in that position, or if she was just making more than a female secretary or file clerk. There were likely more women employed at oil companies in Tulsa in the 1920s than would be commonly thought due to the prevalence of the industry in the city and abundance of opportunity for employment. The article ends with the assertion, "And many a hard boiled field foreman or camp manager takes his orders, most meekly, from a dainty, efficient woman in the main office."[279] Knowing Dollie Radler's stated concerns about the way other men in the industry might sneer at the men working under her, the word "many" appears to be an overstatement. The women who did supervise men, whether in an official or acting capacity, had to work hard to earn respect, and while those women could very well be described as efficient, it is difficult to imagine such women fitting the term "dainty."

Dollie Radler Hall did eventually strike out on her own. During World War II she took up the slack as the male geologists went to war, and that added experience gave her added skills to solidify her ability to make her way on her own.[280] In 1950 Hall resigned from Amerada and opened her own consulting office, which was eventually located in the Philtower Building in Tulsa. Her Amerada colleagues marked her departure with an ode to her work with the company:

[279] Ibid.
[280] Paul S. Hendrick, "Who's Who in Petroleum," *Tulsa Daily World*, February 5, 1950, 33, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

Bright of eye, fresh from Yale, rattling her sheepskin she'd earned by hard working

Waiting on tables for students at Norman and tutoring dumb ones,

Dollie was first of her sex a geology master from O.U.

When she came over to Tulsa to help Sidney build a department

In Twenty-One, just two years since DeGolyer conceived Amerada.

Quickly she learned of the things for her doing and did them efficiently,

Keeping the surface men happy by fighting their battles for action.

Hosterman, Clark (not L. Willis but Carl) and Jess Vernon were mapping

Structures in Seminole, Osage, Muskogee and Okmulgee counties,

Yelling for leasing and subsequent drilling which Dollie then fostered,

Busily fixing maps, gathering data for Sidney to send on to New York.

Each of their structures a priceless discovery worth many millions

Until the day they were drilled and found loaded with oceans of water. . . .

Now we are gathered to praise her long service, to wish her good hunting

Wherever she makes geological plays as she made for the company;

Lauding her courage in taking the hard way when she was secure; and

Lastly, to offer a token of friendship and lasting esteem

To Dollie Radler, our friend and supporter and fighter of battles.[281]

Hall described her early days in the oil business as a time when "the business world was beginning to look on career women more favorably. . . . Her early work was rewarded on its merit

[281] J. L. F., "Hail to Dollie," February 3, 1950, folder 1, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

and there were no questions of men or women . . . until the chief geologist died."[282] By the time Hall left, she had proven herself in what was considered a man's profession. She had helped develop the Fitts oil field in Oklahoma and created multimillion-dollar deals for Amerada.[283] Perhaps knowing that she would never be named chief geologist gave her incentive to move out on her own.

Hall's unique position as a female geologist created interest in her life and work that news outlets exploited. She was also active in community organizations, founding the Pilot Club in Tulsa and lending her talents and time to other area groups such as the Business and Professional Women club. She also helped to found the Desk and Derrick Club branch in Tulsa, a group created in Louisiana to provide fellowship and educational opportunities for women working for oil companies. Reporters referred to Hall differently in articles that discussed disparate aspects of her life. When articles featured Hall as the top woman in her field and as a premier geologist, she is called Dollie Radler Hall or some other combination of her three names. In articles that focus on her civic activities, such as her work with the Tulsa Pilot Club, she is referred to as Mrs. Charles S. Hall. Women of Hall's social class were expected to participate in civic and social clubs. Because this was part of a woman's traditional role, Hall was referred to in a traditional manner—under her husband's name.[284] When she was recognized for her achievements in the oil industry, she was performing outside the realm of women's normal societal functions, and therefore she could be called by her own name, as a man would be. It is a testament to her importance in her field that she was addressed by her given name, and sometimes

[282] Roberta Parker, "Pioneer Geologist Says Oil to Make Comeback," *Broken Arrow (OK) Daily Scout*, March 16, 1988, 10B, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[283] Joan Rose, "City, State Loses 'Pioneer' Lady Hall," *Broken Arrow Ledger*, May 18, 1995, 1, 4, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[284] "Mrs. Hall Heads Tulsa Pilot Club," *Tulsa (OK) Daily World*, April 27, 1947, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK; "Tulsa Women Hold Top Posts," *Tulsa (OK) Sunday World*, August 24, 1947, section 4, 1, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

by her full name with maiden name included, when newspapers discussed her professional achievements. In her obituary, Hall is described as:

> a pioneer in the women's movement before anyone knew there was a 'women's movement.' Without being strident, militant or demanding, she went out and made her mark in a profession that was and still is dominated by men, and she did it the old fashioned way, by hard work, intelligence and know-how. She was, first and foremost, a lady. Which meant she did things in a lady-like way, with softness, compassion, nurturing. And she won honors and respect in those fields usually left to the ladies. Things like community service, youth work, fund-raising for worthwhile causes, leadership in women's organizations.[285]

The people who eulogized Hall attributed her ability to succeed to her embracing the characteristics of her gender, not denying them. She used the expected attributes of women—"softness, compassion, nurturing"—in both her professional life and her community involvement to make her mark. She is praised for not being a rabble-rouser or rocking the boat to get ahead, but instead working within the limited parameters she was provided, but doing it extremely well. To earn respect, she had to remain "lady-like" even in a man's profession. She is described in very similar terms as Esther Richards Applin was in her memorial—having an "outstanding reputation" in her field without being a proponent of "Women's Lib."[286] Despite the more than two decades that passed between Applin's death and Hall's death, the obituaries contain strikingly similar language. Both women defied the norms of the time in which they launched

[285] "Dollie Hall: Role Model, Pioneer," *Broken Arrow Ledger*, May 18, 1995, 2A, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.
[286] Berdan, "Memorial to Esther Richards Applin," 15, Gries Archives, Lakewood, CO.

their careers, and both women were lauded for persevering and achieving greatness without making political or social waves. They existed in two different worlds: the business sphere and the domestic sphere. While this is common for women in the late twentieth and early twenty-first centuries, this dual citizenship was nearly unheard-of in the early and mid-twentieth century. Hall was both Dollie Radler Hall and Mrs. Charles Hall, depending on how she was functioning in public. Both of these identities may have been the same person, but she was likely treated differently in the different spheres she inhabited.

One of the most important things Dollie Radler Hall did as an elder female member of the oil industry community was reaching out to younger women to help them achieve as she had. In a newspaper article celebrating her birthday in 1993, T. Harry Humphreys praised her for "always helping young geologists get a start." Dr. Phil Chenoweth wrote that Hall was

> Quite a gal. She was a geologist when it was tough for a woman to get out in the field in the high boots and britches. She got to be quite a well known [*sic*] geologist. I used her as an example to girls in my classes at OU. I have always had a soft spot in my heart for women who have a desire to get ahead professionally.[287]

Chenoweth compliments Hall, but still manages to include a condescending tone when speaking about his warm feelings toward women who want to succeed professionally. Still, he does bring up an important point. Hall came up in a time when it was difficult to be a woman in a man's field, and she sought to make the road easier for the women who followed in her footsteps. When

[287] "Happy Birthday, Dollie Hall," *Broken Arrow (OK) Scout*, June 2, 1993, 6A, folder 4, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

she was a young geologist, her mentors were men. As the dean of women in the oil business, Hall was in a position to advise and promote other women coming up through the ranks, and was known for doing so. She was a living testament to the long arc of history—how hard work and challenging societal norms could break barriers and lead to greater opportunities for the women to come after her.

In the later years of her full-time career, the American Association of Petroleum Geologists made her its first female honorary member, and noted in the program for the ceremony that

> This reduction in her work-load gave Dollie greater opportunity to foster her program of assisting young men and women to make their way through the University of Oklahoma and become trained geologists, who went to work for many oil companies, where Dollie had the jobs lined up already. Many of her sponsored youngsters have gone on to success as scientists, executives, business men, and wives. She watched over them in college, made them earn their way and gave them a firm belief in personal responsibility that has been helpful to most. The exact number who followed her plan is known only to Dollie.[288]

Included in the list of positions described in 1963 by the American Association of Petroleum Geologists that Hall helped to place the women she mentored was "wife," indeed a product of the times. However, it oftentimes was a job in itself to be the wife of a geologist or a businessman,

[288] "Dollie Radler Hall, Honorary Member," Program, American Association of Petroleum Geologists Honorees, 1963, July 1963, 1484, folder 6, box 1, Dollie Radler Hall Collection, Western History Collections, University of Oklahoma Libraries, Norman, OK.

depending on the education of the woman. She could be assisting with maps or other geological work, or she could be performing more traditional corporate wife duties, such as throwing parties and being involved in various philanthropic and social organizations, as will be discussed in Chapter Five. Oil company work was not confined to the company headquarters; it included social engagements and philanthropic duties, which were the traditional realms of women.

Hall created a community of women, and men, as the program states, whom she helped to find their place in the industry that had been a home to her. Arguably her assistance meant more to the women she helped, as they related specifically to her ascent as fellow females in a male-dominated field. By providing networking opportunities for women to obtain positions in oil companies, she created a community of female empowerment that would outlive her. As of 2019, the American Association of Petroleum Geologists maintains a Women's Network Special Interest Group, with a mission to "increase participation and advancement of women in Earth sciences and the Energy Industry."[289] The importance of using position and power to help new college graduates or others breaking into the oil industry was nothing new to men in the industry, and with the difficulties associated with women trying to find work in oil companies, it was especially imperative for a network of women to exist as well. Dollie Radler Hall and the oil women of her generation set the example in networking and assisting the women who would come behind them to find positions inside the twentieth century's prominent oil companies.

Women Stepped Forward: Women in Geosciences in World War II

Wartime provided a significant opportunity for women to enter the workforce, both in factories and in offices. The contributions of women on the home front during

[289] "AAPG Special Interest Groups (SIGs)," American Association of Petroleum Geologists, www.aapg.org/sigs/m/1.

World War II has been explored in monographs, articles, oral history projects, and museum exhibits. Women not only kept the home fires burning, they also worked the factories that produced the implements of war. When men enlisted or were drafted into the armed forces, women left the home to enter the workforce, ensuring that production would not suffer for the absence of male workers.[290] Of the industries important to war production, the oil industry has been little discussed, as has the impact of women working on well sites, refineries, and corporate offices of oil companies during the world wars. The oil industry followed the basic pattern of other war industries, using women as substitute workers for the men who went to war. Since the history of women in all aspects of the oil industry is a largely unexplored field, and it is no surprise that the contributions of women in oil-producing regions during World War II is one of many questions yet to be addressed in this field.

Employment for women in many different professions surged during wartime. A survey of the literature of the home front and women's roles in the workforce during World War II lays the foundation for a more specific examination of the contributions of women to the oil industry. In *A Mouthful of Rivets: Women at Work in World War II* (1994), Nancy Baker Wise and Christy Wise describe the positive experiences women had in war work. According to the authors, most women were ready to return home when the end of the war came and they were laid off, although a few protested their dismissals.[291] Another work that uses the personal recollections of women in war work is *American Women in a World at War: Contemporary Accounts from World War II* (1997),

[290] Nancy Baker Wise and Christy Wise, *A Mouthful of Rivets: Women at Work in World War II* (San Francisco: Jossey-Bass, 1994); Judy Barrett Litoff and David C. Smith, eds., *American Women in a World at War: Contemporary Accounts from World War II* (Wilmington, DE: Scholarly Resources, 1997); Cindy Weigand, *Texas Women in World War II* (Lanham, MD: Republic of Texas Press, 2003); Brenda Ralph Lewis, *Women at War: The Women of World War II-At Home, At Work, On the Front Line* (Pleasantville, NY: Reader's Digest, 2002); Melissa A. McEuen, *Making War, Making Women: Femininity and Duty on the American Home Front, 1941-1945* (Athens, GA: University of Georgia Press, 2011).
[291] Baker Wise and Wise, *A Mouthful of Rivets*.

edited by Judy Barrett Litoff and David C. Smith. This work is also a positive view of the experiences of women in the labor force during World War II. The authors include the opinions of women such as Susan B. Anthony II that the contributions of women should impact their status in the workforce after the war, lending a political aspect to the accounts.[292] Brenda Ralph Lewis explores the lives of women in the workforce, women at home, and women in military service during World War II in her work *Women at War: The Women of World War II—At Home, At Work, On the Front Line* (2002). Lewis does address the prejudice and harassment experienced by women who entered male-dominated fields of war work, particularly by minority women. A connection is drawn between the self-confidence created by participation in war work and the rise of the women's movement in the 1960s. Although not solely based on personal narratives, Lewis does employ anecdotal evidence in her argument.[293]

The historiography of women in the workforce during World War II focuses mainly on those women who worked in solely war-related industries such as aviation and ship building, or women who served in military auxiliary groups. Specific industries beyond these are not as readily discussed. The oil industry was integral to the war effort, but was not necessarily classified as a war industry despite the rationing of its products. As such, women's impact in this area of war work has not been explored extensively.

The machinery of war ran on oil. As the war progressed, more oil was needed to accommodate the growth in the number of tanks, ships, airplanes, and other weapons of war. According to Hanson Baldwin in his article "Oil Strategy in World War II" featured in the centennial issue of the *American Petroleum Institute Quarterly*, "Oil—the attempt to conquer its

[292] Barrett Litoff and Smith, eds., *American Women in a World at War*.
[293] Lewis, *Women at War*.

sources or to manufacture it, the attempt to deny it to an enemy was a major factor in determining the strategy of World War II." Oil and the production of products from oil was an indispensable part of the victory strategy of the Allies.[294] The production of oil and the efforts to restrict Axis access to oil reserves were significant to the Allied war effort.

As Keith Miller relates in his article "How Important Was Oil in World War II," George S. Patton's tank forces were crippled by a lack of gasoline as they approached the Seigfried Line. In Miller's estimation, "oil was the indispensable product, in all its forms, to the Allied campaigns around the world."[295] Oil was needed to create airplane runways, the components of explosives, synthetic rubber for supplies like tires, lubricating oil for weapons, and gasoline for tanks, jeeps, ships, and airplanes. Oil companies across America responded to the call for increased production to meet the wartime demand. To coordinate the effort to provide sufficient oil supplies for the American military, President Franklin Roosevelt established the Petroleum Administration for War, headed by Harold Ickes and Ralph K. Davies, who was the vice president of Standard Oil of California.[296] The cooperation of government and private industry created an environment in which production could increase and distribution of products could be regulated for the benefit of the military. Out of seven million barrels of oil consumed by the Allies in World War II, the United States supplied six million barrels, effectively powering the machinery of war and helping to ensure victory.[297]

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[294] Hanson Baldwin, "Oil Strategy in World War II," *American Petroleum Institute Quarterly* (1959): 10-11, reprinted at "Essays," Oil150, Oil Region Alliance of Business, http://www.oil150.com/essays/2007/08/oil-strategy-in-world-war-ii, accessed October 30, 2012. Baldwin further states that "without oil our military power would have been muscle bound—ponderous, formidable in appearance, but useless."

[295] Keith Miller, "How Important Was Oil in World War II?," *History News Network*, http://hnn.us/articles/339.html, accessed December 7, 2012.

[296] Ibid. The Petroleum Administration for War included the Petroleum Industry War Council, a group of 72 leading oil men who would advise the administration on matters pertaining to the production and distribution of oil. Miller mentions Harold Ickes's book *Fightin' Oil* in his essay.

[297] Ibid.

The war, however, did not have an immediate beneficial effect on all areas of the oil industry. In studying the annual reports of the Kerlyn Oil Company, the company that would become Kerr-McGee Oil Industries in 1946, showed a lack of funding for exploration and drilling in the fiscal year ending June 30, 1942. Dean Terrill, on behalf of the board of directors of Kerlyn, reported that because of "the slackened pace of petroleum operations in general, the policy of the Company to participate as actively as possible in geophysical exploration, lease acquisitions and promotion and development has been curtailed." [298] Despite mobilization for war, the oil industry, at least in some quarters, was unaffected by the burgeoning need for oil to fuel the machines of war. It seems that Kerlyn's board members might have anticipated an increased demand for their product, as later in the annual report Terrill writes that "as proud, loyal Americans" the company would adapt to any regulations or restrictions placed on it during the course of the war. The company's leaders anticipated that it would "survive and grow with the United States of America."[299]

The fiscal year ending June 30, 1943, was not much more promising by way of profits, but the directors had "responded to the pleas of the Administration to the Industry to intensify efforts toward the discovery of new oil reserves."[300] New fields of oil had become increasingly difficult to locate in the United States with the limitations of the technology available. By the fiscal year ending June 30, 1945, the board of directors was pleased to report that it was "the most active in the Company's history."[301] The war had increased demand for oil production. With an increased demand in production came an increase in need for personnel in the field to cope with the demand. While the Kerlyn annual reports make no specific mention of female employees, the

[298] Board of directors report, *Annual Report of Kerlyn Oil Company, A Delaware Corporation, for the Fiscal Year Ended June 30, 1942*, September 18, 1942, box 91, folder 1, Kerr-McGee Collection, Oklahoma Historical Society Research Center, Oklahoma City, OK (hereafter cited as Kerr-McGee Collection).
[299] Ibid.
[300] Board of directors report, *Annual Report of Kerlyn Oil Company, A Delaware Corporation, for the Fiscal Year Ended June 30, 1943*, September 23, 1942, box 91, folder 1, Kerr-McGee Collection.
[301] Board of directors report, *Annual Report of Kerlyn Oil Company, A Delaware Corporation, for the Fiscal Year Ended June 30, 1945*, box 91, folder 1, Kerr-McGee Collection.

opportunity for growth by 1943 and the preponderance of men who had moved from industry to the military left openings for women to enter a previously unconsidered field.

The Tulsa Chamber of Commerce investigated the employment patterns of the city shortly after World War II. The chamber compared prewar, 1945, and postwar employment statistics to create a picture of the changes that had occurred during the war years and the possibilities of growth for the future.[302] In a chapter describing the employment of women in various industries, the pamphlet states that, "Women stepped forward to fill men's shoes in each major industry group during the war," and that "they have demonstrated equal facility with men in many other types of mechanical operations for which they were previously thought unsuited." A chart lists the different occupational divisions studied, including "extractive" jobs: coal mining, oil and gas production, and work in other mines and quarries. In these extractive fields, the number of women employed in 1940 in Tulsa County was 1,091, compared to 4,993 men. By 1945, the numbers were 2,728 women and 4,357 men, with a breakdown of 38.5 percent women to 61.5 percent men.[303] Although the number of men employed in extractive occupations did not decline significantly, the number of women employed in these jobs more than doubled. The percentage of women employed in extractive fields was comparable to the percentages of women who took wartime jobs in other male-dominated arenas such as manufacturing, transportation, and wholesale trade. The dominance of the oil industry in the economy of Oklahoma created more employment opportunities for women in this specific field, as more jobs were left vacant by military-bound men and demands for production increased. Some women may have gone to work out of a sense of patriotism, and some out of a need to support a family. In the heart of an oil-

[302] Tulsa Chamber of Commerce, "After the War in Tulsa: An Analysis of Post-War Employment, Construction, and Business Expansion in Tulsa County, Oklahoma," box 9, folder 1, L. D. Melton Collection, Oklahoma Historical Society Research Center, Oklahoma City, OK (hereafter cited as "After the War in Tulsa").
[303] Ibid.

producing area, the women of Tulsa County filled the employment gap in all industries, including the oil industry.

Women worked in many aspects of the oil industry, from research and quality control to refining to accounting. These women replaced men who were called to military service and helped to fill critical gaps in the workforce as production increased. In a 1982 interview with Joe Todd of the Oklahoma Historical Society, Frances Smith Tipton shared her experiences as a bookkeeper for the Malernee Oil Company, which was located near the Plaza Court building at Tenth and Walker in Oklahoma City, Oklahoma. Tipton was s single mother during World War II and took the job as a bookkeeper not necessarily out of a sense of patriotic obligation, but to support her family.[304] Tipton had worked outside the home before taking the job with Malernee Oil Company with a company for which her father worked. She stepped out from under her father's wing and became more independent following her divorce by taking the job with Marlernee. After the war, Tipton defied convention and remained in the workforce, joining Trigg Drilling Company in the First National Building in downtown Oklahoma City, again as a bookkeeper.[305] Tipton likely had no aspirations to be a trailblazer in women's employment; she remained in the workforce out of the necessity of providing for her family. The labor shortage of World War II, however, opened the door for Tipton to obtain a stable, professional job that became a postwar career and provided a livelihood for her family.

By 1943, the increase in the demand for oil led to greater production and greater employment in the oil industry. With this influx of new employees into the industry came women. Margaret Hackmuth, a mother of six children whose husband worked for Phillips Petroleum Company, found herself in a position to take advantage of the labor shortage.

[304] Frances Smith Tipton, interview by Joe Todd, cassette recording, November 5, 1982, Oklahoma Historical Society Research Center, Oklahoma City, OK.
[305] Ibid.

Hackmuth possessed a degree in chemistry from the University of Michigan and had taught school in Florida before moving to Bartlesville in 1927 with her husband, who was a chemical engineer for Phillips. Hackmuth adopted the role of dutiful oil field wife, keeping house in small homes in company towns, raising children, and enduring the conditions of the Dust Bowl.[306] Hackmuth was a woman who had no intention of returning to the work force, but was recruited to work in the laboratory at Phillips because of her background in chemistry. Hackmuth only worked in the laboratory for a short time, the summer of 1943, but according to her, "It was a vacation for me."[307] During that summer, she analyzed samples of gasoline in the quality control department. She created an identity for herself outside the realm of wife and mother, although it was a short-lived respite. In her interview with Joe Todd of the Oklahoma Historical Society, Hackmuth related that her supervisor was not accustomed to having women work in his laboratory. He appreciated Hackmuth's education and ability, but could not separate her femininity from qualifications. The supervisor told Hackmuth to "take care of these young college students," meaning the young employees in the laboratory.[308] While she was respected for her ability to perform her job, Hackmuth could not escape the attribution of a gender role to her employment. She was not only expected to perform her scientific duties, but also the duties of a matron to her young, male colleagues. At the end of the summer of 1943, Margaret Hackmuth returned to her primary vocation as wife and mother. She gave up her job voluntarily, choosing to return to her previous role.

Women who worked in the manual labor areas of the oil industry were not as common as women in clerical or office jobs. In 1987, Donna Bonin interviewed three women—Marjorie Eastwood, Mary C. Easley, and Mary B. Bonds—who worked at the Humble Oil Refinery in

[306] Margaret Hackmuth, interview by Joe Todd, cassette recording, June 27, 1986, Oklahoma Historical Society Research Center, Oklahoma City, OK. When asked if it was unusual for a woman to receive a chemistry degree from a state university in the 1920s, Hackmuth replied, "It wasn't to me."
[307] Ibid.
[308] Ibid.

Baytown, Texas, during the war. These women were recruited from their high school because of their aptitude for chemistry and spent the war working in the predominantly male refinery, earning a good wage and being treated, for the most part, with a respect by their male counterparts.[309] The labor shortage in the refinery mirrors the shortages in other war-related industries. Women were necessary to fill the positions left by men, and perhaps to fill new positions created because of increased production. The war effort on the home front encompassed a myriad of industries, and women were actively recruited to ensure that these industries could continue to fuel the machine of war.

Even as women were filling the employment gaps left by men enlisting to serve in World War II, their contributions were ignored in visual propaganda of the time period. A small comic book written and drawn by Ray Bailey for Standard Oil Company of New Jersey depicts the process of creating toluene, a type of synthetic oil, for military use. Toluene was produced through the processing of crude oil. The crude oil is shipped from the Humble Oil refinery in Baytown, Texas, to several other refining facilities across the eastern half of the United States. The comic includes many characters and lists the professionals involved in the process of producing toluene, including chemists, engineers, executives, oil workers, and railroaders. Not one of the workers portrayed is a woman. In fact, the only feminine character in the comic is an anthropomorphized "catalyst" in the chemical process, and that character is sexualized.[310] Despite what the comic portrayed, women were working in many aspects of the oil industry, as evidenced by the work of geologists like Dollie Radler Hall, micropaleontologists like Esther Richards

[309] Marjorie Eastwood, Mary C. Easley, and Mary B. Bonds, interview by Donna Bonin, cassette recording, October 15 and 29, 1987, Lee College Library, Baytown, TX.
[310] Ray Bailey, *Blockbusters from Oil* (Standard Oil Company of New Jersey: New York, n.d.), box 1, folder 1, Oil Production in World War II Collection, Oklahoma Historical Society Research Center, Oklahoma City, OK. The refinery discussed in this comic was, in fact, the same refinery in which Marjorie Eastwood, Mary C. Easley, and Mary B. Bonds, interview by Donna Bonin in Baytown, Texas, worked.

Applin, and the women who worked in refineries while men were fighting in Europe and the Pacific.

The slow expansion of the oil industry to meet the needs of a modernizing military may have affected the expansion of employment to women. By the middle of the war, however, women were actively working in the production of petroleum products. The women of the Humble Oil refinery, Frances Tipton, Margaret Hackmuth, and the women of Tulsa County exemplify the willingness of women to enter the labor force and the opportunities available in a necessary war industry, the oil business.

Immediately following the war, men returned to work in the jobs they had temporarily left and women went back to the home or back to school. While many women returned home willingly, like Margaret Hackmuth, there were women who were displaced from the workforce by the return of men from World War II as a matter of course, not a matter of choice. The Tulsa Chamber of Commerce noted this trend, stating that it would be "surprising if more than 25% remain actively in the Tulsa labor market very long."[311] Regardless of their displacement after the war, the contributions of women to the oil industry helped the industry remain productive in the face of increased demand from the Allies for petroleum products to prosecute the war.

Conclusion

According to Robbie Rice Gries, women who replaced men in the oil industry during World War I were supported by men who had recently experienced discrimination in the field themselves, as roughnecks and wildcatters still questioned geology as an exploration tool in the oil patch. Gries connects the willingness of some male oil company executives and chief

[311] "After the War in Tulsa."

geologists in the 1910s and 1920s to hire women to be office geologists to the push-back the male geologists felt from early oil patch workers. Women such as Dollie Radler Hall, Alva Ellisor, Hedwig Kniker, and Esther Richards Applin took advantage of this environment to establish themselves in the industry in a time when it was open to single women. Male bosses hired them based on their qualifications, and they proved their value through their work. The expanded production during the 1920s and 1930s meant that women were not immediately pushed out of their positions in favor of men.[312] Women who took the place of men called to military service in World War II, however, did not have this advantage, and were subsequently marginalized in the workplace in favor of returning men. After World War II ended, men returned to their positions with oil companies, while others went to college on the GI Bill to obtain degrees that would give them the training to take exploration jobs with oil companies. Out in the field, a contraction in drilling in previously active areas led to fewer geological positions needed in offices.[313] In many post-World War II oil offices, trained women geologists were performing the tasks of secretaries rather than working to find oil and natural gas formations like their male counterparts. Of course, many of the women who had been working during the war were either sent back to the home, or found jobs as teachers and professors—variations on a traditionally female profession. Gries notes that while doing research for her book, "women from this post-war era would often say, 'Well, of course, I accepted lower salary; what else could I do?' 'To complain could likely result in losing the job!' 'I loved my job; I wanted to work; I did what I had to do to keep my job.'"[314] By the time Affirmative Action came to the oil patch in 1973, the pioneering women geologists of the 1910s and 1920s and their achievements in micropaleontology and other fields had been largely forgotten or subsumed by other innovations. The women geologists who came to the petroleum industry in the 1970s might have been aware of some rare and exceptional women in

[312] Kenny A. Franks, "Petroleum Industry," *The Encyclopedia of Oklahoma History and Culture*, www.okhistory.org/publications/enc/entry.php?entry=PE023.
[313] Franks, "Petroleum Industry."
[314] Gries, *Anomalies*, 208–12.

the industry, but did not know the extent to which the post-World War II era had constrained women's participation in the oil patch.[315] Although it seems counterintuitive to a narrative of progress, women had more access to scientific jobs in economic geology in the early twentieth century than they did by the mid-twentieth century, which follows the pattern of female employment in the post-World War II United States. The so-called "traditional values" of the nuclear family with a mother at home to raise the children were detrimental to women's careers in petroleum geology as they were in other fields.

It may have come as a surprise to the women hired during the Affirmative Action era, but the women who blazed the trail for them in the scientific careers in the oil industry pre-dated them by half a century or more. These women entered a field in which, in the case of Roxana Petroleum, one of the first companies to hire women, they did not even have a bathroom specific to their gender in the office building. From these early women who were hired out of college then fired after they married (many times to coworkers or other geologists), to the women recruited to take positions as geologists or chemists during World War II, to the women hired to fill federal quotas, the cycle of hiring women follows a pattern that pervaded other male-dominated and scientific fields during the early and mid-twentieth century. The few women who survived in the industry when others were laid off or replaced by men returning from wars mentored women who were hired as the need for female employees arose again. Women who came into the oil industry together bonded as a cohort, joining organizations such as the American Association of Petroleum Geologists and other local geological groups together, and becoming officers and event planners in those professional organizations. These scientists fought for a seat at the drafting table and a place on the rig, along the way creating bonds with one another that helped them to make great discoveries, both in research and in practical application. As an added benefit, they found camaraderie through friendships and the work of various geological organizations—their own

[315] Gries, *Anomalies*, v, 247.

“good ol’ girl” network as a counter to the industry’s “good ol’ boy” network—that made the difficulties of forging a career path in a male-dominated field more enjoyable.

CHAPTER V

"INVALUABLE ASSISTANTS": FEMALE OFFICE WORKERS AT OIL COMPANY HEADQUARTERS

> The blond, well-tailored secretary was very obliging in all things but managing my appointment with Mr. Conrad. On my five previous attempts to see the president of the oil company she had plied me with trade journals, selected photographs of oil fields, and told me two jokes that were only faintly risqué.[316]

The secretaries of oil company executives wielded immense influence over who was allowed into the inner sanctum of a president or the offices of other upper-echelon employees of the company. They were the gatekeepers tasked with streamlining the schedule of their bosses, who were considered important, busy men. In the excerpt above from the Works Progress Administration (WPA) oil field oral history project, the interview subject describes his encounter with one such zealous secretary, who denied him access five times prior to the encounter he relates. While the woman in question was likely doing so under the orders of her employer, she

[316] "Could You Talk to Someone Else?," folder 34, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC).

nonetheless was the last line of defense between this man eager to meet with Mr. Conrad and the executive himself. The narrator goes on to describe the scene:

> He's tied up in a conference now. You can see him in a few minutes when he's finished." She frowned, and began a delicate operation on a fingernail. It was 11:17. There were no further interruptions until noon when two stenographers came out of the inner office, gossiped a moment with their blonde colleague, and departed with a great clatter of heels. . . . At 12:43 I was becoming impatient. . . . "Will you try Mr. Conrad again, Please?" I put all the charm I could muster into my smile, but from her look it undoubtedly was more of a leer. She sighed and flipped the red lever on the side of her desk. . . . "I'm sorry, but Mr. Conrad must have gone out his private door and gone home. Shall I make another appointment for you for Monday?[317]

The narrator, though determined to stay as long as it might take to meet with Mr. Conrad, was foiled in his attempt to meet with the president. He ran into a brick wall—the blond secretary who, while gossiping with stenographers and fixing her nails, still managed to perform her job of keeping Mr. Conrad on schedule and away from people he did not want to see. It is significant that the narrator notes the secretary's appearance, as well as the "clatter of heels" of the other female employees with whom the secretary converses. Dress codes were part of the job expectations for secretaries—maintaining a certain look that would reflect well on the company, as they would interact with oil executives, investors, and other important people who would visit

[317] "Could You Talk to Someone Else?," folder 34, box 43, Oil in Oklahoma, Works Progress Administration (WPA) Historic Sites and Federal Writers' Project Collection, Western History Collections, University of Oklahoma, Norman, OK (hereafter cited as WPA Collection, WHC).

the office of the company president. The narrator demeans the secretary by focusing on these feminine traits—concern with appearance and gossip—because of his frustration with her unwillingness to open the door to the president's office for him, despite his attempts at charm. She is obviously unmoved and unimpressed by his lackluster flirting, and instead sighs and informs him that Mr. Conrad has left for the day and offers to make an appointment for him for Monday—presumably with no guarantee that Mr. Conrad would be available to meet with him then either.

Mr. Conrad's secretary is representative of the women who took their jobs as the "girl Friday" to oil executives seriously as the industry professionalized in the twentieth century.[318] Oil company offices in cities such as Tulsa, the Oil Capital of the World, bustled with activity. The people who kept those offices humming were the secretaries and administrative support workers who performed duties that allowed the geologists and geophysicists to find the oil and the executives to find the money to finance drilling for the oil. Because clerical work was a sphere of employment deemed acceptable for women, referred to as "pink collar" jobs to denote their association with femininity, the executive assistants and secretaries of oil companies, both large and small, were almost exclusively women.[319] Many women who took jobs in oil company offices viewed their work as a career, not merely as a job. To that end, they utilized opportunities afforded them to learn more about the industry in which they worked, in hopes of making themselves more marketable as assistants and office workers. Moreover, they created spaces for themselves where they could seek out education on various aspects of the industry by joining

[318] The term "girl Friday" is adapted from "man Friday," the name of the manservant in the novel *The Adventures of Robinson Crusoe* by Daniel Defoe (1719). The 1928 play *The Front Page* by Ben Hecht and Charles MacArthur first used this term to describe a woman who performs various different tasks for her male boss, and is entrusted to do them because of her competence. Michael Phillips, "Does 'His Girl Friday' Truly Belong to Chicago?" *Chicago (IL) Tribune*, March 8, 2018, www.chicagotribune.com/entertainment/movies/ct-mov-his-girl-friday-column-0308-story.html; "girl Friday," Merriam-Webster, www.merriam-webster.com/dictionary/girl%20Friday.
[319] Elaine Tyler May, *Homeward Bound: American Famiilies in the Cold War Era*, 20th Anniversary Edition (New York: Basic Books, 2008), 49.

together in clubs and, when they were in the position to do so, hiring other women to work with them, harnessing their collective enthusiasm to benefit each other.

After 1890, white-collar clerical work became a bastion of female employment, as both the number of women employed and the number of opportunities for employment soared. With industrialization came bureaucratization, and an increased need for bookkeepers, stenographers, recordkeepers, and correspondents. The technological innovations associated with office work, such as the typewriter, soon became associated with women. According to Lois Scharf, 63.8 percent of the workers classified as "typist-stenographers" in 1890 were women, and by 1920 that number had grown to 91.8 percent. Despite early fears that the pace of business would prove detrimental to women's health, young, unmarried women increasingly flocked to secretarial opportunities in cities to pass the time between completing their education and finding a husband. Clerical work carried greater prestige and larger salaries than domestic service or factory work, and it gave women the chance to hone their skills at homemaking by turning the workplace into a functional, yet inviting, environment. Scharf argues that, as office work became divided by gender, the work divisions of the home moved into the public sphere, with women in clerical roles and men as their bosses. These positions became known as "pink-collar," the white-collar jobs predominantly filled by women at a lower pay grade and status than traditionally male jobs. Men did not feel threatened by having pink-collar women workers in the office, because those women would never attain the status of an executive, no matter what the fictional world of the television programs like the twenty-first century's *Mad Men* might portray on screen.[320]

[320] Lois Scharf, *To Work and To Wed: Female Employment, Feminism, and the Great Depression* (Westport, CT: Greenwood Press, 1980), 10–11, 13; Kathleen M. Barry, *Femininity in Flight, A History of Flight Attendants* (Durham, NC: Duke University Press, 2007), 9; *Mad Men*, created by Matthew Weiner, Lionsgate Television, in association with Weiner Brothers, for American Movie Classics, 2007–15. For an in-depth discussion of the growth of clerical work as a space for women in the workplace, see Kim England and Kate Boyer, "Women's Work: The Feminization and Shifting Meanings of Clerical Work," *Journal of Social History* 43, no. 2 (Winter 2009): 307–40.

In her article "Separate Spheres, Female Worlds, Woman's Place: The Rhetoric of Women's History," Linda K. Kerber explores the evolution of the idea of a "separate sphere," both metaphorically and physically, for working women by examining the ways that historians have analyzed the ways in which women worked throughout the nineteenth and early twentieth centuries. Kerber argues that "the marketplace is segregated by gender . . . the segregation has been constantly under negotiation and constantly reaffirmed." She points to the idea that acceptable workplace roles for women "replicate[ed] housework," were "nurturing," and were valued less than men's roles.[321] By the twentieth century, the renegotiation of gender segregation in the workplace had resulted in the space of secretaries and some other administrative employees in business offices being primarily reserved for women, shifting those roles from white collar to pink collar. The women who became secretaries, including those in oil and gas company offices, took on a type of nurturing role, fulfilling an acceptable position as a caretaker for the men working in the office. Their job was to make the men's jobs easier—much like a housewife's work could be considered making a husband's life at home easier. Secretaries brought coffee, wrote letters on behalf of executives, and filed paperwork, an act akin to cleaning up after the men in the office. These tasks mirrored women's tasks at home, and reinforced the idea that women in the workplace, while not performing exactly the same activities that they would at home as homemakers, were still responsible for caretaking in the work environment. Women may have been physically present in the professional sphere, but there remained a separateness about the work they did.

[321] Linda K. Kerber, "Separate Spheres, Female Words, Woman's Place: The Rhetoric of Women's History," *Journal of American History* 75, no. 1 (June 1988): 28.

Women in Oil Company Offices

When the women of Chi Upsilon women's geology fraternity sent out letters attempting to expand their organization to other geology departments in colleges and universities across the country, they received a variety of responses from the department chairs. As discussed in Chapter Two, some chairs were supportive of the idea of a geology organization for women, but did not have enough women in their department to warrant the creation of such a group. Other department heads were against the idea of fraternities and sororities in their departments altogether. And still others, like R. D. George from the University of Colorado, dismissed the work of women in his department, stating that they would not use it in any practical manner except for teaching, or perhaps as a secretary for an oil company.[322]

Geologist Dollie Radler Hall confirmed George's observation by describing her experiences in working with other women in the oil industry:

> We find many women who have received degrees in geology or geophysics who are employed in many capacities in the various departments of oil companies. They rarely become active members of the societies or associations but their knowledge and ability is very valuable to their associates and their contributions to exploration are many and varied. Numbered among this group are technical secretaries, librarians, file clerks, sample examiners, log interpreters, and programmers.[323]

[322] R. D. George to Helen Personett, April 29, 1921, folder 2, box C-22, Chi Upsilon Collection, WHC.
[323] Dollie Radler Hall, "Women in Exploration: Abstract," Tulsa Geological Society Digest 33 (1966): 296–298, archives.datapages.com/data/tgs/digest/data/033/033001/295_tgs330295a.htm?q=%2BtextStrip%3Adollie+textStrip%3Aradler+textStrip%3Ahall#aff1, printed copy found in Gries Archives.

Department Chair George from the University of Colorado mentions the women who took geology courses with the possibility of becoming support staff in an oil company office as their future employment with a level of derision—those women were not worthy of an honorary organization that would provide them with enhanced educational opportunities and the chance to network with other women in the industry. In contrast to George's view, Hall recognized the value in an education in geology and geophysics for the women working as secretaries and in other supporting roles. The reader can attribute the differences in their views to multiple factors, including the difference in time period—George's letter dates from 1921, whereas Hall's manuscript was written in 1966. Their genders also could factor into their perceptions, with George discounting the contributions of members of the opposite gender and Hall lauding the ways that other women used their geological training despite pursuing careers in administrative jobs instead of exploration, science, or executive positions.

It is a possibility that some of the women who ended up as secretaries for oil companies had intended to be geologists, but were not given the opportunity. It would make sense that women who were trained at a university in petroleum geology would likely want to pursue that as a career, but may not have been given the chance in the male-dominated field. Historian Lois Scharf argues that disheartened women who could not find employment in their chosen fields may have lowered their expectations and pursued jobs for which they were overqualified. In her words, "The process by which levels of aspiration and accomplishment were reduced was more complex than the explanation that implicitly blames women for the inability to maintain and improve their economic status."[324] While the onus of women's inability to obtain jobs in the professions for which they were university trained fell on their desire for family above career, Scharf instead argues that, although many women wanted marriage and family, some may have

[324] Lois Scharf, *To Work and To Wed: Female Employment, Feminism, and the Great Depression* (Westport, CT: Greenwood Press, 1980), 94.

shifted their focus from career to family in response to the realization that they were not going to reach their career goals because of their gender.[325] Elaine Tyler May concurs with Scharf by noting that, out of five thousand women who graduated college between 1946 and 1949 who were surveyed, only half were working in jobs that they wanted and for which they prepared. Less than half of the women who looked for work in science found jobs, and two and one-half times more of these women were working in clerical positions than had originally sought those types of occupations. Those women registered the least satisfaction with their employment. [326]

Women may have adjusted their sights downward from geological positions to secretarial ones, and while they were not doing exactly the work they had hoped, at least they were still in a position in which they might have the opportunity use the scientific education they received. Whether they were trained in geology or had attended a secretarial school, many of the women who worked in the offices of oil and gas companies in the early to mid-twentieth century used the opportunity of working in a unique industry to become part of an organization in which they could broaden their knowledge, network for career advancement, and find a group of friends. They called this society the Desk and Derrick Club.

"Greater Knowledge, Greater Service": Finding Community in the Association of Desk and Derrick Clubs

In 1949 Inez Lord Awty, a woman working in the offices of Humble Oil and Refining Company in New Orleans, wanted to meet other women who, like her, were employed by the oil companies that dotted the Gulf Coast. She created the Desk and Derrick Club, the first organization of its kind—a group for local women who worked as professionals in the oil and gas

[325] Ibid.
[326] Elaine Tyler May, *Homeward Bound*, 77–78.

industry. At that time, most of the women in professional roles would have been fulfilling secretarial or other administrative roles in the headquarters offices. By 1951 the organization had four clubs in other cities; in 1955 it numbered 105 clubs, including four in Canada. After this growth, the international group became known as the Association of Desk and Derrick Clubs (ADDC). With a motto of "Greater Knowledge—Greater Service," the purpose of the club was "to promote among the women employed in the petroleum and allied industries through informative and educational programs, a clearer understanding of the industry which they serve." Education was a primary goal of the ADDC, so each individual club was tasked with providing its members with ten educational programs each year, and the international organization created educational literature, such as the *Desk and Derrick Oil Abbreviator*, an oil industry glossary for use by the women to enhance their ability to do their everyday work.[327]

There were Desk and Derrick Clubs across the United States and in Canada. A close look at the records of the Oklahoma City Desk and Derrick Club from the 1950s reveals how the organization was structured, what types of activities the members planned, and how women utilized their association with this organization for networking and career progression. The Desk and Derrick Club of Oklahoma City began its life as the Women's Oil Association in April 1950. Fifty-five women joined together to create an organization solely for women employed in the oil industry. At their second meeting, 275 women attended, and the group decided that the nature of the organization would be educational. In addition to its educational purpose, the group also held social functions and helped with Oil Progress Week in the state. When the Desk and Derrick Clubs began springing up across the country, this group applied for affiliation with the fledgling

[327] Cecilia Gutierrez Venable, "Desk and Derrick Clubs," *Handbook of Texas Online*, tshaonline.org/handbook/online/articles/dod06; Nathan Lawson, "Desk and Derrick Club: Engraved in Graham for 66 Years," *Graham (TX) Leader*, April 16, 2019, www.grahamleader.com/news/desk-and-derrick-club-engraved-graham-66-years.

organization, and officially became a chapter of that group in June of 1952. At that time, the Oklahoma City club boasted 148 members.[328]

The bylaws of the Oklahoma City Desk and Derrick Club outline the purpose and structure of the organization. In Article II of the document, they explicitly state:

> The purpose of this club shall be to promote among women employed in the petroleum and allied industries, through informative and educational programs, a clearer understanding of the industry which they serve to the end that the enlightenment gained thereby may increase their interest and enlarge their scope of service.[329]

There were three levels of membership: active, associate, and honorary. Active members were women who were "actively engaged in all branches of the petroleum industry and in groups, companies and organizations which directly supply and serve the petroleum industry." The club emphasized employment in the industry, not merely interest, as evidence by the inclusion of each woman's employer's name along with her own when she is mentioned in Desk and Derrick publications, such as the Oklahoma City club's newsletter *Derrick Lights*. The group conferred associate membership on women who were no longer employed in the industry but wanted to remain involved in the organization. Women who retired were the primary beneficiaries of this special type of membership. The club gave women honorary membership to recognize special

[328] "Desk and Derrick Club of Oklahoma City," 1999, Desk and Derrick Club of Oklahoma City Collections, Gungoll Oil Company, Oklahoma City, OK (hereafter cited as DDC OKC Collection); "Desk and Derrick Club of Oklahoma City Brief History,"1, DDC OKC Collection. The Oklahoma City club is considering the possibility of donating its scrapbooks and other archival materials to the Oklahoma Historical Society in Oklahoma City.
[329] "Desk and Derrick Club of Oklahoma City By-Laws and Member Directory," 1952, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

contributions to the group, and could be given to women who were already active members. There were attendance and financial obligations to maintain membership. The bylaws also included a list and description of its committees, including an Education Committee, a Field Trip Committee, an Industry Contact Committee, a Hospitality Committee, and an Employment Committee.[330]

The committees reflected the priorities of the organization, providing planning for the activities that the club wanted to make available for its members. Because the women stated in their founding documents that the organization's purpose was primarily educational, it was imperative to have a committee to plan instructive events for the group. The work of the Field Trip Committee was related to that of the Education Committee, as the trips the women arranged were to places that could provide the women with greater background on the industry in which they worked. The Desk and Derrick Club fostered relationships with other industry groups to create connections between its membership and the membership of those groups, so the Industry Contact Committee was integral to the goals of the organization. As with any women's organization of the mid-century, social events were an essential part of the life of the group. The Hospitality Committee and Social Committee ensured that an appropriate number of teas and mixers to maintain camaraderie among members, including an annual formal Christmas dance.[331] And, importantly, the Desk and Derrick Club of Oklahoma City included an Employment Committee, through which companies could make contact with a potential pool of administrative professionals who were interested in advancement or, in the case of the associate members, renewed employment.

[330] "Desk and Derrick Club of Oklahoma City By-Laws and Member Directory," DDC OKC Collection.
[331] "This Slush Pit," *Daily Oklahoman*, December 1, 1959, 26, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

Significantly, the Desk and Derrick Club of Oklahoma City included among its committees an Employment Committee. This club tasked this committee with remaining in contact with local companies to assist women in advancing their careers or in finding new employment after losing a position. Members of the club were afforded the privilege of utilizing the Employment Committee to assist them in finding work in the industry. The committee also reached out to employers to make them aware of the pool of potential employees that they held at their fingertips. The committee described its work as a "special employment service." The committee kept its work confidential, just as a company specializing in job placement would. In the 1959–60 club year, the Employment Committee placed one woman per week in oil company offices.[332] While it is not unusual for industry organizations to facilitate the distribution of job announcements, the active searching for employment possibilities by the Employment Committee of the Desk and Derrick Club of Oklahoma City appears to be unique. The existence of this committee solidifies the importance of the connections the women in the club could make, and the educational opportunities they could take advantage of, as the Employment Committee members would know the dedication of each woman in the club to continuing education and networking. Those traits would be important in recommending a woman for placement in an oil company office setting. For a woman seeking new employment or a change in employment within the oil industry, involvement in the Desk and Derrick Club could be a critical inside connection to improve the chances of finding a stable job that would be a good fit. In turn, the same would be true for employers looking for a new secretary—the Desk and Derrick Club Employment Committee would have a more personal connection to a pool of candidates than an employment service or a simple newspaper "help wanted" advertisement.

[332] "Employment Committee," inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; "Your Employment Committee," *Derrick Lights* 8, no. 11 (November 1959): 12, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; "A Look into Committees," *Derrick Lights* 9, no. 2 (February 1960): 12, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; "Marjorie Hudson and Ferne Stout Are Doing Their Part to Keep Our Desk and Derrick Girls 'On the Job,'" *Derrick Lights* 9, no. 7 (July 1960): 4, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

One of the unique committees created by the Desk and Derrick women was the Field Trip Committee. This committee arranged for the club to visit businesses and sites that would add to their educational experiences. One example of a field trip planned by the committee is documented in the club's scrapbook. A photograph shows the women on a field trip to the offices of Drilling Equipment Manufacturing Company, or Demco. The company placed a welcome sign in the front window of the building, and the photograph is a posed, publicity photo with the company's president that was used not only for the scrapbook, but also for the *Daily Oklahoman* newspaper.[333] In the photograph, the women are wearing business attire—suits, dresses, heels, and gloves. The agenda for the field trip, however, suggested that the fifty-four women who attended the field trip wear "comfortable shoes, jeans, slacks, pedal pushers or bermudas" for the tour through the plant.[334] The photograph in the organization's newsletter, the Drill Bit, showed the women in more casual attire.[335] The club members wanted to portray a more professional image in the newspaper by dressing as they would in their offices for the public photograph, but understood the practical need to be comfortable when touring an active manufacturing plant. Field trips like the one to Demco served another purpose as well: marketing for the company hosting the visit. In a letter to the Desk and Derrick Club members, C. L. Knight of Demco detailed the plan for the day's activities, then wrote that he hoped to continue the company's newly created relationship with the club members, "both through the Desk and Derrick Club and individually through [their] respective companies."[336] Knight wanted to turn this field trip into business for his company by showing the secretaries of oil company executives the best of his products. By plying his wares to the gatekeepers, he hoped to gain entry into new markets. The

[333] Demco photograph, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; Photograph and caption, *Daily Oklahoman*, May 8, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[334] "Oklahoma City Desk & Derrick Field Trip" agenda, March 30, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[335] "Oklahoma City Desk and Derrick Group Visit DOWCO [*sic*] Plant," *Drill Bit*, June 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[336] C. L. Knight to Desk and Derrick Club of Oklahoma City, May 7, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

field trips planned by the Desk and Derrick women benefitted them by providing them with educational experiences and increasing their knowledge base to make them more invaluable to their bosses, and assisted the companies they visited through direct contact with potential clients. The willingness of these companies to host the Desk and Derrick Club—giving them full tours and providing meals—demonstrates that they viewed these women as having some level of power in their positions as the secretaries of geologists, geophysicists, and company executives.

On another occasion, the women of the Oklahoma Desk and Derrick Clubs sat in on an Oklahoma Corporation Commission "Oil Allowable" meeting during which the commission discussed recent cut-backs in domestic oil production. Film footage from a local Oklahoma City news station showed a standing-room only venue, with men filling most of the space, but a large group of women seated near the back of the room.[337] While this may not have been an official field trip of the club, a significant number of members were on hand to hear the proceedings and learn how decisions made in rooms such as these affected the industry for which they worked. Some of the women present may have been there to take notes for their bosses, but since they were identified as "members of the Oklahoma Desk and Derrick Clubs" to the reporters at the time, they likely were there under the auspices of club business rather than for their employers. The club women took the initiative to attend the meeting, potential in the presence of their bosses or their bosses' bosses, showing their dedication to gathering as much information about the industry they served as they could from as many different sources as possible. Again, this type of effort shown by the club women distinguished them to oil company executives and human resources professionals, and also made them unique among secretaries in general. Desk and Derrick women actively sought to improve their understanding of the industry in which they worked, whereas most secretaries would perform their specific duties without making such

[337] "WKY News Can #545," February 25, 1958, F2013.134.1.00090, WKY KTVY KFOR Archives, Oklahoma Historical Society Research Center, Oklahoma City, OK, available on YouTube at www.youtube.com/watch?v=R00_BPMLy0g&t=145s.

efforts. Contrary to the women described by Elaine Tyler May who felt a "'false emphasis that is placed on the entire matter of women fulfilling themselves through a career," the extra effort put forth by Desk and Derrick members indicated that they saw their positions as careers rather than merely jobs, and they ambitiously desired advancement through education and networking.[338]

As with any women's club of the mid-twentieth century, social events were a highlight of the organization's calendar. The Desk and Derrick Club of Oklahoma City hosted cocktail parties and Christmas dances, among other social activities.[339] They recorded the engagements and weddings of members in the club scrapbook by saving the related newspaper clippings alongside those of their regular club activities. Many of the women listed their involvement in the Desk and Derrick Club in their engagement announcements. Since fashion was something that fell into the realm of women, the club hosted an "Oil Gals on the Move" style show after one of its meetings.[340] This would not only have been entertaining, but would have provided the women with examples of appropriate clothing for the office environment, as their appearance was an important part of their job.[341] Social events, and keeping up with the personal lives of members of the club, served an important purpose in the organization. For the February 1960 issue of Derrick Lights, member Sybil Sureck wrote a column titled "Made Any New Friends Lately?" that urged members to build relationships with each other at meetings. The club's previous president had recommended that the club "'draw members closer together—get better acquainted.'"[342]

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[338] Elaine Tyler May, *Homeward Bound*, 206.
[339] "Come for Cocktails" pink elephant invitation, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; "This Slush Pit," *Daily Oklahoman*, December 1, 1959, 26, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; "Our Social Committee," *Derrick Lights* 8, no. 12 (December 1959): 9, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[340] "Desk and Derrick—April Meeting," April 28, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection. They also planned a style show in 1957. Photograph caption, *Daily Oklahoman*, May 12, 1957, 8C, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[341] "D&D Allowables," *Derrick Lights* 8, no. 9 (September 1959): 7, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; "D&D Allowables," *Derrick Lights* 8, no. 10 (October 1959): 7, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection. This page including personal updates on members of the club appeared in each issue of *Derrick Lights* appearing in the scrapbook.
[342] "Made Any New Friends Lately?," *Derrick Lights* 9, no. 2 (February 1960): 5, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

Although education was the first purpose of the club, the group stated that its "secondary purpose" was "to increase fellowship among women in the oil industry, thereby making our working days more pleasant."[343] By making intimate connections with one another, the Desk and Derrick women forged friendships that would drive them to maintain interest in the work of the club, as well as a continued desire to work in the oil industry. The educational opportunities available through the club may have drawn them to the organization, but relationships, and wanting to help one another through the work of committees such as the Employment Committee, likely kept some of the women connected and involved in the club.

Much like the Chi Upsilon fraternity women discussed in Chapter Two (who worked at the American Association of Petroleum Geology conventions in the early twentieth century), the Desk and Derrick Club women participated in activities that benefitted the industry while reaffirming their assigned gender roles. The Industry Contact Committee led these efforts for the Oklahoma City Desk and Derrick women, with the charge to "work with various industry organizations and help out in all sorts of oil exhibits, whenever and wherever needed."[344] They organized women from the club to work the oil industry's state fair booth.[345] They hosted an annual "Industry Appreciation Night," a dinner at which they would honor the companies for which they worked. The invitation includes a paragraph saluting their employers, thanking them "for the opportunity to work with them in the 'fascinating oil business.'"[346] As was mentioned briefly earlier in this chapter, when Desk and Derrick women's names appeared in club publications, they were connected to their company affiliation. The organization connected each

[343] "Fellowship is Free!," *Derrick Lights* 9, no. 3 (March 1960): 2, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[344] "Your Industry Contact Committee," *Derrick Lights* 8, no. 10 (October 1959): 3, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[345] "The Slush Pit," *Daily Oklahoman*, September 25, 1959, 38, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[346] "Industry Appreciation Night," RSVP note, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection; Industry Appreciation Night invitation, May 26, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

woman to the company for which she worked, which was a natural outgrowth of a club based on the premise of employment in the oil industry. Their membership depended on their employment status, so the company for which they worked was one of the most important aspects of their identity. Because education to advance their work in the industry was the primary goal of the Desk and Derrick Club, the prominence of the industry itself as a business in its activities—through honoring employers, evangelizing for the oil and gas industry through fairs, and always keeping updated records of what companies employed the club's members—is not surprising. These activities seem to be continuations outside the workplace of the work these women performed in the workplace.

The Oklahoma City club also engaged in charitable work in the community. In 1959 the club donated $100 to the Oklahoma City library system for the purchase of books for the "business-technical section," to add to the shelf of books they had been donating over the years in memory of members of the club who had died.[347] The club sponsored the Bea Woods Davidson Memorial Scholarship for women attending college for secretarial training.[348] For the 1959–60 school year, the recipient was Karen Lamkin of Fort Worth, Texas, who was attending Oklahoma State University in Stillwater. Her resumé featured participation in several campus professional organizations centered on secretarial and business careers.[349] The Desk and Derrick Club wanted to support women training for secretarial work, in hopes that those women would use their professional training in careers with oil companies.

The Oklahoma City club was significant in the history of the ADDC. Two women from the Oklahoma City club, Sybil Sureck and Phyliss Bennett, served as president of the

[347] Photograph caption, *Daily Oklahoman* (Oklahoma City, OK), September 20, 1959, B5, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[348] Photograph caption, *Daily Oklahoman*, January 24, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[349] "Scholarship," *Derrick Lights* 9, no. 2 (February 1960): 5, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

international organization. In 1953 the Desk and Derrick women of Oklahoma City planned the first educational seminar held by the national organization. Held at the University of Oklahoma, this intensive weekend course created an opportunity for members from across the region to learn more about the oil industry, in addition to the educational opportunities afforded in monthly meetings. Soon after, these seminars spread to other regions of the international organization.[350] Geologist Dollie Radler Hall, who likely had her own secretary, lauded the women who worked to broaden their knowledge of the industry when she noted, "I would like to pay tribute to those women who are in exploration departments who are not graduates in geology but who have added to their education by attending night school and learning enough geology to become invaluable assistants."[351] The knowledge that these women acquired increased their value in the market as secretaries and assistants in oil company offices, and the people who had the power to employ them understood their value.

Organized in the heart of oil country at the home of one of the nation's premier petroleum geology departments, the seminar hosted by the Oklahoma City women in 1953 was significant as a model for the future of the organization. Although the women were already engaging in educational events, this seminar brought members together from across the region in pursuit of additional knowledge of the industry in which they worked. The 1960 edition of this seminar was held at the University of Tulsa. Sessions included "Problems Created by Nuclear Operations" presented by J. Wade Watkins of the Bureau of Mines, "Industrial Psychology," presented by Jay Thomas of the University of Tulsa, and "Humanities" and "Growth from Within" presented by Manley Johnson of the University of Tulsa and Peter Siegel of the Center for Liberal Studies for

[350] "History of Your Club," 1–2, DDC OKC Collection; "Desk and Derrick Club of Oklahoma City Brief History,"1, DDC OKC Collection.
[351] Dollie Radler Hall, "Women in Exploration: Abstract," Tulsa Geological Society Digest 33 (1966): 296–298, archives.datapages.com/data/tgs/digest/data/033/033001/295_tgs330295a.htm?q=%2BtextStrip%3Adollie+textStrip%3Aradler+textStrip%3Ahall#aff1, printed copy found in Gries Archives.

Adults in Chicago.[352] The lectures were not only limited to information about the extraction of oil and gas, but also consisted of speakers focusing on efficiency in the workplace and ways to improve one's own skill set to better assist an employer. Education was so important to these women that they took the time to organize the seminar outside work time and beyond their normal club meetings. Their desire to make themselves more useful to their male bosses, as well as more marketable in the wider industry, drove them to expand the opportunities they provided to one another. At the same time, these women could socialize with each other, meeting women who worked in similar positions to their own at companies large and small, from different states. Some of the women at the seminar may not have been exposed to large groups of professional women beyond their own chapters of ADDC. By providing each other with support through educational opportunities and social interaction, Desk and Derrick women carved out a unique space for themselves within the male-dominated world that they found themselves.

In October 1959 thirty-five women from the Oklahoma City Desk and Derrick Club attended the ADDC convention held in San Antonio, Texas. The only female speaker listed on the program was Maxine Hacke, the past president of the ADDC. The programming featured topics like "A Perspective for Petroleum," "They Said It Couldn't Be Done," and a panel discussion on foreign oil.[353] These secretaries and administrative workers sought out the experts in the field to educate them about various aspects of the oil and gas industry. The panel discussion on foreign oil not only included a geologist, but also included the chairman of the board of Carter Oil Company of Tulsa, Oklahoma, and an oil and gas attorney. This diverse group of speakers provided the women in attendance with multiple perspectives on this one aspect of the industry, and in doing so gave those listening greater insight into their chosen professions. This

[352] "Tentative Agenda for Seminar," June 4–5, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[353] News clipping, September 24, 1959, 15, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

information could give these women an edge in their careers, making them more marketable because of the knowledge that they possessed. The choice of speakers also reveals the ambition of the Desk and Derrick women. It is evident that they wanted to get as much out of their programming as possible, and carefully considered speakers who could give their members the greatest breadth of knowledge possible. The organization's dedication to education was not just lip service—it existed, first and foremost, for the success of its members through knowledge of their industry.

These conventions not only provided educational opportunities for the Desk and Derrick women, but they also paved the way for career advancement. Company executives noticed the activities of the club, and eagerly supported the educational pursuits of the members. W. E. Howell, the president of Fain-Porter Drilling Company and owner of W. E. Howell Company, spoke at Desk and Derrick meetings and was an "ardent and staunch supporter of the club for many years and in many ways." In a speech to the club in September 1959, Howell addressed the need for oil company employees to "work a little harder" to justify a company's significant capital investment in their employment.[354] One way Desk and Derrick women worked harder was by participating in continuing education opportunities, and often creating those opportunities for themselves. For multiple years, Howell made his private airplane available for the club women to use to travel to their annual association convention.[355] The generosity of this gift to the club speaks to the benefit that Howell saw in the work the women did for the industry. It is unlikely that an executive with an eye to the bottom line would offer his private plane to a group of women headed for a weekend of socializing, but if the convention improved the women's work in the office and increased their knowledge of the industry, it might be a good investment. Men

[354] "Mr. W. E. Howell's Address Hard-Hitting and Revealing," *Derrick Lights* 8, no 10 (October 1959): 4, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[355] "September Meeting to Feature W. E. Howell," *Derrick Lights* 8, no. 9 (September 1959): 2, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

attended organizational conventions for continuing education and networking, and the Desk and Derrick women worked off of that model to create a convention that was deemed valuable both to them and to their employers. The women increased their value as employees by organizing conventions and bringing speakers to their meetings—creating all-female spaces where they could learn and grow in their professions. Employers in the oil and gas industry recognized these efforts and encouraged them by participating in Desk and Derrick conventions, serving as speakers at regularly scheduled meetings, and providing extra amenities for the women to facilitate their educational opportunities.

Meetings of the Desk and Derrick Club of Oklahoma City consisted of club business, time to socialize, and an educational presentation. Some of these speakers included:

> Orville L. Bratcher, regional manager of industrial relations for Continental Oil[356]
>
> C. I. Blackwood, president of Blackwood Business College[357]
>
> Elizabeth Aldrich Bridgeman, fuels technologist in the Research and Development Department, Phillips Petroleum Company[358]
>
> L. A. Rada, manager of traffic, Kerr-McGee Oil Industries, Inc.[359]
>
> J. T. May, Champlin Refining Company, assisted by drillers Carl and Clarence Gungall[360]

[356] "The Slush Pit," Daily Oklahoman, October 16, 1959, 46, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[357] "Desk and Derrick—February Meeting," February 25, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[358] Desk and Derrick—March Meeting," March 24, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[359] "Desk and Derrick—April Meeting," April 28, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[360] "Desk and Derrick—July, 1960 meeting," July 28, 1960, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

While these speakers varied in job description and company name, the vast majority were male. The speakers at regularly scheduled meetings addressed topics ranging from scientific oil industry information to the secrets of secretarial success. The advice given in the speeches specifically about their secretarial work reflected prevailing ideas about how women should present themselves in a pink-collar position in an office setting. According to Lois Scharf's research, women who moved into these pink-collar jobs "were encouraged to display passive, compliant, 'feminine' qualities." Vocational counselors advised women to emphasize their adaptability and willingness to follow direction and conform to expectations. The women most likely to gain employment possessed a "'pleasing appearance, attractive personality and youth.'"[361] These concepts fit with the patterns described by historian Kathleen M. Barry when she stated that "female wage-earners in many clerical and service fields have been expected not only to perform gender on the job but to perform gender *as* the job."[362] As a gender, society expected women to follow the direction of men while maintaining an attitude and appearance that men would find pleasing. Pink-collar careers required women to display these gender-specific characteristics, and apply them to their daily work.

The rhetoric presented by the speakers scheduled by the Desk and Derrick Club reinforced the ideas proposed by Scharf and Barry. In a speech given to a Desk and Derrick gathering on June 23, 1960, Mary M. Clock, a secretary at Big Chief Drilling Company, told aspiring oil company secretaries what it took to succeed as the right-hand to an oil industry executive. She first jokes about her speech helping to fulfill the requirement that 80 percent of their programming be educational, but demurs that she could not presume to tell the crowd of incredibly experienced women she addressed how to do secretarial work. Instead, she focuses on the intangible aspects of secretarial work, which she calls "the greatest guessing game on earth."

[361] Lois Scharf, *To Work and To Wed*, 100–01
[362] Barry, *Femininity of Flight*, 7.

The secretary must be able to read the moods, facial expressions, and preferences of her boss. She then transitions into a discussion about the idea of the job as a duty—it is fine to have hobbies and interests, but those trivial matters do not exist on company time. As Clock states, "I believe you have to be more interested in your job than in yourself." To succeed as a secretary and move up to the enviable ranks of executive secretary, a woman must "make sacrifices to achieve success"—no coffee breaks, working late without compensation, continuing education, developing a gracious manner toward all—all without complaint. Clock relates,

> Recently I was jolted out of my usual complacency when one of my bosses looked me in the eye and said, "You were hired to help me!" It was like a shock treatment. All of the time I thought I had been helping him—that is, the way *I wanted to help*—but I finally got the message—I was supposed to help him the *way he wanted* to be helped![363]

To be a successful secretary, Clock had to anticipate the needs of her employer, even when he did not make his needs obvious or ask until he was at the point of exasperation. No matter how efficient she might be in performing her tasks, ultimately her job performance was not only dependent solely on her ability to do the work set forth, but also on her adeptness to adapt to the needs of multiple bosses and know how to "help" each of them individually. A secretary was required to be self-sacrificing in order to be successful, while making a fraction of the pay that an executive would make. Her pay would increase as she and her boss were promoted, but her salary

[363] Mary M. Clock, "So You Want to Be an Oil Industry Secretary," June 23, 1960, 1–3, DDC OKC Collection.

would never compare to that of the men in the office, despite the expectations outlined in Clock's speech.

At the October 1959 meeting of the Oklahoma City club, Orville L. Bratcher of Continental Oil Company gave a talk titled "How to Be an Ex," in which he described various ways that a woman could lose her position as a secretary. The characteristics Bratcher listed that would guarantee status as an ex-employee included those related to their work—not cooperating with coworkers, bad telephone etiquette, disinterest in work—as well as more personal attributes, such as "poor personality," disregard for personal hygiene, and lack of patience. Bratcher also mentioned that not making an effort to "understand or please one's employer" was a sure-fire way to lose a secretarial position.[364] The Desk and Derrick women learned the traits needed to be successful in their chosen careers both from their peers and potential employers, and they received this information because they chose to seek it out. They wanted to understand how to maintain employment and move ahead, so they found ways to educate themselves on the best practices and expectations for doing so.

A hierarchy emerged within offices, with a woman's status dependent on the status of the man for whom she served as a secretary. The private secretary of the chief executive officer held more clout in the office than the secretary of a lower-level executive. Lois Scharf compares this to marriage, with the "wife," or secretary" obtaining her status from the position of her "husband," the man for whom she works.[365] The attentiveness to his needs and the desire to improve her ability to respond to any situation presented were an outgrowth of such expectations. By making oneself indispensable to a man working his way up the ranks of an oil company, a woman could, in turn, advance her career as she moved up with him. This description of what is

[364] "October Meeting Review," *Derrick Lights* 8, no. 11 (November 1959): 4, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.
[365] Lois Scharf, *To Work and To Wed*, 98.

commonly called the "work wife" or "work spouse" shows how important that rapport was to the career of a woman in an office setting. She had to cultivate her relationship with men in power and hope that they succeeded in their careers as a means of moving up herself. As will be shown later in this chapter, women did create other opportunities for career networking among themselves, but by linking oneself to an up-and-coming executive by providing vital support to his work, a secretary could ensure that when the man was promoted, she would be promoted in the hierarchy as well.

One woman who embodies this hierarchy within the Desk and Derrick Club of Oklahoma City itself was its first president, Helen Little. She was president in the 1950–51 term, when the organization was still known as the Women's Oil Association, before it affiliated with the ADDC. Little joined the staff of Carter Oil Company shortly after going through a divorce, beginning her career as a stenographer. She advanced up the ranks as a stenographer, becoming the stenographer for the geophysical supervisor before being promoted to secretary for the division's exploration manager and geologist. She then attained the position the position of secretary for the central division manager in Oklahoma City. Her duties were described as "administrative," and in this position she required "little or no supervision." By the time she became a secretary, she had been a member of the Desk and Derrick Club for three years.[366] Likely because of her divorce and subsequent need to support herself, Little worked for advancement in her chosen profession—it seemed more of a career than merely a job to her. As she moved up, she would have gained clout among her coworkers, as Scharf states, and consequently among club members. Because of her success in working her way up the ranks in her oil company office, she would have had insight into how to instruct other women to do the same. Her experience would be helpful to the women in the Oklahoma City club, as well as to women regionally and nationally through her

[366] "Oil Women," *Drill Bit*, December 1959, inside Desk and Derrick Club of Oklahoma City scrapbook, DDC OKC Collection.

involvement in ADDC at those levels. Described as a "firm believer" in the purposes of the Desk and Derrick Club,[367] Little's work to advance her career shows that secretarial work was not a dead-end position to these women; instead, it was an opportunity to advance, either on the merits of one's own work, or through the advancement of the man for whom she had made herself indispensable.

As more women have moved into scientific or higher-level office positions, and as a proliferations of more specialized organizations have emerged, membership in Desk and Derrick Clubs has declined. In 1987 the international organization invited men to join, ending the exclusivity of empowering women with knowledge of the industry and networking opportunities.[368] While the organization is still primarily female and leadership positions are dominated by women, men are making inroads into positions of power (in fact, the president in 2020 is a man—Keith Atkins from the Eldorado, Arkansas Club), a concession to the need to increase membership and recognize the need for inclusivity. Although no longer exclusively a female space due to the necessities of a changing world, the Association of Desk and Derrick Clubs gave women oil industry workers in the second half of the twentieth century a community in which they could find educational opportunities at a nominal fee, socialize with women who shared their experiences, and network to further their careers.

From Office Worker to Boss: Jessie Dearing Kinley and Little Nick Oil Company

While the majority of the women working in oil company offices held secretarial positions, and another, smaller group of women worked as geologists or in other scientific roles as explored in Chapter Three, there were rare examples of women who themselves were

[367] Ibid.
[368] Cecilia Gutierrez Venable, "Desk and Derrick Clubs," *Handbook of Texas Online*, www.tshaonline.org/handbook/online/articles/dod06.

executives in company offices. One such woman was Jessie Dearing Kinley, who took over management of Little Nick Oil Company in Chickasha, Oklahoma, upon the death of its owner and her boss, John B. Nichlos.

The rise of Jessie Dearing Kinley is tied to the work of her employer, John B. Nichlos. Nichlos organized Little Nick Oil Company on July 19, 1922, and owned just enough stock himself to maintain a controlling interest in the company.[369] His story was described as "one of those fabulous 'rags to riches' sagas that lends glamor to the history of Oklahoma."[370] After drilling two dry holes and finding himself in debt, Nichlos used his last $92 and pawned a diamond ring and car to drill one last well, fifteen miles southwest of Chickasha. He changed tactics, consulting with geologist Clyde Becker to find a scientifically sound location for drilling before purchasing a lease. With this well, Nichlos hit a significant gas field, soon named the Chickasha Gas Field, in what would become known as the Nichlos Sand. Bringing in this well began his success in developing leases and selling gas to municipalities.[371] Eventually, one of his companies, Oklahoma Gas Utilities Company, merged with Oklahoma Natural Gas.[372] Nichlos parlayed his success in oil and gas into a position in Republican Party politics, becoming friends with President Herbert Hoover and Patrick J. Hurley.[373] Although his headquarters was in the small town of Chickasha, Nichlos created a successful company and an influential position for himself as the oil and gas industry in Oklahoma and the Mid-Continent matured.

Nichlos hired Jessie Dearing, a young "farm girl" from Blair, Oklahoma, who had attended the Oklahoma College for Women in Chickasha (now the University of Science and Arts

[369] Jessie Dearing to Edward Adolphe, February 9, 1954, Little Nick Oil Company Collection, Grady County Historical Society, Chickasha, OK (hereafter cited as Little Nick Collection).
[370] "Rites for John B. Nichlos Set for Today in Chickasha," *Daily Oklahoman*, September 3, 1942, Little Nick Collection.
[371] "Thar She Blows!," in Poetic and Prose Works of Jessie Dearing Kinley notebook, September 1985, 2–4, Little Nick Collection.
[372] "John Nichlos Dies of Burns," newspaper clipping, n.d., Little Nick Collection.
[373] "Rites for John B. Nichlos Set for Today in Chickasha," *Daily Oklahoman*, September 3, 1942, Little Nick Collection.

of Oklahoma), to work in the Little Nick office in the mid-1930s. During the summer before her senior year of college, Jessie worked as a housekeeper for the Nichlos family, earning money to get her through her last year of school. She so impressed the Nichloses that they encouraged her to change her major from education to business, and she earned a math degree in 1935. As soon as she graduated, she went to work for Little Nick Oil Company as a stenographer, a pink-collar position that would have typically been filled by a bright, young woman directly out of college.[374] As Jessie described, one of her first tasks in her position with Little Nick involved visiting geologist Clyde Becker to assist in updating geological records. As an employee in a small company, Jessie likely performed a variety of tasks like this, and learned much from her time in the office. After Jessie worked for Little Nick for seven years, Nichlos amended the certificate of incorporation for the company to include his wife, Marjorie C. Nichlos, and Jessie Dearing as partners in the company.[375] This act by Nichlos rewarded Jessie's good work for the company, and demonstrated his trust in her ability to contribute to the company's success. It also came none too soon. In late August 1942, John B. Nichlos died unexpectedly of burns incurred during a gasoline explosion at his home near Ninnekah, Oklahoma.[376] His death left his wife, Marjorie, as the majority owner of the company—a position that she was not prepared to assume. Marjorie had never been involved in the day-to-day business of the company, but Jessie, who was also part-owner of Little Nick, was intimately acquainted with the office work, and knew who to talk to about the field work. Marjorie decided to name Jessie manager of the company, leaving the operation in her capable hands.[377]

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[374] "Thou Shalt Not Swear," in Poetic and Prose Works of Jessie Dearing Kinley notebook, September 1985, 60, Little Nick Collection; "'Country Girl from Blair' is Oil Firm Boss," newspaper clipping, n.d., 1–2, Little Nick Collection; "Jessie Dearing Kinley," *Daily Oklahoman*, May 26, 1997, oklahoman.com/article/2579115/jessie-dearing-kinley.
[375] "State of Oklahoma Certificate of Incorporation, Little Nick Oil Company," July 19, 1942, Little Nick Collection.
[376] "John Nichlos Dies of Burns," newspaper clipping, n.d., Little Nick Collection.
[377] Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection; "Dearing is Honored in Magazine Article," newspaper clipping, n.d., 1–2, Little Nick Collection.

In the first few years after the death of Nichlos, Jessie described the employees of the company as "more or less feeling our way along."[378] Jessie knew how to run the office, but needed guidance to learn the work that occurred in the field. Lindsy Harris, a Little Nick tool pusher who had worked for the company for several years, spent time with Jessie and taught her about the workings of oil and gas rigs, and the technical work in the oil field. After Nichlos's death, Jessie brought Lloyd Hoagland onboard as consulting geologist. Although the company previously utilized the expertise of Clyde Becker and Nichlos himself when it came to studying the geology of prospective leases, it appears that this was not a consistent relationship. Hoagland was on-call for the company whenever Jessie needed geological advice. Nichlos's personality fit the stereotype of the "wildcatter," the early oilmen who eschewed scientific methods for a "hunch." While he did consult with Becker to decide where to drill, Jessie's commitment to using scientific methods to find oil and gas can be seen from the beginning of her management of the company in her consultation with, and reliance on, Hoagland. Within ten to fifteen years, Jessie increased the holdings of Little Nick Oil Company, and increased the number of employees to twelve. The company's development in the Chickasha and Cement Fields grossed $5 million under her first eleven years of management.[379] In 1954, the *New York Journal-American* newspaper ran a story about women in business that included a feature on Jessie. As the article's author reminds readers, "One business that is considered almost exclusively male is oil exploration."[380] The article went on to praise Jessie for her humble beginnings and her business acumen. To be featured in a newspaper based in New York, Jessie's reputation had become national. Her successful management of the company left to her made her known beyond the confines of Chickasha, Oklahoma, or even the Mid-Continent region.

[378] Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection.
[379] Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection; "Dearing is Honored in Magazine Article," newspaper clipping, n.d., 1–2, Little Nick Collection.
[380] Leslie Gould, "More Companies Recognizing Value of Women in Business," *New York (NY) Journal-American*, June 21, 1954, Little Nick Collection.

When describing the company dynamics of Little Nick, Jessie emphasizes the teamwork involved in creating a successful working environment. The executives, the regular field crew, and the hired drilling crews all worked in concert for the common goal of completing profitable wells. Marjorie Nichlos trusted those in charge of the daily operations of the company, and contributed by providing picnic lunches for them when they had to visit wells and had no time to procure food for themselves. Jessie herself stated that "there is no bickering between us. No one is interested in the other's job."[381] Jessie sent this description in the context of a feature story being written on the company, so she, of course, wanted to portray the group in the best light possible. However, the success of the company would seem to confirm that this was actually the truth. Each person performing their assigned role made the operation achieve its objectives. Moreover, in her letter giving information for this feature story, Jessie discussed her compensation. While she did not wish to disclose her salary, which she described as "not fabulous but . . . good," she said that "it is not the thing which compensates me most for any contribution I have made to the continued development of this company." Jessie's compensation came in ways that most women did not experience:

> I have the complete trust and confidence of my employer. I am permitted to exercise my own judgment in the decisions which must be made with respect to our operation. Those decisions are not always easy and many times they are wrong but they are never questioned. I am even permitted the privilege of making mistakes without fear of retribution.[382]

[381] Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection.
[382] Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection.

Marjorie Nichlos, as the majority owner of the company, gave Jessie Dearing the space to learn how to manage an oil and gas company, apply that knowledge, and make mistakes along the way without punishment. As one woman employing another woman, Marjorie supported Jessie as she progressed and as she failed. Jessie makes it clear that she worked collaboratively with her male colleagues, but the final decisions about the direction of the company—where to drill, when to drill, who to approach for investments—were hers and hers alone. And, according to Jessie herself, she was never questioned. When Jessie decided that Little Nick should explore deeper formations in the Chickasha Field, her choice was not second-guessed, in spite of the huge cost of drilling to at least 8,500 feet when they had never drilled so deep before, and did not possess the equipment to do so. When the drilling on that well stopped at 15,800 feet with only a small gas yield and a great amount of information about the subsurface formations, Jessie did not lose her position. She was not replaced. The experiment was not immediately profitable, but Jessie was allowed to learn and explore on her own terms.[383] She regularly made decisions for the company that could gain or lose hundreds of thousands of dollars. One newspaper applauded her business acumen by pointing out that "as an independent producer, the company can afford few dry holes or bad moves, but under Miss Dearing's management, Little Nick has prospered. Oklahoma oilmen were inclined to look askance when she first plunged into the business, but now they grant her their final mark of approval." The "farm girl" from Blair could visit banks and request loans of $250,000, then walk out the door with a check.[384] Whether or not this unique situation would have happened under any other circumstances but the tragic death of John B. Nichlos cannot be determined, but the events that transpired to place Jessie Dearing in charge of Little Nick Oil Company ensured the continued success of its employees, its ownership, and the company itself. Nichlos left behind a successful company, but Jessie Dearing worked beyond expectations to

[383] "Women at Work," *The Petroleum Engineer*, October 1957, E-30, Little Nick Collection.
[384] "'Country Girl from Blair' is Oil Firm Boss," newspaper clipping, n.d., 1–2, Little Nick Collection.

expand its influence, make it more profitable, and garner a reputation for sound business practices and successful drilling.

Once Jessie Dearing established herself as the manager of Little Nick, she provided opportunities for other women to find employment in an oil company office. Touted as "the most feminine oil producing firm in an industry that is masculine," by 1955 Little Nick was "owned by a woman, its offices [were] staffed entirely by women, and, even though it's hard to believe, run by a woman—Jessie Dearing."[385] Perhaps remembering her own origin story, Jessie exclusively employed women in the office, while the men did the heavy lifting out in the oil field. In contrast to stereotypes of "catty" women, news writers noted how well her office staff worked together and got along:

> Women dislike working for bosses of their own sex. So it is repeatedly said. There are many exceptions to this alleged rule. There is an astonishing number of all-women organizations in this country. Such an organization that is highly successful is the Little Nick Oil Co. of Chickasha, Okla. The general manager of this outfit is a smart brunet [*sic*] named Jessie Dearing. All the employes [*sic*] are women.[386]

Jessie took advantage of the opportunity afforded her by Marjorie Nichlos to create a female space where women could work together in a male-dominated field. The positions available in the office were likely clerical, which would have been considered pink collar and accessible to women, but the fact that the entire office was comprised of women is noteworthy. Little Nick Oil

[385] "All-Women Company," n.d., newsletter clipping, Little Nick Collection.
[386] Clipping, *Sunday American* (New York, NY), n.d., Little Nick Collection.

Company's status as a small, independent oil company and its unique ownership and managerial situation allowed it more flexibility in conforming to expected gender norms—when women are in charge of a company, it follows that they might be more inclined to hire women when possible. This idea aligns with the concept of the Employment Committee in the Desk and Derrick Club of Oklahoma City—women who have experience in the field helping other women join the industry and find gainful, stable employment. In fact, Jessie spoke at Desk and Derrick meetings, including one in Enid.[387] It is also yet another form of women networking within the industry, just as Chi Upsilon women's geology fraternity provided opportunities for women to network and find jobs in the industry. Jessie Dearing could also be seen in the same light as Dollie Radler Hall and other female geologists who actively mentored women who sought careers in oil and gas. The all-women office of Little Nick Oil Company provided women in Chickasha with the prospect of good jobs in a profitable industry, with a company that inherently understood that women at any level could make significant contributions to the work of the team.

When Jessie looked back on her life as an oil company manager, she highlighted one decidedly "unladylike" habit that she picked up along the way. She related the story of learning to use the words "damn" and "hell" while in her college dorm, writing that she was "sufficiently her own woman by that time to indulge in a little improper behavior." That habit became a release valve for her during her thirty years as the head of an independent oil company, sometimes taking the extreme step of using both words together. One of the reasons that she detailed for using such language was the responsibility she felt for taking care of her employees and their families.[388] Jessie utilized profanity to relieve the stress she felt because the livelihoods of some thirty families depended on her decisions. While most oil and gas company executives would consider the dividends of shareholders or the profits that would be split among owners, one of Jessie's

[387] Photo caption, n.d., newspaper clipping, Little Nick Collection.
[388] "Thou Shalt Not Swear," in Poetic and Prose Works of Jessie Dearing Kinley notebook, September 1985, 59, Little Nick Collection.

biggest concern was the ability to provide employment for her rig hands so that their families would be fed, clothed, and housed. When she made mistakes, the thought of how it affected her employees was the thought that made her curse. Because Jessie did not have any children of her own, she projected the nurturing feelings that would have been instilled in her as a woman in the early twentieth century onto her employees. This would not be a prevalent response in the oil industry, as can be seen in the reactions of companies to the problems of rig workers shown in Chapter One. Again, Jessie created a unique working environment, and was able to do so because Little Nick was a small company, and was owned primarily by a woman who fully trusted Jessie to make decisions that would be best for the company as a whole.

One reason for Jessie's success as the manager of an oil and gas company may have been her marital status. When Jessie took over Little Nick in 1942, she was a single woman. Jessie did not marry until November 2, 1958, when she was forty-four years old and had been manager of Little Nick for sixteen years. Jessie married Myron Kinley, a man famous for fighting oil well fires across the globe.[389] In marrying Myron, Jessie's accomplishments were eclipsed by his glamorous reputation in the oil and gas industry. Newspaper articles focused on the couple highlighted Myron's career, then mentioned that Jessie was "also well known in the oil industry."[390] During the years that Jessie established herself as a manager and a force within the oil and gas industry, she did not have the added responsibilities of a husband and children at home to divide her time and attention, or to place pressure on her to conform to gender norms. By the time she married, her husband already had children, so the couple did not have children together. The two were married for twenty years until Myron's death, during which Jessie

[389] "Jessie Dearing Kinley," *Daily Oklahoman*, May 26, 1997, oklahoman.com/article/2579115/jessie-dearing-kinley; Bobby Weaver, "Kinley, Myron Macy (1898–1978)," The Encyclopedia of Oklahoma History and Culture, www.okhistory.org/publications/enc/entry.php?entry=KI023. Myron Kinley innovated techniques for fighting oil well fires, and trained famous oil well firefighter Red Adair, who was portrayed by John Wayne as the fictional character Chance Buckman in the movie *Hellfighters*.

[390] Suzanne West, "Sooner Couple's Careers Are Wrapped Up in Oil," *Daily Oklahoman* (Oklahoma City), December 2, 1962, E11, Little Nick Collection.

continued to work. In her retirement, Jessie wrote poetry and prose about her experiences in the oil and gas industry, but did not have these works published. She did, however, publish a book about her husband's work, *Call Kinley* (1995).[391] Despite her accomplishments in the oil and gas community, her work was subsumed under Myron's fame, even in her own estimation. The Little Nick Oil Company Collection at the Grady County Historical Society in Chickasha, Oklahoma, contains binders of Jessie's writings, but only a few of these stories and poems are about her life as a trailblazing woman in the oil field. She wanted to tell Myron's story, which was worthy of telling, but missed the opportunity to flesh out her own in the same way and distribute it to the public.

Jessie was one of a handful of women who operated small drilling concerns in the Mid-Continent. In a newspaper article titled "Main Street and Oil," Claude Barrow describes several women who were prominent in the oil industry in the early twentieth century, adding Jessie to their ranks moving into the mid-century. Barrow writes, "The oil patch always has been a man's business, even though a million women are major stockholders and oil offices across the country are staffed with women who are doing men's work with grace and efficiency." The article features Dollie Radler Hall, the groundbreaking female geologist who is discussed in Chapter Three, as one of these women doing the work traditionally reserved for men. He then features Mabel Clare Orr, a partner in Dunham and Orr Drilling Company, who he describes as "probably the first woman drilling contractor in the Mid-Continent." Her partners left the work of contracting with drillers and supervising the crews to Orr, and she spent her days out in the male-dominated oil fields directing rig activities. In the Osage oil boom of the 1920s, Mrs. M. S. Gay beat many of the wealthy investors to the area, having already started operating wells in on the tribe's "Underground Reservation." She created her own company, Tonkawa Development Company, to develop the up-and-coming Tonkawa Field, but was unsuccessful in that field and

[391] "Jessie Dearing Kinley," *Daily Oklahoman*, May 26, 1997, oklahoman.com/article/2579115/jessie-dearing-kinley.

moved back to the Osage hills before production in the Tonkawa Field took off. Barrow reminds his readers that women were "numerous in the lease and royalty division of the state's industry," and among those women were Rose Blanchard of Prairie Oil and Gas Company, Lela Mae Fitts from Atoka County in southeastern Oklahoma, and Marie Kightlinger of Logan County in central Oklahoma. Barrow situates Jessie within this tradition of female stereotype-breakers by detailing her rise through the company ranks, portraying her as a "'tough trader'" in the business, and emphasizing her success—"she went alone and hit the jackpot." [392]

Barrow's article shows that women made contributions in the early days of the oil industry, particularly in smaller, independent companies. However, Barrow gives a false sense of the number of women in scientific and executive positions in the industry. His emphasis on these exceptions to the rule makes it appear as if there were more women in positions of power than actually existed. And, despite the empowerment felt in the writing, Barrow cannot escape using traditionally feminine imagery to describe these women working in a male-dominated field. When discussing Orr's contributions to the oil industry, Barrow states that the "smell of fresh oil and venting gas was perfume to her." He refers to Jessie Dearing as "Miss Jessie," as was likely the norm for her to be called in the industry, but a way of referring to a manager that would not be tolerated if that manager were male.[393] What Barrow does in the article, however, is place Jessie in the context of a continuum of female involvement in the oil industry—she was not the first, and by extension she will not be the last. She is merely part of a larger group of women who, although small in number, have made contributions to the industry in corporate offices of varying sizes throughout its history.

While representative of the exception and not the rule, Jessie Dearing Kinley used the opportunity presented to her to create a place for herself in the oil industry. She earned the trust of

[392] Claude V. Barrow, "Main Street and Oil," newspaper clipping, n.d., Little Nick Collection.
[393] Claude V. Barrow, "Main Street and Oil," newspaper clipping, n.d., Little Nick Collection.

her employer, and because of this gained a stake in the company. When Nichlos unexpectedly died, his wife trusted Jessie to manage Little Nick, which she did by filling the office with women who could perform the secretarial roles and seeking the advice of men who knew the oil field and the logistics of drilling. In doing so, she also made space for other women in her office, despite the negative stereotypes associated with an office full of female employees and led by a woman. She forged relationships with her male employees in the field to ensure the success of the company, recognizing her need for their expertise but maintaining her authority to make final decisions based on the information she gathered from them as well as her own experience in the oil industry. When she married Myron Kinley in 1958, she continued her career but was overshadowed by his exploits as an oil field firefighter. In her own reckoning, however, her work was not necessarily groundbreaking. As she stated, "As for me, well, I'm just a gal in love with a job and damned grateful I was chosen to do it for it's fun!"[394]

Jessie found success in an industry that she loved, in spite of the obstacles laid before her by her gender. Her story is important because it shows how, given the opportunity, a woman could not only succeed, but extend her success to include other women. The Nichloses gave her the chance to prove herself as a manager in a male-dominated field and she passed the test. When John Nichlos died and Marjorie Nichols provided Jessie with the freedom to flourish or fail based on her own merits, Jessie did not solely rely on her own knowledge, but surrounded herself with experienced geologists and oil field workers ready to give her not only wise counsel, but also the space to make her own decisions. As she continued to achieve, she gave the world an example of what female leadership looked like in the petroleum industry, as evidenced by the mentions of her harmonious all-female office in industry publications. More significantly, she showed the local

[394] Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection.

community that a woman could run a thriving oil concern, and pull in a staff of women to make it work.

Conclusion

The Desk and Derrick Clubs of the mid-twentieth century, like Chi Upsilon women's geology fraternity of the early twentieth century, are shining examples of the way that women created communities for themselves within the male-dominated oil industry. These women developed a space where they could socialize, learn, and network, all within the perfectly acceptable confines of a ladies' club. The stated purpose of these clubs was educational, and through field trips, seminars, and monthly meetings members educated one another on more than just the best ways to organize files, answer phones, and present oneself on the job. Field trips gave Desk and Derrick women the opportunity to learn about the products that their bosses might need to purchase to aid in oil production. Conducting interviews for the publication *Facts and Fantasies of the Oil Patch* afforded members of the Oklahoma City Desk and Derrick Club perspective on the beginnings of the industry and how far technology had come in approximately fifty years. The existence of the Employment Committee, a way for oil companies to make contact with qualified and eager applicants for open secretarial and administrative positions, shows the importance of leveraging the power of the organization to assist women in finding employment and, in turn, the importance that the women of the club placed on the idea of continued employment.

The story of Jessie Dearing Kinley, although unusual in the history of the oil industry, illustrates both the competence of women in this male-dominated industry and the surprise exhibited by contemporary commentators that a woman could possess such aptitude for the management of an oil company. While Jessie herself may not have understood the drilling process or the ins-and-outs of geology and geophysics when she was thrust into leadership of

Little Nick Oil Company after the death of John Nichlos, she surrounded herself with knowledgeable men, weighed their counsel, and made decisions that could make or cost a fortune. As time passed, she gave opportunities to other women, filling the Little Nick office with female voices and providing employment to local Chickasha women. These women defied stereotypes of the day by creating a harmonious, friendly work environment, shocking journalists looking for gossip, cat-fighting, and strife rather than women supporting one another. The Little Nick Oil Company office was not only a place where women performed typical clerical tasks, but also a place where a woman made decisions, then tasked men in the field with carrying out those decisions.

Because there were more women in secretarial and administrative positions in oil companies, therefore there was more opportunity for camaraderie and the creation of all-female spaces. Offices were the typical places to find women working in the twentieth century, so it is easy to imagine women creating relationships with their female coworkers. The communities created in petroleum industry offices could be viewed as models for analyzing the ways in which women interacted with one another in other office settings, particularly industries in which women were not typically the professionals, but instead held pink-collar jobs. Television programming of the twenty-first century has provided fictionalized views of mid-twentieth-century women in clerical positions moving into the ranks of their male bosses.[395] While the women of the Association of Desk and Derrick Clubs were not generally trying to become geologists, geophysicists, or executives, they educated themselves through club programming so that they could excel at their jobs as secretaries. The environment that Jessie Dearing Kinley created at the Little Nick Oil Company office gave women a place to succeed or fail out of the critical gaze of men, giving them a chance to learn about an industry with which they may have

[395] *Mad Men*, created by Matthew Weiner, Lionsgate Television, in association with Weiner Brothers, for American Movie Classics, 2007–15.

had little contact before taking the job at Little Nick. Despite being a typical place for female employment, the presence of the all-female Desk and Derrick Clubs and some all-female offices gave women space to learn about the industry, become more proficient in their jobs, make social connections, and network for career expansion.

CHAPTER VI

GRACIOUS HOSTESSES AND SUPPORTIVE WIVES: THE OIL INDUSTRY AS HOUSEHOLD ECONOMY

> I am afraid Mama has made another slip in this gas matter, but possibly it is not beyond remedy. She signed her name to it first and then sent it to me, now I want to say right here and I don't mean it boastingly that Mr. Lamberton or no one else could for any amount of money induce me to sign this check. It looks innocent enough as I say, but why is it that Mr. L. will not come out in the open and do business in a business way. . . . look sharp now and impress upon the mind of your Mama that she should not be too credulous or take for granted what Mr. L tells her and she should not and must not sign any papers without first having them scrutinized by someone that understands such matters."[396]

While B. F. Sheffer toiled in the oil patch of Bakersfield, California, he left his wife at home to manage the family's business affairs, which included dealing with accounting issues pertaining to the family's minor oil and gas holdings. As Sheffer relates in the above 1913 letter to his son, Marion, he does not trust Mrs. Sheffer to make sound business decisions in his absence

[396] B. F. Sheffer to Marion Sheffer, November 10, 1913, 2012.032.1.2, B. F. Sheffer Oil Letters Collection, University of Tulsa Special Collections, Tulsa, OK.

without consultation with "someone that understands such matters." In a letter from Mrs. Sheffer to Marion dated thirteen days later, however, the wife and mother describes her work keeping the couple's books, detailing checks that she received, as well as checks she had written in response to business needs while her husband was away from home. Near the end of the letter, Mrs. Sheffer tells her son, "I think Mr. S had better come home and look after his own business."[397]

The timing of these two letters might indicate that Mrs. Sheffer's letter to her son was a response to her husband's reaction to her ability to manage the family finances while he was away. No matter what the reason for her letter, she reiterates to Marion that she handles the business accounts, and it seems that she is sending a message to her husband through her son to let him know that, if he does not approve of the way she runs things, he can take care of all aspects of the business himself. Despite the fact that she was not employed by a company and did not make a salary of her own, Mrs. Sheffer was engaged in oil industry work. Because her husband's business required support and she possessed at least some of the skills needed to perform these tasks, she became part of the company, even if his company was only a one-man operation. Rather than hire an outsider to do bookkeeping for him, Mr. Sheffer utilized his wife's labor for that purpose. Throughout the history of the oil and gas industry, wives have assisted their husbands in this way—providing unpaid labor to benefit the husband's company, which in turn benefitted the family through increased revenue. While wives may not have performed unpaid labor that could have been considered a job in larger companies, they too used their positions as homemakers to involve themselves in women's auxiliaries related to the oil and gas industry, using those groups to create relationships with other women with husbands in the industry, both for their own benefit and to provide networking opportunities for their husbands.

[397] "Mamma" (Amelia Ellen Sheffer) to Marion Sheffer, November 23, 1913, 2012.032.1.3, B. F. Sheffer Oil Letters Collection, University of Tulsa Special Collections, Tulsa, OK.

This chapter uncovers the family economy of the petroleum industry, and the various ways that wives contributed to their husbands' careers. Some early twentieth-century women who studied geology at universities and became pioneering women in the field had their careers cut short by marriage. The men that they married, in many instances, were fellow geologists whom they met while at work. As these men continued their careers, some would enlist the help of their wives, who were trained in the field, to assist them with making maps, bookkeeping, or other related tasks. There were other ways that women who were not trained geologists could support their husbands' careers and help them to succeed. Wives, primarily those who identified as homemakers, joined women's auxiliaries that were associated with the oil and gas organizations populated by their husbands. These groups provided social interaction for women, with women who understood the work that their husbands did and thus the home life that many of them experienced. Auxiliaries also afforded women the opportunity to network for their husbands, connecting husbands through the relationships built between wives. Sometimes, it became necessary for a wife to move out of the background of the home economy and take the spotlight because of the death of a husband. Occasionally a wife would inherit a small, independent oil company upon the death of her husband, as happened with Little Nick Oil Company. In those cases, responsibility for the family economy moves from the husband to the wife, shifting the roles through circumstances out of the control of the family. While a man could be successful in the oil and gas industry without the help of his wife, the engagement of both the husband and wife in the family economy of the oil industry spread out the work and increased networking possibilities.

Women in the Home Economy

In her book *Women Have Always Worked: A Historical Overview*, Alice Kessler-Harris presents an overview of women at work, both domestically and outside the home, from pre-industrial times to the early 1980s. Before the Industrial Revolution, husbands and wives worked side-by-side as part of the home economy—the work that was done in the home to support the family. Women and men had separate tasks, but the work was done in concert to provide for the household. As men moved to jobs outside the home, the household work became the domain of women, and ceased to be seen as "work" as compared to the wage-earning work of men. Upper- and middle-class white women's identities became wrapped up in their roles as homemakers. The shift from working alongside their husbands to working at home while the husband worked outside the home devalued the work of homemaking wives in the eyes of their husbands, and of society at large.[398] Poverty excluded the majority of working-class white women, Black women, and other women of color from remaining solely in the home sphere. These women lacked the opportunity to stay home while their husbands earned enough outside the home to support the family—their wages were necessary to sustain the family. The institutional marginalization of people of color in the work force—many were relegated to domestic service or agriculture, excluded from the industrial economy because of racism and segregation—led to underemployment and the need for both husband and wife to earn wages. According to sociologist Celine-Marie Pascale, the changes wrought by the Industrial Revolution not only "altered and fragmented" the relationships between husbands and wives, but also created a divide between working-class and middle-class women.[399] This divide continued into the post-World War II era, as a report by Rose M. Krieder and Diana B. Elliott of the US Census Bureau reveals.

[398] Alice Kessler-Harris, *Women Have Always Worked: A Historical Overview* (Old Westbury, NY: The Feminist Press, 1981).
[399] Celine-Marie Pascale, "All in a Day's Work: A Feminist Analysis of Class Formation and Social Identity," *Race, Gender, and Class* 8, no. 2 (2001): 49–50.

Kreider and Elliott reference Bart Landry's work *Black Working Wives: Pioneers of the American Family Revolution* (2000) and Susan Thistle's book *From Marriage to the Market: The Transformation of Women's Lives* and work (2006) to preface their findings, noting that the phenomenon of the stay-at-home wife was not universal, and married Black women in particular remained in the work force in long after their white counterparts retreated to the home. In their analysis of data from 1969 to 2009, they found that "Black women were about half as likely as white women to be a stay-at-home mother."[400] Similarly, through her work on flight attendants, Kathleen M. Barry discusses the creation of distinctions between "home" and "work" following nineteenth-century industrialization. Barry leans on the work of Jeanne Boydston and other historians, who argued that the increased divide between work and home led to a continued emphasis on the importance of men's work outside the home, and consequently diminished the significance or value of women's contributions in the home. Society viewed women's work inside the home as a "noneconomic labor of love."[401] Housework was a duty, not a job, and had no place in the larger economy. Industrialization and the advent of office work, with the standard of men leaving the home to work and women staying home to do housework—which was only truly the norm in upper- and middle-class families—essentially broke the ties that bound the family in a home economy.

This idea of the difference between the world inside the home and the world outside the home has often been described through the device of "separate spheres." In her article "Separate Spheres, Female Worlds, Woman's Place: The Rhetoric of Women's History," Linda K. Kerber

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[400] Rose M. Kreider and Diana B. Elliott, "Historical Changes in Stay-at-Home Mothers: 1969 to 2009" (paper, American Sociological Association Annual Meetings, Atlanta, GA, 2010), 3, 15, www.census.gov/content/dam/Census/library/working-papers/2010/demo/asa2010-kreider-elliott.pdf; Bart Landry, *Black Working Wives: Pioneers of the American Family Revolution* (Berkeley: University of California Press, 2000); Susan Thistle, *From Marriage to Market: The Transformation of Women's Lives and Work* (Berkeley: University of California Press, 2006). The paper by Kreider and Elliott notes that women who listed their race as Hispanic or Asian on census forms were more likely to be stay-at-home wives over the span of time studied. They attributed this phenomenon to the idea that many of those women surveyed were first-generation immigrants, who were more likely to stay home while a husband worked.

[401] Kathleen M. Barry, *Femininity in Flight: A History of Flight Attendants* (Durham, NC: Duke University Press, 2007), 7.

describes the development of the concept of separate spheres in the historiography. Historians such as Barbara Welter, Aileen S. Kraditor, and Gerda Lerner have used this figure of speech to establish the spaces women occupied in the past—public versus private—although this simplification can be problematic. Separate spheres permeated the historiography of women as written in the 1960s and 1970s. By the 1980s, a careful evaluation of the term resulted in discussions that recognized that some separate spaces for women were "women's culture," or positive and liberating spaces, whereas others fell more into the category of "women's sphere," with all of the negative connotations associated with the term. Most working-class women and women of color were not afforded the luxury of remaining in the home sphere. Instead, they had to provide for the family financially in whatever way they could to supplement their husband's income. While this term has been primarily used to describe women in the nineteenth century, it can also be used to describe twentieth century women, but not as broadly. Since this chapter discusses the lives of upper- and middle-class women, the idea of separate spheres is an apt metaphor to bring into the mid-twentieth century.[402]

In *To Work and To Wed: Female Employment, Feminism, and the Great Depression*, Lois Scharf writes about the home economy and the ways that working as a family placed women's work on a level playing field with the economic contributions of men. When the United States was primarily rural and the economy based on agriculture, the family farm was a "self-sufficient socioeconomic entity in which all members performed prescribed work and contributed individually to the economic well-being of the entire family."[403] In this type of economy, the work of both men and women was valued equally as important to maintaining the fiscal status of a family. While husbands and wives were assigned different tasks on the family farm, those tasks

[402] Linda K. Kerber, "Separate Spheres, Female Worlds, Woman's Place: The Rhetoric of Women's History," *Journal of American History* 75, no. 1 (June 1988): 9–39.
[403] Lois Scharf, *To Work and To Wed: Female Employment, Feminism, and the Great Depression* (Westport, CT: Greenwood Press, 1980), 23–24.

were all integral to the success of the family. The economic return on women's work was similar to that of men's. With the rise of industrialization, working-class women continued to work, albeit many in factories instead of on farms as they followed textile and food processing into mass production. Middle-class women whose husbands began to work outside the home to earn wages, however, were not expected to find outside employment to add to the family's bank account. These women became viewed solely as homemakers and childrearers, a position removed from the economy. Work, and economic contribution, happened in public and outside the home, leaving middle- and upper-class women separated from the financial support of the family. According to Scharf, "Whether separate spheres of activity were justified on the basis of biological differences, inherent emotional traits, or on Scripture, economic dependency for women and financial burdens for men resulted."[404]

As discussed in Chapter Three in the discussions of the women who worked as geologists in oil industry offices in the early twentieth century, it was common for women to lose (or in some cases, choose) to leave their jobs upon their marriage. As Scharf describes, however, many women wanted to continue to work outside the home in the fields for which they had obtained university degrees. The American Association of University Women studied the idea of university-trained women remaining in the workforce despite the conflicts of marriage and family, because "'more and more college women a [were] demanding that in some way they be enabled to marry and also to carry on the work for which they were prepared in college.'" The question posed by advice columnists and women across the country, however, was not limited to women who had achieved advanced degrees, but extended to women in general—should women work outside the home after they married?[405]

[404] Scharf, *To Work and To Wed*, 23–24.
[405] Scharf, *To Work and To Wed*, 23.

As the United States plunged into the Great Depression in the 1930s, it became even more unacceptable for women to work outside the home, as it was seen as taking a job from a man who should be the breadwinner for a family. Scharf relates, "The area in which the most concerted efforts to send married women workers back to their homes became the public sector, for there conflicting American values pertaining to the role of government converged with conventional ideals of women's place in society." The US government sought to safeguard the sanctity of the home by maintaining a woman's place as a homemaker through the "married persons clause" in the 1932 Economy Act. The clause was predicated on the belief that wives needed to remain in the home to care for children and uphold American values, and stated that if a married woman was employed by the executive branch, and her husband was also a government employee, the wife would be the first person laid off in the event of a reduction in force. Despite the obvious discrimination in this portion of the bill, the legislation passed both the House of Representatives and the Senate.[406]

In the early twentieth century, oil companies fired women who worked for them if they got married. The end of their formal employment, however, did not necessarily mean the end of their involvement in the oil and gas industry. For women who married men who also worked in the petroleum industry, this might represent a shift from the public sphere of employment to work in the family economy, where she would perform tasks to support her husband's work, but not receive any payment beyond the salary he received. Wives who were not trained to work in the oil and gas industry but who embraced the stay-at-home lifestyle also became a part of the home economy by joining women's auxiliaries to assist their husbands with networking and career building. While not all women either had the financial security or the desire to stay home and support their husbands' work through unpaid labor as a part of the home sphere or the family economy, wives whose husbands were employed as geologists, geophysicists, executives, and in

[406] Scharf, *To Work and To Wed*, 44, 46–47.

other white-collar positions with oil companies were more likely to be in a position to conform to the idealized vision of the post-World War II family by staying home. Especially in the mid-twentieth century, the oil and gas industry was an almost exclusively white domain, although class differences were evident between the workers in the oil fields and the workers in the offices. An article in *U.S. News and World Report* describing inequities in modern-day hiring practices noted, "Explicitly racist hiring practices that were common to the U.S. labor market through the first part of the 20th century . . . helped to create an overwhelmingly white workforce—including in the oil and gas industry."[407] This chapter focuses on the white-collar workers in the industry, and subsequently will discuss a lifestyle open nearly exclusively to white, middle- and upper-class families.

Women Geologists in the "Family Business"

> Will the geologist of the future stay in town only long enough to accept orders from his office geologist, who at one time was only a Sooner coed? And will it come about that fond hubby will be sent out to locate oil wells while wifey patiently works out the underground structure in the same area? And again, cries the anguished geology major, will it ever come to pass that while the valiant male is pushing a drawing-pen in the office, the weaker sex is out holding a rod on a persistent limestone? . . . . Will male geologists now step aside, as steeplejacks and aviators have already, and let the conquering female sweep everything before him? Or will they have any choice in the matter, with one woman on the faculty,

[407] Alan Newhauser, "Oil Boom a Bust for Blacks," *U.S. News and World Report*, August 24, 2018, www.usnews.com/news/the-report/articles/2018-08-24/african-americans-shut-out-from-the-us-oil-boom.

> five student assistantesses, six geological surveyesses, and seven girls now majoring in geology; and, last but not least, two employed by real honest-to-goodness oil companies at the present writing?[408]

The above undated article describing a new world of women geologists appears in the University of Oklahoma chapter of Chi Upsilon's scrapbook from around the year 1920, when the women of the geology department formed the organization. Not only does it describe women working in the offices of oil companies as geologists among their male counterparts, but it also portrays wives working alongside their husbands in the oil industry. In a time when women were required to quit their jobs at large companies upon marriage, the scenario of working alongside a husband in his independent oil company, or being an uncredited career support at home would be a viable one for many women who studied geology should they marry a fellow geologist. Of course, the article presents this prospect from the perspective of male geologists who exaggerate the fear of displacement in a field where they are by far the dominant gender. While their anxiety is misplaced, their view of women working alongside men as a family business is somewhat prophetic—as women geologists met husbands in their workplaces and had to quit their jobs, some eschewed the traditional role of wife and mother, choosing to remain active in the oil business and assist their husbands. In some cases, this led these women to own their own businesses upon the death of their husband. In addition to the economic partnerships these women cultivated with their husbands, they also supported other women in the oil industry through club work and support of Chi Upsilon women's geology fraternity. Through the work of Winifred Winne Conkling, Helen Jeanne Skewes Plummer, Fanny C. Edson, Nina Gould, and Marjorie C. Nichlos, the different ways women were involved in the family business of the oil and gas

[408] "Will Spry Young Geologists Ever Hear the Riot Act Read By Coed Partner in Office?," Chi Upsilon scrapbook, folder 4, box C-61, Chi Upsilon Collection, WHC.

industry, and contributed to the oil and gas community through their partnership with their husbands are evident.

As is discussed in Chapter Three, oil companies began hiring female office geologists during World War I to fill positions left by men who enlisted in the military. Richard A. Conkling, chief geologist of Roxana Petroleum Company, was one of the first men to welcome women into his geology department. Author and geology historian Robbie Rice Gries believes that his willingness to hire women may have been predicated on his relationship with his wife, Winifred Winne Conkling, who he met when they were both master's students of geology at the University of Chicago, and his interactions with women in the School of Geology at the University of Oklahoma, where he earned his undergraduate degree. In fact, Winifred graduated with a master's degree in geology from the University of Chicago, a feat Richard did no complete, perhaps because of continuous distractions from work. The April 1919 issue of the *Roxoleum* newsletter includes a report of Winifred spending time in the office learning drafting skills and "covering Texas quadrangle maps" before leaving to help her mother move and to prepare for her own move to Saint Louis. Gries notes in *Anomalies*, her book on women geologists, that Winifred accompanied Richard on many of his trips to visit wells, and assisted her husband in chaperoning a University of Oklahoma School of Geology field trip in 1918, as recorded in the May 1918 issue of *Roxoleum*.[409] Winifred's presence on the field trip may have been inspirational to any women who were allowed to participate—she was a woman who, although she was not allowed to work after her marriage (ostensibly barring her from ever working, since she married immediately after receiving her master's degree), still managed to find ways to be involved in geology and in the petroleum industry through her husband's work.

[409] Robbie Rice Gries, *Anomalies: Pioneering Women in Petroleum Geology: 1917–2017* (Denver, CO: JeWeL Publishing LLC, 2017), 3–5; "Geological Department," *Roxoleum*, April 1919, 16, digitalcollections.smu.edu/digital/collection/dgl/id/811/rec/15, DeGolyer Library, Southern Methodist University, Dallas, TX.

She did not drop her interest in the field as soon as she married, instead she used her husband's position to ensure that she could still keep her hand in the game in whatever way possible, despite the fact that she would never be paid by a company or be able to do steady geological work.

Winifred Winne Conkling leveraged her position as the wife of the chief geologist who was willing to listen to female geologists to indulge her love of the field despite her inability to be employed due to her marital status. Her efforts in accompanying her husband into the field, looking over maps, and learning how to draft would never be compensated, but would contribute to the economic well-being of her family, and the company for which her husband worked. Her good work likely reflected well on her husband, and her ability to understand the industry and speak the same technical language as her husband may have helped in making connections socially. Her knowledge was not only an attribute and asset to her personally, but also an asset to her husband and an attribute that could be used to enhance their family economically.[410]

Through the influence of his wife Winifred's expertise, and that of other women geologists he had encountered, Richard Conkling made the decision in April 1917 to hire the first female geologist employed by an oil company.[411] Helen Jeanne Skewes Plummer received her bachelor's degree in geology from Northwestern University in 1913. Upon completing her degree, she worked for the Illinois Geological Survey before moving to Tulsa to work for Roxana Petroleum Company. She only worked in the Roxana office for one year, as she married Fred Plummer, a geologist, and had to leave her position after their nuptials. According to the memorial written about her for the American Association of Petroleum Geologists publication, her marriage "put an end to regular professional positions but not to her scientific interests, which she pursued wherever Mr. Plummer's work as a geologist led him."[412] As she and her husband

[410] Gries, *Anomalies*, 4–5; "Geological Department," *Roxoleum*, April 1919, 16.
[411] Gries, *Anomalies*, 4.
[412] Gries, *Anomalies*, 5–6; Mary Grace Muse Adkins, "Memorial: Helen Jeanne Plummer (1891–1951)," *AAPG Bulletin*, August 1954, 1854–57, Gries Archives, Lakewood, CO.

traveled the world following his career, she began to study foraminifera, the tiny fossils studied by Alva Ellisor, Hedwig Kniker, and Esther Richards Applin, who were discussed in Chapter Three. As was mentioned in the description of the work of these women, micropaleontology was a subtopic of geology that was deemed acceptable for women in the 1920s and 1930s, as it was not viewed as particularly profitable. While she researched micropaleontology in the Texas Gulf Coast area, Helen Plummer became friends with Ellisor, Kniker, and Applin, joining in their collaborative effort to unlock the mysteries that foraminifera could explain in oil exploration.[413] These women, however proved that the existence of tiny fossils in samples from potential well sites could indicate the presence or absence of oil.[414] While Ellisor, Kniker, and Applin pursued this field as their careers, Helen Plummer did so as a way to remain involved with the industry even when she could not be employed as a married woman. She was eventually able to be paid as a consultant, but did not find full-time employment, despite her expertise and growing renown, until after her husband's death in 1947. Helen, who had worked AAPG founding member Richard Conkling, did not even join the American Association of Petroleum Geologists until May 24, 1948.[415]

Even as Helen worked on her own projects, she assisted her husband in his work. As Mary Grace Muse Adkins, the author of her AAPG memorial, wrote,

> Because of the bulk and quality of her own work perhaps many who knew of it were not also aware of her constant help to Mr. Plummer in his scientific work—editing his manuscripts, doing with rare skill the necessary difficult drawings,

[413] Gries, *Anomalies*, 6.
[414] Gries, *Anomalies*, 5–6; Mary Grace Muse Adkins, "Memorial: Helen Jeanne Plummer (1891–1951)," Gries Archives, Lakewood, CO.
[415] Gries, *Anomalies*, 5–6; Mary Grace Muse Adkins, "Memorial: Helen Jeanne Plummer (1891–1951)," Gries Archives, Lakewood, CO; American Association of Petroleum Geologists Membership Card for Helen Jeanne Plummer, May 24, 1948, Gries Archives, Lakewood, CO.

> painstakingly checking results, accompanying him on short field trips and even on some consulting expeditions. How much he depended on her only their intimates knew. This unwearying aid was due not only to her personal loyalty and devotion to Mr. Plummer but to her devotion to science as well.[416]

She supported her husband's career by ensuring that his work was robust, correct, and presentable, all while publishing her own groundbreaking papers on other geological subjects. Nowhere in her memorial is it mentioned that Fred provided the same service to Helen. It seems that he did not take time from his career to assist her in preparing manuscripts for publication or go on her field trips. Her scientific research was dependent on the location where her husband was employed. She was constrained by the limitations placed on her by her role as the wife—she could not be the breadwinner, and thus her research was secondary to her husband's paying geological work. Even as their economic status was based on Fred's career, Fred was dependent on Helen's expertise and editing for the success of his own work.

Adkins raises an interesting point when she emphasizes that Helen helped her husband not only out of a sense of devotion to him, but also out of devotion to science itself. Later in the memorial, Adkins describes Helen's staunch work ethic, indicating that her drive to continue researching, writing, and participating in other scientific endeavors along with the general work of maintaining her home after the death of her husband may have contributed to Helen's own rather sudden death.[417] In Adkins's estimation, Helen's reasons for helping her husband were not based solely on her love for him and desire to see him succeed in the family business. Helen Plummer's love of geology also factored into her drive to ensure that her husband's work was

[416] Gries, *Anomalies*, 5–6; Mary Grace Muse Adkins, "Memorial: Helen Jeanne Plummer (1891–1951)," Gries Archives, Lakewood, CO.
[417] Mary Grace Muse Adkins, "Memorial: Helen Jeanne Plummer (1891–1951)," Gries Archives, Lakewood, CO.

exemplary. She wanted to produce excellent work, regardless of who received the credit. Putting new research out into the community was seemingly enough reward for her. It may be that she was conditioned to feel that response, as she had been denied the opportunity to work and gain the monetary remuneration from her mental labors after her marriage, but she did receive international recognition during her lifetime for her micropaleontological work. More likely, Helen Plummer enjoyed scientific discovery so much that she was unconcerned with attribution—she merely wanted to know that she had contributed to the breadth of knowledge available.

Though Helen Plummer continued to provide support work for her husband's career and pursue her own research, she was also expected to perform the duties of a homemaker. As the wife—the member of the family not engaged publicly in the outside economy—Helen had to take on the traditional responsibilities of the home sphere. Adkins describes her as attacking aspects of domestic life that she did not enjoy with a "scientific thoroughness."[418] She preferred to leave their yard alone and not spend time in cultivating a garden, but Fred "preferred they be a garden spot." To appease her husband, she joined the Garden Club and learned what types of plants should be grown in their yard, and turned it into an experiment to see what methods for cultivation worked best. She took a similar scientific approach to cooking, another home chore that from which she derived little pleasure. Despite her aversion to some aspects of homemaking, she was generous with her hospitality, her resources, and her time.[419] Helen worked to live up to the expectations placed upon her both by her husband and by society at large—that she would maintain a warm, inviting home and support her husband in his career. Her work with Fred, or more aptly her work for Fred, gave her the chance to stay connected to petroleum geology, but unlike other women who had to quit work upon marriage, Helen continued to conduct research

[418] Ibid.
[419] Ibid.

and publish in her own right. Her own work, however, was unpaid until after her husband's death, when she took a regular position with the Texas Bureau of Economic Geology in Austin, Texas, where her husband had been working and the organization for whom she had been consulting, but had not been a regular employee.[420] Even into the post-World War II 1940s, it was taboo to employ a wife whose husband was working. She could do consulting work for the bureau while her husband worked there, but she could not obtain full employment, whether because it could be considered nepotism or because of her status as a wife. Regardless, Helen's credentials and publications would have afforded her a position in such an organization, and did so after she was no longer a married woman, but a widow. Without the constraints of having to provide for comfort of the home sphere for her husband, the bureau considered Helen to be employable.

Another woman whose work as an assistant to her husband merits examination is Fanny C. Edson. And, like Helen Plummer, Fanny eventually found herself able to seek employment again after years of supporting her husband's career, in her case after their divorce. Fanny was the first woman to earn a bachelor's degree in geology from the University of Wisconsin, achieving that milestone in 1910. That same year, Fanny married Frank A. Edson, who she met while studying at the university. Following their marriage, she assisted her husband in his career in iron ore exploration. In a letter from 1927 describing her work in the field, Fanny related that, during this time when she was not directly employed due to her marriage she "was very much interested in the business, and kept in touch with geological work through watching the drills, examining cores and making structure maps from the core drill information." She returned to the University of Wisconsin to earn a master's degree, graduating in 1914. When her husband Frank, a pacifist, began working for the YMCA during World War I as a way to serve the country, Fanny became one of the women employed to fill positions left by men, first as a clerical worker, then receiving

[420] Keith Young, "Plummer, Helen Jeanne (1891–1951)," *The Handbook of Texas*, www.tshaonline.org/handbook/entries/plummer-helen-jeanne.

an appointment to the minerals division of the War Trade Board, headquartered in Washington, DC. By that time, she and Frank already had their daughter, and Fanny left her back at their home in Minnesota under the care of a maid while she worked in Washington.[421]

Once her husband came home from his war work, the couple moved to Norman, Oklahoma, where Frank had taken a job with the Oklahoma Geological Survey. Fanny took advantage of their time in Norman to do graduate work in the steadily growing field of petroleum geology, requiring her to learn an entirely different branch of geology. In her time at OU, she became a member of Chi Upsilon women's geology sorority, became a member of the American Association of Petroleum Geologists, and became lifelong friends with Dollie Radler Hall, whose career was discussed in Chapter Three. After some additional graduate work at Stanford University in California, Fanny was hired by Roxana Petroleum in 1924. By this time, extended periods of separation due to Frank's various geological jobs led the couple to file for divorce, which was finalized in 1925.[422] As a newly single woman, Fanny became eligible for employment with Roxana, an oil company that had successfully hired several women as previously discussed. By 1927 Fanny had "a well equipped laboratory and two assistants" doing "'heavy mineral' analyses."[423] She remained with Roxana as it transitioned to Shell Oil Company, becoming the company's research stratigrapher and geologist for sixteen years. After that, she became the chief geologist of Cimarron Petroleum Corporation in Tulsa, Oklahoma.[424]

By 1933, Fanny had written her husband's role in her various moves out of the narrative of her resumé, as shown in a letter to a W. F. Jones in response to her admittance as a fellow into

[421] Gries, *Anomalies*, 43–52; Ruth Sheldon Knowles, "Ladies Find Oil," *Scribner's Commentator*, May 1941, 29–31; Marriage certificate for Frank A. Edson and Fanny W. Carter, August 21, 1910, Gries Archives, Lakewood, CO; Fanny C. Edson to Thomas J. Steed, March 10, 1927, Gries Archives, Lakewood, CO.
[422] Fanny C. Edson to Thomas J. Steed, March 10, 1927, Gries Archives, Lakewood, CO; Gries, *Anomalies*, 44–45; American Association of Petroleum Geologists Membership Card for Fanny Carter Edson, February 7, 1922, Gries Archives, Lakewood, CO.
[423] Fanny C. Edson to Thomas J. Steed, March 10, 1927, Gries Archives, Lakewood, CO.
[424] Ruth Sheldon Knowles, "Ladies Find Oil," *Scribner's Commentator*, May 1941, 29.

the Geological Society of America in 1932. At the time, she was the seventh woman, and the first woman commercial geologist to be made a fellow of this prestigious organization. As she notes in the letter, commercial geologists were not generally chosen for membership because their companies did not allow them to publish. Fanny, however, had published two papers—"Notes on the Simpson Formation of Oklahoma" and "Criteria for the Recognition of Heavy Minerals Occurring in the Mid-Continent Field"—while she was a student at the University of Oklahoma.[425] The newspaper articles that praised her achievement did so with highly gendered language. The subtitle "Oklahoma Mother a Fellow in Geological Society" prefaced an article that began with a quote from her daughter describing her as the "best mother in the world," before discussing any of the achievements that earned Fanny the fellowship.[426] Another article leads with her election to fellowship in the Geological Society of America, but then the author says that, instead of discussing the scientific conference, Fanny "preferred to talk about 'my Eleanor,' who is in Tulsa highschool [*sic*], and she frequently switched the conversation to breeds of dogs and cats, much to the dismay of the eastern writers."[427] Contrasted with her letter explaining her election to fellowship in the organization that she wrote to W. F. Jones, the latter newspaper article seems to completely mischaracterize Fanny, making her sound flighty and coquettish rather than like a serious scientists. While it would not be unusual for a proud mother to mention her daughter at home, the article's author gives the impression that Fanny was addled and wanted to talk about anything but science to the reporters, which appears quite against her personality.

While Fanny C. Edson only spent a brief time as a part of a home economy that included a husband, she was subject to the societal mores of her time—once she was married, she was unable to pursue paid work in geology. Instead, she followed her husband and helped him in his

[425] Fanny C. Edson to Thomas J. Steed, March 10, 1927, Gries Archives, Lakewood, CO; Gries, *Anomalies*, 44–45; Fanny C. Edson to W. F. Jones, January 7, 1933, Gries Archives, Lakewood, CO. In the letter to Jones, Fanny credits Dr. Sidney Powers for her nomination as a fellow in the Geological Society of America. Powers also mentored Fanny's friend, Dollie Radler Hall.
[426] "Woman Wins in Science," *Kansas City (MO) Times*, January 6, 1933, Gries Archives, Lakewood, CO.
[427] "Mrs. Fannie Carter Edson," undated newspaper clipping, Gries Archives, Lakewood, CO.

career in mining geology as a part of his family business. The first crack in the system for her came with World War I, as Frank left to participate in the war in a peaceful way through the YMCA and she was left at home with their daughter. The need to supplement the family's income—to move from the home sphere or family economy to the public sphere or outside economy—gave Fanny the opportunity to pursue employment in geology through a government appointment. To facilitate that position, she had to further break with her place as a homemaker and child nurturer by leaving her daughter behind and traveling halfway across the country for her work. Had she been a man leaving his family behind for work, as it seems Frank did quite frequently (leading to their eventual divorce), this would not be considered unusual. But for a woman to leave her small child in the care of a maid to follow her own career aspirations was unheard of for the 1910s. In her own recollections written in 1988, Fanny's daughter, Eleanor, does not mention this time in her life, but it might coincide with a period that she begins describing with the words, "I spent a lot of time at the Graves cabin when I was seven." She talks about life on the farm, but does not make mention of why she was there or her mother's absence.[428] Once the family was reunited and moved to Norman, Fanny began graduate studies in a different area of geology, rather than assisting her husband's work at the Oklahoma Geological Survey. Perhaps this was because, as an employee of the survey, he did not need the same type of economic support from his wife within the family unit as he did while working in mining geology. In response to being placed in the position of homemaker and wife, without the opportunity to work side-by-side with her husband, Fanny instead took up graduate work in a field that was both lucrative and known for employing women. Maybe the many absences had made her decide that she needed to be able to support herself, fearing an eventual dissolution of the marriage that did, in fact, come to pass. Regardless, when faced with the prospect of the life of a housewife, a life in the home sphere, Fanny chose to broaden her education and increase her

[428] Eleanor Edson Burtnett, "Recollections Prompted by *The Little House Cookbook*," January 22, 1988, Gries Archives, Lakewood, CO.

employment opportunities instead. In Fanny's case, by taking advantage of the opportunities that arose from being part of the family economy and the home sphere when she worked with her husband, and then by seeking out new skills in petroleum geology, she ensured that she would have a place in the public sphere when she needed it.

Like wives of geologists and other oil industry workers, the wives of faculty members in university geology departments played varied roles in their husbands' careers. While some women remained outside the draw of the department, save for a few parties here and there, there were some wives who involved themselves in the life of the department in whatever way was appropriate for them. As noted in Chapter Two, some of the faculty wives in the University of Oklahoma's School of Geology became sponsors and honorary members of the women's geology fraternity Chi Upsilon in its early years. These faculty wives essentially served as chaperones for the group, with male professors providing academic guidance and enrichment. Notable among the faculty wives who became honorary members were Kathyrn Monnett, wife of Geology School Dean Victor Monnett, and Nina Gould, the wife of pioneering Oklahoma geologist Charles Gould, who established the OU School of Geology.

Nina and Charles Gould met at OU when she was a student and he was a professor. In addition to her assistance in the OU School of Geology as a sponsor for Chi Upsilon, Nina Gould provided support work for her husband as he branched out from strictly professorial work to private business in oil and gas exploration. In fact, in a newspaper article listing her as the ninth greatest businesswoman in America by the former editor of *Independent Women* magazine, the author of the piece credits Nina as the driving force behind Charles's decision to begin a private business, and quotes Nina as advising men to seek out spouses who could assist them in their careers—"Boys, marry girls who know something about your business and can work with you." According to the article,

> Her husband was a professor of geology, who couldn't see much to his calling beyond the academic side. His wife did. She persuaded him to branch out. Together they did, and now their company of industrial geology is kept busy making surveys, reports and money. They have two children, but do not let business interfere with bringing them up.[429]

Nina's confidence in Charles's ability to open a successful business, and her dedication to work by his side led to her recognition as a top ten businesswoman. The emphasis on their partnership underscores Nina's importance to the operation—in reading the article, it is understood that her ambition made the creation of the business possible. They work in concert to keep the office running, and also to keep their family running. The author of the article mentions the couple's two children, and is careful to note that neither parent allows their work to "interfere with bringing them up."[430] Not only does Nina not let the business distract her from her parenting responsibilities, but Charles also does not shirk his duties in this arena. This implies a more equitable split in parenting responsibilities than would have been expected at the time. The Goulds shared labor both in the public sphere and the home sphere—a system that would have been unique among families in the 1920s.

The article goes on to describe Nina's extracurricular activities, including her work with Chi Upsilon and her church's women's council. She goes on to describe the division of labor within their business as fifty-fifty, with Nina writing reports, making maps, and interacting with clients while Charles handled the field work and surveys. This sharing of work extended to the home, with Nina noting that Charles also helped with "home problems, although he was not

[429] "Local Business Woman is Honored: Picked as One of Ten Greatest in America," Chi Upsilon scrapbook, folder 4, box C-61, Chi Upsilon Collection, WHC.
[430] "Local Business Woman is Honored: Picked as One of Ten Greatest in America," Chi Upsilon scrapbook, folder 4, box C-61, Chi Upsilon Collection, WHC.

necessarily the "kind of man who goes to the kitchen and washes dishes." Additionally, the article describes Nina as "emphatic" in stating that she would never have become involved in the business if it had interfered with her ability to take care of their home and children.[431]

Undoubtedly progressive in their arrangement, the Goulds nonetheless maintained some of the trappings of traditional gender roles. Nina's contributions to the family business are evident, as she maintained the office and assisted with drawing maps, all while likely handling the largest load of work in the home. She concedes that Charles does help at home, but assures readers that he is not taking on feminine duties such as kitchen work. Nina does not expound on the types of jobs in which Charles engages in their home, leaving the reader to fill in the gaps with home tasks generally associated with men. She also reminds readers that her children and family come first, emphasizing that she would never sacrifice her children's well-being to pursue her office work. This, of course, is an admission that Charles would never be expected to make, as his primary responsibility was to provide for the family financially. Nina's primary responsibility, as a middle-class white woman, was to nurture the children and maintain the home. Her work with Charles, even though it ultimately contributes to the family economy and she would not be engaged in such work if it were not for her husband, is viewed as secondary to her responsibilities as a wife and mother in the home.

Even the work that Nina does for the business—client interaction and office work—is essentially secretarial work that would be associated with women. While they share labor in the home and in their family business, they do not cross certain lines that would feminize Charles or cause Nina to be viewed as masculine. The added responsibility of mapmaking adds a layer of perceived importance to her contribution to the business, since that would be a skill that required geological training and expertise. Nina could perform that task in the office, however, leaving

[431] "Local Business Woman is Honored: Picked as One of Ten Greatest in America," Chi Upsilon scrapbook, folder 4, box C-61, Chi Upsilon Collection, WHC.

field work—inherently masculine work—to Charles. In a newspaper article written about her role as president of the Oklahoma Federation of Business and Professional Women's Clubs, her office work is mentioned, but the mapmaking is ignored. Perhaps this is merely because of the context of the newspaper article, as it focuses not on geology or even the business itself, but her club work and the office work would be more relatable to women reading the article.[432] Nonetheless, Nina's work for the family business benefits the family economically—there is no need to hire outside staff to perform secretarial duties or do drafting for maps when she is able to perform those tasks.

Nina Gould's club activities kept her in contact with many women whom she could mentor. In her work with the Oklahoma Federation of Business and Professional Women's Clubs, she spent time "encourage[ing] young girls in the grade schools and high schools to pursue such a course in preparing for the business world." Nina felt that women needed to be properly trained before stepping out into jobs in offices because many of the women who entered the workforce during World War I were ill-prepared and "failed to make good." She also advised women to become active in civic affairs as well as in business clubs, as these groups helped women to improve conditions and increase their standing in the workplace. Perhaps more than a bit prematurely, Nina noted that "the number [of women] placed in executive positions has greatly increased, while the idea that a woman should receive less pay than a man is also vanishing."[433] Her optimism about the state of women's compensation aside, Nina used her positions in club and civic life to advise and mentor other women who wanted to pursue employment outside the home. While she was part of a family economy, she also identified as a working woman who could teach other women how to make the most of opportunities presented to them. Her insistence that

[432] "Women Need Education Before Going to Work, Mrs. Gould Says," Chi Upsilon scrapbook, folder 4, box C-61, Chi Upsilon Collection, WHC.
[433] "Women Need Education Before Going to Work, Mrs. Gould Says," Chi Upsilon scrapbook, folder 4, box C-61, Chi Upsilon Collection, WHC.

women needed to learn how to work in a business environment before taking a position in an office was solid advice in a time when so many women had jumped into office work without training to fulfill wartime needs. She did not simply want women to be employed—she wanted them to be successful. To be successful, they needed education and training in their chosen field. Nina used her community of women's professional clubs to reach out to younger women and provide them with this type of mentorship and information.

In a 2019 article about crediting women's contributions to scholarly work, authors Donica Belisle and Kiera Mitchell discussed the academic careers of Mary Quayle Innis and Harold Adams Innis, a married couple who worked together as a scholarly team in the mid-twentieth century. As was customary at the time, the male in the relationship would receive credit for the work, despite the amount of work put in by the female partner. Belisle and Mitchell pointed to a few reasons for this: 1) the male spouse was usually the partner with the academic position; 2) the association of research with masculinity in the mid-twentieth century; and 3) the view of the male academic voice as commanding respect, in contrast to the emotionality linked to the female voice. Known as "faculty wives," women such as Quayle Innis not only contributed to the scholarly work of their husbands through research, writing, and editing, but also supported their careers by becoming involved in women's auxiliaries and clubs that provided opportunities for networking. Through these clubs, wives would host visiting scholars for lectures as well as fellow faculty members for dinners. By being active in these social groups, faculty wives helped their husbands create and maintain reputations within the academic community. Their contributions, as Belisle and Mitchell state,

> remind us that many academics of previous generations built neither their ideas nor their reputations alone. Instead they relied partly upon the contributions of

> unpaid spouses. Faculty wives did not often receive formal credit for their work. Nevertheless, their social and scholarly labours helped construct the contemporary academy.[434]

The faculty wife phenomenon can easily be applied to the wives of the geology faculty at the University of Oklahoma, and more broadly to women who worked with their husbands in the field of petroleum geology. These women, exemplified by Helen Jeanne Skewes Plummer, Fanny C. Edson, and Nina Gould, were knowledgeable in the field and assisted their husbands in creating maps and performing other duties without the expectation of credit. They also took an active role in social organizations for faculty wives, as well as becoming honorary members of Chi Upsilon, the geology sorority that was discussed in Chapter Two. Through their social networking and behind-the-scenes work support, faculty wives, or women geologists working in the family business, put forth great effort to assist their husbands in their career advancement. While Nina Gould did appear to get credit for her role in the business side of their petroleum geology company, little is mentioned about her work on the scientific side. More importance is placed on her connections in women's groups and her administrative responsibilities. These aspects of her work within the home economy are significant, but ignore her knowledge of the field and play into stereotypes of female work.

Marjorie C. Nichlos, mentioned in Chapter Four in the discussion of Jessie Dearing Kinley, inherited the family oil business upon the untimely death of her husband, John B. Nichlos. Prior to his death, Marjorie and Jessie had both been listed on the updated certificate of incorporation for Little Nick Oil Company, and when John died in August 1942, Marjorie became

[434] Donica Belisle and Kiera Mitchell, "Giving Credit: Gender and the Hidden Labor Behind Academic Prestige," LSE Impact, September 9, 2019, blogs.lse.ac.uk/impactofsocialsciences/2019/09/18/giving-credit-gender-and-the-hidden-labour-behind-academic-prestige.

the majority owner of the company. Because she had no training in the oil industry, Marjorie named Jessie as the manager of the company, and confined her contributions to providing picnic lunches—she made "wonderful coffee and sandwiches"—and other nontechnical support. Despite her ignorance of the inner workings of the oil industry, Marjorie, along with the rest of the staff, viewed Little Nick as a "live thing" they were "jealous of [their] right to work for it." As Jessie related and is described in Chapter Four, Marjorie afforded Jessie the freedom to make mistakes without worrying about "retribution," and as owner she also allowed Jessie to make decisions about the operation of the company using her own judgment, understanding that she held Marjorie's trust.[435]

Marjorie could have turned to any of the men who worked with her husband throughout the life of the company, but she continued to trust the woman who her husband had trusted to run the company. While these two women did consult with men in the field, they were the decision-makers. Marjorie gave Jessie the freedom to hire her own office staff, and Jessie used that liberty to hire all-female employees for the office. This expanded the safe space that Marjorie created for Jessie to make mistakes, extending that grace to the other women in the office and giving them opportunities to learn and grow in secretarial and administrative positions. Under Marjorie's leadership, Jessie created the company that she wanted to manage. Without the unexpected situation that placed Marjorie as Little Nick's primary owner, Jessie Dearing likely would not have had the chance to assert herself as the manager of the company and the day-to-day decision maker behind its success. Furthermore, she would not have had the latitude to hire the women who would comprise the all-female office staff that caused such a stir in trade publications.[436]

[435] "State of Oklahoma Certificate of Incorporation, Little Nick Oil Company," July 19, 1942, Little Nick Collection; "John Nichlos Dies of Burns," newspaper clipping, n.d., Little Nick Collection; Jessie Dearing to Edward Adolphe, February 8, 1954, Little Nick Collection.
[436] "All-Women Company," n.d., newsletter clipping, Little Nick Collection.

Marjorie's role in the family oil company facilitated Jessie's rise as a leader in the world of small, independent oil companies in the early to mid-twentieth century.

Oil Industry Women's Auxiliaries

As men created organizations centered around their professions within the oil and gas industry, such as the American Association of Petroleum Geologists, the Houston Geological Society, the Tulsa Geological Society, the Geophysical Society of Tulsa, the West Texas Geological Society, and the Permian Basin Geophysical Society, among others across the country, women founded auxiliary groups to support those clubs. A women's auxiliary is defined as a club or group of women created as an adjacent organization to a men's social, fraternal, or service club.[437] Women gained membership into auxiliaries by virtue of their husbands' membership in the corresponding male-only or predominantly male organizations. These auxiliaries gave women with similar life experiences—husbands with the same jobs, likely all of the same class, and almost certainly of the same race, particularly in the mid-twentieth century—an opportunity to gather, form friendships, and become involved in the periphery of the professional oil and gas industry as well as the community at large through social engagements and philanthropic work. The relationships the members of the auxiliaries formed facilitated networking among their husbands as well. At social events that included spouses, women could introduce their husbands to their friends, laying the groundwork for professional connections between the husbands that mirrored the personal connections between the wives.

The wives of the members of the Houston Geological Society (HGS) founded the Houston Geological Auxiliary (HGA) in 1950. The HGS itself began in 1923 as the oil and gas industry grew in the city following the discovery of oil at Spindletop and other areas of east Texas and the Gulf Coast. Forty oil companies, including Humble Oil and Refining Company,

[437] "Ladies Auxiliary," Merriam-Webster.com Dictionary, www.merriam-webster.com/dictionary/Ladies%20Auxiliary.

Gulf Oil Corporation, and the Texas Company, had relocated their headquarters to Houston by 1929. World War II accelerated the pace of growth in the oil and gas industry in the city and its surrounding area, particularly in refining and petrochemical production. In the postwar era, air-conditioning paved the way for Houston to become the fourteenth-largest city in the nation, and it overtook Tulsa as the Oil Capital of the World. In the shadow of this growth, the wives of HGS members decided it was time to form their own organization. Initially called the Houston Society of Geologists' Wives, by 1951 the club boasted 415 members, as compared to the 812 members of the HGS. In 1958 the group had 750 members, and in that year they established the Quaternary group within the organization to assist new members in becoming acclimated to the society. This name for the new members' group, which was based on a geological term for the newest geological age, did not last long, and was soon changed to the simpler and less inside-joke driven Geo-Wives.[438]

In the spring of 1956, West Texas was experiencing an oil boom brought about by the prolific production of the Spraberry Trend. Families moved to the area as men found jobs in oil company offices in the area. The men joined the West Texas Geological Society and the Permian Basin Geophysical Society, and their wives formed the Permian Basin Geological and Geophysical Auxiliary (PBGGA). They created the auxiliary to foster relationships and meet new people as more and more young families moved to the area. In an article about the auxiliary written in 2017, Lou Matson, a longtime member of the organization, recalled, "I didn't know anyone. This [was] were I met a lot of my friends." Another member, Joan Henry, also used the club as a way to meet new friends when her family moved to the area in 1969. The club held its monthly meetings (held in the evenings, when their husbands were home to watch the children), and also hosted activities for wives who accompanied their husbands to local conventions.

[438] "Houston Geological Auxiliary: A Short History," Houston Geological Society, August 1, 1998, www.hgs.org/node/3724; David G. McComb, "Houston, TX," The Handbook of Texas, www.tshaonline.org/handbook/entries/houston-tx.

Members planned activities typical of the time: style shows, card games, luncheons, and philanthropic community events. The women who became members viewed the organization as a way to "meet other like-minded women"—women who were in similar situations in life both economically and socially.[439] Through auxiliaries, women could create groups in which they could feel comfortable, form relationships, and find ways to feel at home in new environments.

These auxiliaries sprung up wherever the oil and gas industry was robust, and enough women wanted to create spaces for themselves to meet and socialize. The explosive growth of the oil and gas sector in Houston naturally led to growth in the professional organizations as well, which then trickled down to growth in the Houston Geological Auxiliary. Men relocated to Houston or Midland for jobs with oil companies, bringing their families with them. As they joined groups like the HGS and groups in the Permian Basin to make contacts in the area and meet new people, their wives joined groups like the HGA and the PBGGA for the same purpose. Just as the women who followed their husbands to boom towns in the early days of the oil industry described in Chapter One sought one another out to avoid loneliness, women who moved from established homes as their husbands pursued office positions in new cities joined auxiliaries to meet new friends and put down roots in new environments. The clubs actively recruited new members, making them easy organizations to join to ease the transition into a new city. Although the women in boom towns and the women in mid-twentieth-century auxiliaries different in socioeconomic class—most boom town women would have been from the working class, whereas auxiliary women would have come from the middle and upper classes—both groups of women needed to create communities for themselves so that they could avoid the loneliness of a life in pursuit of success in the oil industry.

Despite the growth of Houston as the hub for the oil and gas industry, Tulsa retained a central position in the profession. As such, it was the home of professional organizations, as well

[439] Mella McEwen, "Oil Industry Auxiliary Disbands After 60 Years," *Midland (TX) Reporter-Telegram*, May 18, 2017, www.mrt.com/business/oil/article/Oil-industry-auxiliary-disbands-after-60-years-11142758.php.

as the auxiliaries created to support them. The Tulsa Geological and Geophysical Auxiliary (TGGA), founded in 1954, consisted of the wives of men in the Tulsa community who made their livings in the oil and gas industry, specifically through the scientific occupations of geology and geophysics. Some were employed by large companies, such as Amoco or Amerada Hess, while others owned their own, independent consulting firms, as noted in auxiliary's yearbooks by the words "independent," "consultant," or with company names reflecting the surname of the woman listed in the roster. Specifically, the women who formed this club created it to support the activities of the local Tulsa Geological Society and the Geophysical Society of Tulsa.[440]

According to the bylaws of the TGGA, the wives of Tulsa's geologists and geophysicists created the organization "to promote friendship among its members and to assist the Tulsa Geological and Geophysical Societies." Spouses and widows or widowers of members of those two organizations were eligible to be members of the TGGA. The importance of social interaction to the organization was shown by the fact that the first vice president of the group was also the chair of the social committee. Women also formed subgroups within the organization called "interest groups," giving them the opportunity to pursue more specific activities such as bowling, group games such as bridge and bunco, and antiquing.[441]

Women created the TGGA as a means to form connections with other women who shared their same life experiences. It was easy for eligible women to join these organizations, as their husbands would likely become involved in their professional organization, and the auxiliary, which actively recruited members, would receive women's names from the roles of the professional groups with which they were affiliated. Once they joined, women could find the group within the organization that appealed to them, whether it was a card-playing group or an antiquing group or a mother's group. Bonds were formed within those smaller groups of the

[440] Tulsa Geological and Geophysical Auxiliary 1989–1990 Yearbook, 2, 10–21, 22, Mahala Baxter private collection, Broken Arrow, OK.
[441] Tulsa Geological and Geophysical Auxiliary 1989–1990 Yearbook, 8–9, 22–23, Mahala Baxter private collection, Broken Arrow, OK.

TGGA that kept women coming back to the larger group's meetings, luncheons, and couples' social gatherings. Despite their initial involvement in the club being predicated on their husband's career in the oil and gas industry, wives were able to forge their own friendships and pursue some of their own interests within the auxiliary. At social events to which the spouses were invited, women who had become close friends through the work of the auxiliary could introduce their husbands to one another—husbands who might not otherwise have met, but who could use the relationship created by their wives to their advantage in their own careers.

At some point in its history, the Tulsa Geological and Geophysical Auxiliary changed its bylaws, replacing the word "wives" with the word "spouses" in its membership requirements. Despite this move toward inclusion, even as late as the 1989–90 yearbook only 4 out of 119 members of the TGGA were men. Whereas the women were listed in the roster by their husband's names, with their own first names in parentheses after, the men were listed by their own first names, with their geologist or geophysicist wife's name in parentheses after.[442] Women created this organization, and its members were primarily women. Yet their identities, even in this space that was solely female in its early years and predominantly female in its later years, were dependent on their husbands and their husbands' occupations. As a few men joined the organization, the Yearbook Committee did not change the format of the roster, thus the men listed were included under their own names, despite the fact that their membership in the organization depended on the occupation of the woman's name in parentheses next to theirs.

There could be several explanations for the lack of men in the Tulsa Geological and Geophysical Auxiliary after it was opened to all spouses. In the 1980s, women still comprised a small but growing percentage of the workforce in geology and geophysics, so there would be few

[442] Tulsa Geological and Geophysical Auxiliary 1989–1990 Yearbook, 10–21, 22, Mahala Baxter private collection, Broken Arrow, OK. Without a complete set of bylaws, it is impossible to determine when the change from "wives" to "spouses" was made. As an example of the roster format, a woman would be listed as "Baxter, Mrs. Robert E., Jr. (Mahala)," while a man would be listed as "Beckner, Mr. Dan W. (Marie)." Of note, by the time the Yearbook Committee produced the 1997–98 issue, the roster listed the members by their own names, with their spouse's name in parentheses. In that yearbook, however, there were no male members listed. Tulsa Geological and Geophysical Auxiliary 1997–1998 Yearbook, Mahala Baxter private collection, Broken Arrow, OK.

men eligible for membership in the organization. Between 1980 and 1990, women graduating with geoscience degrees ranged from 20 to 30 percent of the total bachelor's degrees granted in that specialty, with one noticeable spike to 35 percent in 1989.[443] The women who were entering the field in the 1980s may not have yet married, or their husbands may have also had careers that precluded their involvement in an extracurricular activity that did not advance their own prospects. Men who were eligible, however, may have dismissed the organization based on its origins as an all-female space. While the group recognized that oil and gas industry spouses were not solely wives and invited husbands to join, they did not change the nature of the organization. The officer list reflected the majority of the group and remained all female, and the activities still consisted of luncheons, teas, bridge and bunco nights, and antiques groups. The women of the TGGA cultivated a space that was uniquely theirs—a space where they could socialize and support one another while also supporting their husbands and their husbands' professional organizations. Through their interest groups, they maintained friendships and community that extended beyond the club and into their homes, including couples' activities that placed their husbands in contact with one another for potential career gain. In contrast, the Desk and Derrick Clubs of America, which also shifted from a single-sex, female organization to a coeducational club including both men and women working in the oil industry, gained enough male members to eventually include men in leadership roles. The key distinction between these two organizations, however, was their stated purpose. Whereas women founded the Desk and Derrick Clubs as means to facilitate educational opportunities for women working in secretarial positions in oil and gas industry offices, the TGGA, the Houston Geological Auxiliary, the Permian Basin Geological and Geophysical Auxiliary, and other auxiliaries like them, were created specifically as social groups and to assist the professional organizations traditionally led by men. The common purpose of education espoused by the Desk and Derrick Clubs would have made entrée into those

[443] "Degrees by Gender by Percent, 1975–2013," American Geosciences Institute, www.americangeosciences.org/sites/default/files/86-4-pctFemale.jpg.

organizations easier for newcomers, as it was a means for career advancement. New members, particularly men in later years, may find it easier to enter an all-female space when joining to learn more about a particularly oil field supply company's products than to enter a purely social situation such as a membership tea or a bridge game.

One way to learn more about the composition of these women's auxiliaries is to look at the obituaries of some of the women who joined them in the mid-twentieth century. In most cases, these women were not only active in the auxiliary, but also in other community organizations in which they held leadership roles. They were described as devoted wives, mothers, and homemakers. Dixie Bartell, who served as the president of the Houston Geological Auxiliary from 1973–74, was the "ideal mate" for her independent geologist husband. Her "cheerful and loving, energetic and creative, loyal and supportive" work as a wife included being a "gracious hostess for parties and functions outside the home that supported her husband's career." In addition to her work with the HGA, Bartell served on the board of the University of Oklahoma's Fred Jones Jr. Museum of Art.[444] Lois Matuszak was a member and past president of the TGGA during her family's time in Tulsa, and when her husband's work moved them to Houston she became active in the Amoco Wives (an oil company wives club), as well as serving as past president of the Houston Geowives. Matuszak joined many other community organizations in both Tulsa and Houston, including volunteering for the American Cancer Society, American Heart Association, and local museums. She had earned a bachelor's degree in dietetics, and joined professional organizations related to that career field, although she never appears to have worked as a dietician. Instead, she filled her days with raising three children and being involved in the community, including spending time as a model for Geowives style shows and participating in other women's auxiliary events.[445] As families moved from city to city

[444] "Dixie Bartell," *The Oklahoman* (Oklahoma City, OK), May 25, 2018, obits.oklahoman.com/obituaries/oklahoman/obituary.aspx?n=dixie-bartell&pid=189100744&fhid=6290.
[445] "Obituary for Lois Marie Matuszak," Moore Funeral Home, www.moorefuneral.com/obituaries/Lois-Matuszak/#!/Obituary.

following the husband's oil industry job, women became members of multiple auxiliaries. Loretta Anne Glod exemplifies this—among the mentions of her many religious activities, her obituary notes that she was "an active member of the Geological Auxiliary in Houston, Texas; Lafayette and New Orleans, Louisiana, and Jackson, Mississippi, holding several offices as well as that of President in 1992."[446] Myrtis Trowbridge's involvement in the Houston Geological Auxiliary began after she married a coworker at Stanolind Oil and Gas Company. Once married, she left her job as a secretary and became "an incredible homemaker, supportive wife" and a "promoter of community." As a part of supporting her husband's career, she became a member of the HGA, and served as president for one year.[447] Ruth Konkel, who followed her husband's career moves from Enid through eleven moves in their first year of marriage, became a member of the TGGA when the couple settled back in Tulsa, and like the other women discussed here, spent a term as president of the auxiliary.[448] Ramona Phelps Brennan, one of the founding members of the TGGA, was also active in the Tulsa Garden Club, the Saint Francis Hospital Auxiliary, the Osage Women's Group, and many different bridge clubs in addition to the bridge interest group of the TGGA.[449]

Some patterns emerge when looking at the condensed lives of these women. These obituaries demonstrated the transient nature of the oil industry, as several of the women moved with their families at least once, if not more than once, to follow their husbands' careers. The constant in these moves, however, was that the women joined the local geological and geophysical auxiliary, a ready-made group of friends who understood the trials associated with the life of an oil industry wife who often had to pick up and move after establishing herself in one place. The women of the auxiliaries understood the need to become involved in the community,

[446] "Obituary for Loretta Anne (Pitre) Glod," Martin and Castille Funeral Home, www.mourning.com/obituaries/Loretta-Glod/#!/Obituary.
[447] "Myrtis Legendre Trowbridge," Kirk Funeral Home, www.kirkfuneralhome.com/obituary/myrtis-trowbridge.
[448] "Ruth Konkel," Ninde Funeral and Cremations, ninde.com/tribute/details/612/Ruth-Konkel/obituary.html.
[449] "Ramona Francis Clote Brennan," Find a Grave, www.findagrave.com/memorial/186835483/ramona-francis-brennan.

both within the industry and outside that bubble, to gain name recognition and networking opportunities for her husband. There is no denying that these activities were beneficial to the women involved through the social interaction and friendships made, but they also served to connect the husbands of these women to one another, which was a part of the job of the corporate wife. In Dixie Bartell's obituary, it explicitly states how her skill set as a hostess assisted her husband in his work as an independent geologist. By opening their home to parties and being active in public life, particularly in professional industry auxiliaries, women filled a vital role in the home economy. This work did not in itself bring in a salary, but it had the potential to prove beneficial to the husband's career, thus increasing the economic standing of the entire family. Their support work through the auxiliaries gave their husbands an added arena for networking and creating connections that could lead to new job opportunities or promotions. Just as important, however, was the way these women felt about their time spent in the auxiliaries. The women featured in the paragraph above all valued their involvement in the HGA, the TGGA, and other industry auxiliaries enough that their family members were compelled to include them in their obituaries. They were proud of their service as presidents and founding members of these organizations. The significance they placed on these organizations in their own personal narratives underscores the importance of the space they created for themselves—a space of "like-minded" women who could become friends quickly based on share experiences and the understanding that came from holding the same position in the household. All of these women were supposed to be good hostesses, performing background tasks in the home to support a working husband.

Auxiliaries did exist for working-class women as well, and the organizations for these women possessed similar objectives under enormously different circumstances. In the oil fields themselves, women's auxiliaries helped their adjacent industrial organizations make tangible contributions to the lives of workers. Oil field unions also had women's auxiliaries. As the men in the oil fields joined unions like the Oil Workers' International Union, their wives in the boom

towns and refinery cities like Port Arthur, Beaumont, and Texas City formed auxiliaries to support the work of the union itself. Together, the union and its auxiliary worked to obtain support for the workers among the civic clubs, religious organizations, and businesses of the cities and towns, thus holding sway over local elections. These unions were particularly active in the 1930s.[450] Union auxiliaries were similar to professional club auxiliaries in their purpose to further their husbands' careers, but their circumstances and methods were vastly different. As the unions worked for better conditions and fair pay, the women's auxiliaries supported that work by taking that fight into the towns surrounding the oil fields. These working-class women were not concerned with networking opportunities for career advancement for their husbands; they were consumed with ensuring that their husbands earned a living wage to support their families, and that they would be compensated for injuries on the job. Working-class women, the wives of blue-collar, unionized oil field workers, concerned themselves with basic issues of jobsite safety and living wages. Middle- and upper-class women, the wives of white-collar office workers, used the connections they made in their organizations to make their comfortable financial positions even more comfortable. Both types of auxiliaries sought greater financial opportunities in the petroleum industry for their husbands, but the union auxiliaries fought for much more urgent needs in tangible ways, while the professional club auxiliaries could use a sort of performative gentility as a way to network and build careers. And, unlike the middle-class women of the office auxiliaries, creating friendships was not a primary goal of the union auxiliaries. Women in boom towns created communities without the structure of a formal group to combat the loneliness of boom town life, as outlined in Chapter One.

When more middle- and upper-class women entered the oil and gas industry and the workforce in general, membership in women's auxiliaries dropped precipitously. In 2017 the Permian Basin Geological and Geophysical Auxiliary celebrated its sixtieth anniversary, then

[450] Tyler Priest and Michael Botson, "Bucking the Odds: Organized Labor in Gulf Coast Oil Refining," Journal of American History 99, no. 1 (June 2012): 103, 106.

disbanded. By the end of the life of the organization, it could no longer attract "any new blood," as women chose involvement in their children's activities or their own work events rather than spending time with a spouse's organization. At its height in 1957, the PBGGA had 325 members, but by the time it folded it had approximately 50 members. While they would not continue the work of the club—formally supporting the local professional organizations—the women agreed to continue the social aspects of the club by trying to meet for lunch quarterly.[451] While not all of the women's auxiliaries may decide to completely disband, their importance as spaces for women to find community has diminished over time. The communities that were created in the past, however, still hold significance for the women who created relationships through membership in those organizations, leading them to pursue continuation of those friendships even in the absence of the club itself. Women's auxiliaries in the oil industry served multiple purposes in their heyday—places for women to find friends in new cities who shared their experiences; organizations through which women could introduce their husbands to each other, thus facilitating networking among men in the oil industry; and, to a small degree, clubs that had philanthropic outreach into the larger community.

As more women become members of the professional organizations themselves as oil industry workers instead of being married to a man in the industry, and as women choose to spend their extra time either on family events or events related to their own careers, women's auxiliaries, even as they transform into spouse's auxiliaries, have become increasingly irrelevant. Women not involved in the industry but married to men who are can choose any number of other organizations more suited to their own interests, rather than the profession of their husband. Women professionals in the oil industry have integrated themselves into oil and gas industry professional organizations like the Houston Geological Society and the Tulsa Geological Society. When they seek out relationships with other women within those groups, they form all-female

[451] Mella McEwen, "Oil Industry Auxiliary Disbands After 60 Years," *Midland (TX) Reporter-Telegram*, May 18, 2017, www.mrt.com/business/oil/article/Oil-industry-auxiliary-disbands-after-60-years-11142758.php.

communities by creating women's committees within those professional organizations, such as the AAPG Women's Network of the American Association of Petroleum Geologists. These committees create new opportunities for women to create relationships with one another, but instead of combatting loneliness and helping their husbands' network like the women's auxiliaries, these relationships solely benefit the women involved.

Conclusion

In the citation awarding a life membership in the Society of Exploration Geophysicists (SEG) to a man named Paul Farren, the author of the biographical information included in the citation describes Farren's education, his career, and his service to the industry and to the society. His early years in the oil and gas industry involved thirty-six moves in ten years, relocating with his family in tow. The author also addresses the work of Farren's wife, June. "June Farren had also taken an active role in professional affairs as chairperson of the Spouses Program for the 1960 SEG Annual Meeting in Galveston and 1967–68 president of the Houston Geological Auxiliary."[452] Even in the midst of honoring Paul Farren for his lifetime of work for the SEG, the biographer felt compelled to mention the contribution of his wife, June, to the HGA and the cultivation of spouses' activities at conventions. June's work complemented Paul's work—together they furthered Paul's career and his outreach within the industry. Her work assisted him enough to be noted in his citation. The work of a wife to aid her husband's career was significant.

As Alice Kessler-Harris's book title declares, women have always worked, and the different ways that women contribute to the family economy are reflected in these connections to the oil and gas industry.[453] Wives have contributed to the oil and gas careers of their husbands in multiple ways over the lifecycle of the industry. In the cases of women who earned geology

[452] Thomas D. Barber, "Biography Citation for SEG Life Membership: Paul Farren," SEG Wiki, wiki.seg.org/wiki/Paul_Farren.
[453] Kessler-Harris, *Women Have Always Worked*.

degrees in their own right, they used their expertise to directly assist their husbands with the work of finding oil and gas after they were forced to leave the work force, penalized for attaining a core societal expectation: marriage.. Many times these women did not receive the credit that they deserved for the work they accomplished, or only received credit once they were removed from the family economy through the death of a spouse or divorce. Some women were in the position to inherit oil companies from their husbands following their deaths, leaving the wife to find a way to maintain the family business. Still other women used the vehicle of the women's auxiliary to the professional organizations of the oil and gas industry both to create relationships for themselves among women in similar situations and to facilitate networking opportunities for their husbands through club social events.

For middle- and upper-class white women who did not work outside the home, focusing on opportunities to further their husbands' careers would have been of great benefit to them as well. Any promotion for the breadwinner meant more income for the family as a whole, and greater status for the wife among the other office wives. A stay-at-home wife's labor contribution to the family was not seen as equivalent economically to the working husband's salary, and the extra work she could do to assist her husband by involving herself in the women's auxiliary, while viewed as a social activity for her, also helped her husband by increasing his visibility in the industry in which he worked. The auxiliary served a dual purpose—it not only provided an all-female space for the wife to find friendship and perhaps even a leadership role, but it also gave women the opportunity to create networking opportunities for their husbands as the wives made connections with one another that then gave the husbands access to one another. After moving past the surface veneer of membership teas, bridge games, and antiquing groups, women's auxiliaries in the oil industry were a way for women to add to the home economy of oil and gas industry families while also enjoying friendship with one another.

CHAPTER VII

CONCLUSION

"BUT I KEEP TRYING ANYWAY": THE CHANGING NATURE OF WOMEN'S COMMUNITIES IN THE OIL AND GAS INDUSTRY

In 2019 *The New Yorker* magazine published a story by Ian Frazier about Rachael Van Horn, a female oil field worker in the Oklahoma Panhandle. After years working in the US Army Reserves and as a defense contractor in Iraq, Van Horn returned to Oklahoma. There she became a pumper, a solitary job that entails driving from well to well to ensure that the machinery is functioning properly and, if it is not, working to fix it. As with most oil field jobs, the vast majority of pumpers are men. Van Horn had the good fortune to meet Evelyn Dixon, described as the "greatest female pumper in Western Oklahoma," who helped Van Horn break into the lucrative business.[454]

Even in the twenty-first century, the oil field 'boys' club' remained intact. Van Horn experienced various forms of harassment, from paternalistic concern, to men asking if she had performed sexual favors to get her job, to outright attempts at sexual assault. Some oil field hands would express anxiety for a woman's safety on the rig, a worry that would never be voiced for a male counterpart. She observed, "Guys will sabotage you, sneak out to your wells and mess with

[454] Ian Frazier, "The Oil-Pumping Adventures of Rachael Van Horn," *The New Yorker*, February 18, 2019, www.newyorker.com/magazine/2019/02/18/the-oil-pumping-adventures-of-rachael-van-horn.

your gauges, kick open a valve and see if you'll notice." And the supervisors were no better, as Dixon noted, "They will hire an unqualified man over a qualified woman every time." Dixon, however, believed that "a woman can actually do this job better than a man," because women pay more attention to and are more patient with the wells. At any rate, working as a pumper "beats waitressin' any day."[455]

The relationship between Van Horn and Dixon, which began as a mentor-mentee relationship and evolved into a supportive friendship, exemplifies the type of community that women in oil field boom towns and company offices have built for themselves throughout life of the industry. When Van Horn suspected that a coworker was luring her into a situation that might lead to a sexual assault on the job, she called Dixon and kept her on the line to ensure someone knew where she was. This culture of "having each other's back" is particularly important in the masculine space of the oil field, when women are surrounded by men who might feel entitled to attention from their very few female coworkers. In a sparsely populated area, and in a lonely job, Van Horn and Dixon still managed to create a community for themselves. While their particular community only included the two of them, it was sufficient for mutual support and career advancement.

Van Horn and Dixon represent a new category of female oil field workers—workers who would never be seen in number in the early days of the industry, but are becoming more common today. In her book of interviews of women in Alaska's oil and gas industry titled *Wildcat Women*, Carla Williams sheds light on the women who were hired to work on the Trans-Alaska Pipeline beginning in the 1970s as a response to Executive Order 11246, or Affirmative Action in federal contracts. The women Williams interviewed for the book, save one, held blue-collar jobs.[456] In a

[455] Frazier, "The Oil-Pumping Adventures of Rachael Van Horn."
[456] Carla Williams, *Wildcat Women: Narratives of Women Breaking Ground in Alaska's Oil and Gas Industry* (Fairbanks: University of Alaska Press, 2018).

similar work, Rebecca Ponton recorded the experiences of women who worked in the offshore oil and gas industry in her book *Breaking the Gas Ceiling*.[457] These collections of oral histories from women working in the field, not in the office, show the progression from the oral histories of early-twentieth-century boom towns collected by Mody Boatright, when men worked in the oil fields and women stayed in the boom towns as wives, restaurant workers, or prostitutes.[458] As more women enter all aspects of the oil and gas industry, including blue-collar positions on offshore rigs, pipelines, and traditional oil fields, their contributions to the industry and the communities they create for themselves for career advancement and mutual benefit will change, and these groups will either adapt to accommodate those changes or fall away as relics of an earlier time period, consigned to history as reminders of ways women's relationships with the oil and gas industry, and with one another, were dependent on their husbands' ties to the business.

As this dissertation has demonstrated, women connected to the oil and gas industry have found ways to form groups and open communities for themselves since the early days of boom towns. The women who were connected to the industry through their husbands' careers—the boom town wives, the women in auxiliaries, and the women who assisted their husbands but did not have paying jobs themselves—used their husbands' petroleum industry jobs as jumping off points to join organizations, both formal and informal, that provided women with friendship and a way to combat loneliness. These groups also served to promote networking opportunities for the women's spouses. The women who sought employment for themselves within the industry, whether in the sciences or in the secretarial positions, also made groups for themselves, mostly focused on career advancement and education, but with the goal of camaraderie as well. These

[457] Rebecca Ponton, *Breaking the Gas Ceiling: Women in the Offshore Oil and Gas Industry* (Ann Arbor, MI: Modern History Press, 2019).
[458] Mody C. Boatright and William A. Owens, *Tales from the Derrick Floor: A People's History of the Oil Industry* (Garden City, NY: Doubleday and Company, Inc., 1970); Mody C. Boatright, *Folklore of the Oil Industry* (Dallas, TX: Southern Methodist University Press, 1963).

women made connections with one another, creating all-female spaces for whatever purpose they deemed most necessary for their career goals or personal well-being.

In boom towns, women were connected to the oil and gas industry through their husbands, as very few women worked on oil rigs in the early days of the industry. The women who joined their husbands as they traveled from oil field to oil field, following each new boom, sought one another out to combat loneliness and find a sense of normalcy amidst a peripatetic lifestyle. As the composition of boom towns shifted from mostly single men or men who left families behind to male workers with families in tow, the community created among women became more stratified, resembling the class structure of other American towns, with middle-class women finding company together, excluding working-class women to create their own communities. As is also discussed in Chapter One, the wives and other family members of oil field workers were ostracized from society in established towns—viewed as "oil field trash" to existing towns and cities in close proximity to producing fields. The evolution of boom town society for women reflects the changing nature of oil field development. As boom towns and company towns more closely resembled non-oil field towns in composition, the ways in which oil field wives formed friendships and groups to fend off isolation mirrored the stratification by class of regular towns.

Despite these changes and the restrictions and rules that marked boom town society as time passed, women still sought each other's company in the rapidly changing communities. In a study published in the fall 1981 issue of *Psychology of Women Quarterly*, Elizabeth Moen described the lives of women in energy boom towns, concluding that while women do not benefit equally from the boom in an area and, in some respects, are disadvantaged, they do "play an equilibrating role" during times of swift change in boom towns through their formal and informal organizations, creation of activities and spaces for families and children, and their support for the

organizations created by men.[459] The communities created by women—their all-female spaces—provided stability to boom towns, even during volatile times in the oil industry. As oil field work has become more of a commuter job, as exemplified by Rachael Van Horn's work as a pumper, families have not had to relocate and reintegrate into new surroundings. Women no longer have to rely on their connection to the oil industry as an easy way to form relationships with other women. Families can remain in established towns, relieving the stigma of transient "oil field trash" and providing opportunities to form bonds and join organizations completely unrelated to a spouse's career in the petroleum industry.

In the 2013 article in the *New York Times* mentioned in Chapter One, reporter John Eligon described the conditions for women living in the Bakken Shale boom town of Williston, North Dakota. Formerly a predominantly agrarian region, Williston grew 210 percent between 2010 and 2020 due to the boom in the petroleum industry. With the influx of men working on the boom came an increase in instances of sexual harassment and assault of women. Along with these dangers, however, came economic opportunities for other women. Exotic dancers and prostitutes from out of state moved to Williston to take advantage of the gender disparity. As one woman, an escort and stripper who moved to the area from Las Vegas, stated, "'We make a lot of money because there's a lot of lonely guys.'"[460] This pattern parallels the life of early-twentieth-century boom towns, with some significant departures. In the 2013 example, men came alone to an area, as they often did in the early 1900s, and found themselves in need of companionship. Whereas the oral histories and sources related to boom towns of the early petroleum industry are largely silent on aspects of sexual harassment and assault as seen in 2013, the descriptions of women arriving to become part of the boom town economy through the sex trade mirror the earliest days

[459] Elizabeth Moen, "Women in Energy Boom Towns," *Psychology of Women Quarterly* 6, no. 1 (Fall 1981): 99, 110–11.
[460] John Eligon, "An Oil Town Where Men are Many, and Women are Hounded," *New York Times*, January 15, 2013, www.nytimes.com/2013/01/16/us/16women.html; "The City of Williston," City of Williston, www.cityofwilliston.com/departments/human_resources/about_the_city_of_williston.php.

of the industry. There could be several reasons for the silence on sexual harassment—lack of reporting, fewer women in the boom towns themselves, and a different set of mores in defining what constituted such behavior. But it is clear that modern boom towns still retain the vestiges of sexual exploitation and the sexual economy found in the days of "wild west" boom towns. Eligon's article also clearly depicts the ways that women came together to protect one another—watching out for one another in bars and going on shopping trips as groups—as a practical solution to the problem of imported male aggression.

Over the course of the twentieth century, the nature of community within the oil and gas industry has adapted to changes in the work force. As more women moved from the role of wife at home to secretary or scientist in the workplace, whether those jobs themselves were inside the oil and gas industry or not, women's auxiliary organizations to oil and gas professional groups lost members. While they attempted to maintain membership by modernizing their bylaws to account for male spouses of female oil and gas workers, groups like the Houston Geological Auxiliary and the Permian Basin Geological and Geophysical Auxiliary struggled to attract new members to replace their aging ranks.[461] As their husbands lost positions with oil and gas companies, let their memberships in professional oil and gas organizations lapse, or left the petroleum industry altogether, wives found themselves ineligible for membership in the auxiliaries, or in a position where it was no longer economically beneficial to their families for them to stay involved.

The Oklahoma City chapter of the Association of Desk and Derrick Clubs suffered a similar decrease in membership, losing nearly 85 percent of its membership from 1982 to 1989 despite having opened its ranks to male members of the oil and gas office work community.

[461] Mella McEwen, "Oil Industry Auxiliary Disbands After 60 Years," *Midland (TX) Reporter-Telegram*, May 18, 2017, www.mrt.com/business/oil/article/Oil-industry-auxiliary-disbands-after-60-years-11142758.php; "The Houston Petroleum Auxiliary Council," Geophysical Society of Houston, www.gshtx.org/public/About_GSH/Committees/HPAC.aspx.

Although employers once paid the expenses for their employees to join the Desk and Derrick Club, and often helped to fund field trips and other activities, the oil bust of the 1980s made companies rethink the value of that generosity.[462] With institutional support for the organization waning, membership may not have seemed as attractive to new hires, and the networking opportunities would not have been as attractive during the 1980s oil bust.

While women enjoyed their membership in these organizations and found both friendship and networking opportunities within the confines of auxiliaries and the Desk and Derrick Clubs, the overall success and membership numbers of these groups appear to be tied both to the financial health of the oil and gas industry itself and the amount of leisure time women may have to devote to such activities. If oil and gas companies are laying off employees, then it may not be a good investment of time and energy to go on field trip and attend meetings to learn more about an industry in which you may not be employed in the near future. The dedication to education that Desk and Derrick Clubs espoused depended on the idea that women (and later men) would find a career path in oil company offices—oil busts belied that ideal world. Working mothers might see more value in spending evenings at home, or involved in other organizations that could provide networking opportunities in multiple industries rather than just one. The next level of research into these organizations would involve a deeper dive into the different regions in which the clubs exist to assess how the boom and bust cycle affected membership, and how the waning corporate support of the Association of Desk and Derrick Clubs has changed the activities of the club and its efficacy in educating its membership.

The idea that the organization held less appeal as the petroleum industry experienced an economic downturn could be applied to other groups specific to certain industries. Do membership levels remain the same in professional organizations as industries endure tough

[462] J. E. McReynolds, "This Club No Drillers' Auxiliary," *Daily Oklahoman* (Oklahoma City, OK), March 5, 1989, oklahoman.com/article/2257940/this-club-no-drillers-auxiliary.

economic times? The pattern shown by the ADDC and the women's auxiliaries such as the TGGA and the HGA would suggest that membership in these types of organizations, both those for career women and those specifically created to cater to spouses, decrease during recessionary times in particular industries. A number of factors could contribute to this phenomenon. Firstly, in bust times in the oil industry, those who work in petroleum extraction may leave the industry to find work in other professions. In doing so, they would render themselves ineligible for membership in the organizations specifically created for the oil and gas industry and its related jobs. It would also render their wives ineligible for membership in auxiliaries. Secondly, those who stay in the oil and gas industry may choose to temporarily redirect the funds generally allotted to pay dues and fees for these organizations as a cost-saving measure in times of economic hardship. The benefits that accompany membership in the ADDC or the women's auxiliaries may not outweigh the monetary costs during uncertain financial times. And lastly, the organizations themselves may cease operations if not enough women continue to participate. Although the Houston Geological Auxiliary did not merge with three other local, oil industry auxiliaries until 2008 and the Permian Basin Geological and Geophysical Auxiliary did not cease operations until 2017, they are likely representative of a larger trend of organizations that must either join together or perish for lack of membership.[463]

Beyond the connection to employment and the health of the petroleum industry, the women of the Permian Basin Geological and Geophysical Auxiliary pointed to the increased number of other activities available to women to distract them from membership in oil industry auxiliaries and other related organizations.[464] As more women work outside the home, they have less time to devote to clubs and organizations.[465] Working mothers, in particular, must be more

[463] McEwen, "Oil Industry Auxiliary Disbands After 60 Years"; "The Houston Petroleum Auxiliary Council," Geophysical Society of Houston, www.gshtx.org/public/About_GSH/Committees/HPAC.aspx.
[464] McEwen, "Oil Industry Auxiliary Disbands After 60 Years."
[465] Rose M. Kreider and Diana B. Elliott, "Historical Changes in Stay-at-Home Mothers: 1969 to 2009" (paper, American Sociological Association Annual Meetings, Atlanta, GA, 2010), 3, 15, www.census.gov/content/dam/Census/library/working-papers/2010/demo/asa2010-kreider-elliott.pdf.

circumspect in the activities in which they choose to invest their time. As the membership patterns show, women do not view auxiliaries as important—the day appears to have passed when the housewife spent her days planning how to best use her time at the auxiliary bridge game to make a new connection for her geologist husband. More broadly, this speaks to the lack of time for career advancement opportunities for women outside normal working hours. Working mothers are not choosing auxiliaries, but they are also not choosing the Desk and Derrick Clubs, which presumably would benefit them and their own careers specifically. More available activities for families and children mean less time for working women in secretarial positions to dedicate to career building.

Even as the organizations created specifically for wives or support staff lost membership, the women who entered the ranks of professional petroleum engineers, geologists, geophysicists, and other related fields began to create spaces specifically catering to their own needs within professional organizations. The Society of Exploration Geophysicists (SEG) has established a Women's Network Committee, which created the SEG Women's Network in 2011 to "raise awareness of and find solutions for the challenges women encounter in applied geophysics." The group's goals include the creation of a "community for mutual support among female SEG members," recruitment of women to serve in leadership roles in the profession, and "mentoring of students and early career professionals."[466] The American Association of Petroleum Geologists' Women's (AAPG) Network, formerly known as the PROWESS Committee, is described as "a special interest group made up of men and women who are dedicated to promoting the technical and professional prowess of AAPG's women members." The members of this group are committed to assisting women in networking, nominating women for awards from the organization, and spreading information about the contributions of women geologists to the

[466] "SEG Women's Network," Society of Exploration Geophysicists, seg.org/News-Resources/Womens-Network.

field.[467] While the women who formed these committees may not realize it, they maintain the legacy created by Chi Upsilon back in 1920, when seven women in geology could not find a place in the male-only geology fraternity, so they created their own female-only space to build relationships with one another and provide continuing education opportunities. These two modern examples of special groups formed to assist women in advancing in the still male-dominated field of petroleum geology and geophysics show that women still seek community within the oil and gas industry, but the opportunity for career growth is now more important than the idea of friendship and abating loneliness. Camaraderie may accompany advancement, but that is not the end in and of itself. Women's needs have changed, and they have changed the spaces that they are building for themselves to reflect their goals.

The Association of Desk and Derrick Clubs, a professional organization of oil industry secretaries, has continued to lose members as women have made inroads into the professional, scientific organizations in the petroleum industry. Perhaps society has shifted its view of the importance of these administrative support workers, or the workers themselves have relinquished their special status as oil industry secretaries and decided to see specialization as detrimental to their overall careers. In a volatile industry, it may be prudent not to rely on skills specific to oil and gas, but to broaden a skill set to be an asset as an administrative professional in a wide range of industries. At the same time, women are carving out their own space in the more prestigious science, technology, engineering, and math (STEM) fields of the petroleum industry, ensuring that they are seen and heard in a traditionally male realm. Their numbers continue to grow, and they leverage that power to create spaces for networking and continuing education.

In looking for these patterns of women advocating for all-female spaces within traditionally male organizations and industries, researchers can continue to find the communities

[467] "AAPG Women's Network," American Association of Petroleum Geologists, www.aapg.org/womens-network.

created by women and for women. They create these communities for the some of the same purposes discussed throughout this dissertation: to combat loneliness, to network, to create relationships, and to reach career goals. In the modern oil and gas industry, however, each individual woman places more emphasis on her own career progression than that of a spouse, in contrast to the norms of the early to mid-twentieth century. The slow death of auxiliaries and the rise of women's committees in professional organizations illustrates this clearly. Observers are likely to find these shifts in other industries and careers in traditionally male-dominated STEM fields. The majority of women no longer advocate for a spouse, but instead advocate for their own careers.

Regardless of the field studied, the communities and all-female spaces created by women are significant because they give them freedom to forge relationships, ask questions, make mistakes, and celebrate successes. They are protected areas in which women can work toward career progression and help one another to navigate worlds that are not always open to them. Sometimes these spaces are physical, such as an auxiliary meeting or a club function. Much more often, however, women create networks that weave a figurative space—a web of contacts and female sounding boards who can be contacted to assist when needed. A physical location is not needed for the community—it exists through relationships created over time.

Women's communities in the oil industry have provided physical and figurative spaces for professional development, career networking, and, arguably most importantly, for female companionship and support in a decidedly male-dominated realm. Having women with whom one can commiserate and with whom one can nurture relationships in a competitive world provides an outlet to vent frustrations and for brainstorming ideas to overcome challenges, particularly challenges that may exclusively affect women. While the industry remains a bastion of masculinity, the inroads made by women in both the oil field and the scientific professions are a testament to the framework created by the countless individual women and the women of

groups like Chi Upsilon, the American Association of Petroleum Geologists, the Association of Desk and Derrick Clubs, and the Houston Geological Auxiliary. As Rachael Van Horn stated, "When I first started pumping, I had this idea that I was going to reform the oil field. . . . But I failed. . . . But I keep trying anyway."[468] As long as fossil fuel extraction remains a significant industry, female workers will keep trying together to move toward equality in the field, using the associations they created to push for parity in employment and pay.

[468] Frazier, "The Oil-Pumping Adventures of Rachael Van Horn."

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