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Authors: Megan A. Moore, Elizabeth Covelli Metcalf, & Alexander L. Metcalf

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Connecting Collective Memory and Community Resilience: A Case Study of Anaconda, Montana

Megan A. Moore
University of Montana
Missoula, MT, United States
megan7.moore@umontana.edu

Elizabeth Covelli Metcalf
University of Montana
Missoula, MT, United States
Elizabeth.metcalf@umontana.edu

Alexander L. Metcalf
University of Montana
Missoula, MT, United States
alex.metcalf@umontana.edu

Abstract

Post-industrial communities across the world are transitioning from industrial economies and identities to an uncertain future. Their successful transitions depend on communities' abilities to navigate change and maintain a quality of life, or their community's resilience. Previous scholarship offers resources and capabilities that facilitate or inhibit community resilience such as leadership, social capital, and information. However, collective memory is not well integrated within the community resilience literature. Drawing on data from interviews with 33 community leaders in the town of Anaconda, Montana, we illuminate the impact of collective memory on community resilience. The Anaconda Smelter Stack stands out as a specific landmark and prominent feature of the built environment that perpetuates particular collective memories in Anaconda. We find that collective memory is an integral part of community resilience, where memories can aid in a community's recovery and rebuilding or constrain thinking and divide viewpoints. We argue that ignoring collective memory's connections to resilience can undermine efforts to face changes in these communities.

Keywords: Community resilience, collective memory, post-industrial towns, mining

Connecter la mémoire collective et résilience communautaire: une étude de cas d'Anaconda, au Montana

Megan A. Moore
University of Montana
Missoula, MT, United States
megan7.moore@umontana.edu

Elizabeth Covelli Metcalf
University of Montana
Missoula, MT, United States
Elizabeth.metcalf@umontana.edu

Alexander L. Metcalf
University of Montana
Missoula, MT, United States
alex.metcalf@umontana.edu

Résumé

Les communautés postindustrielles du monde entier sont en transition d'économies et d'identités industrielles vers un avenir incertain. La réussite de leurs transitions dépend de la capacité des communautés à s'adapter au changement et à maintenir une qualité de vie, ou de la résilience de leur communauté. Les bourses antérieures offrent des ressources et des capacités qui facilitent ou inhibent la résilience communautaire, telles que le leadership, le capital social et l'information. Cependant, la mémoire collective n'est pas bien intégrée dans la littérature sur la résilience communautaire. En nous appuyant sur les données d'entretiens avec 33 dirigeants communautaires de la ville d'Anaconda, dans le Montana, nous éclairons l'impact de la mémoire collective sur la résilience communautaire. La cheminée de la fonderie d'Anaconda se distingue comme un point de repère spécifique et un élément important de l'environnement bâti qui perpétue des mémoires collectives particulières à Anaconda. Nous constatons que la mémoire collective fait partie intégrante de la résilience communautaire, où les souvenirs peuvent contribuer au rétablissement et à la reconstruction d'une communauté ou contraindre la réflexion et diviser les points de vue. Nous soutenons qu'ignorer les liens entre la mémoire collective et la résilience peut saper les efforts visant à faire face aux changements dans ces communautés.

Mots-clés : résilience communautaire, mémoire collective, villes postindustrielles, extraction

1.0 Introduction

Post-industrial towns are undergoing transitions and are faced with the looming question—"now what?" Once-robust extractive industries that served as the lynchpin of communities, both socially and economically, have left. As some communities position themselves as recreation or tourism destinations, others struggle to redefine themselves. The success of these communities hinges on their ability to address problems and navigate changes in the present and future, or the community's resilience (Berkes & Ross, 2013; Kulig et al., 2008, 2013; Magis, 2010; Norris et al., 2008). Scholars have identified numerous factors that facilitate and contribute to a community's resilience (Berkes & Ross, 2013; Buikstra et al., 2010; Magis, 2010; Norris et al., 2008; Wilson, 2012). However existing scholarly discourse lacks the inclusion of a crucial component: collective memory.

Collective memory, the idea that shared memories of individuals can contribute to group identity (Hirst & Manier, 2008; Wheeler, 2014; Wilson, 2015), can strengthen community resilience scholarship. It serves as a way for communities to share knowledge and experiences through conversations, public symbols, or traditions (Assmann, 2008; Hirst & Manier, 2008; Wertsch & Roediger, 2008; Wheeler, 2014). Collective memory is both time and context dependent—it may act as a critical strength or play a more complicated role in community resilience. The remnants of a mining landscape, especially prominent landmarks contribute to and perpetuate collective memories (Wheeler, 2014). We posit that collective memory directly impacts collective resilience and understanding both together will enhance the usefulness of resilience research. If collective memory remains unexamined, we run the risk of undermining resilience efforts. While our work focuses on post-industrial communities, we see value and implications for communities beyond that scope. Additionally, memory scholars have called for more interdisciplinary collaboration (Hirst et al., 2018). They can utilize our and other post-industrial rural community research (Adams et al., 2018; Messer et al., 2015; Wheeler, 2014; Wråkberg, 2019) to better refine how collective memory works in community scales.

Anaconda, Montana provides a case study of a town grappling with change in a post-industrial mining era. Once a copper smelting giant for both the state and the nation, and now the locus of one of the largest Superfund (highly contaminated former industrial sites requiring remediation) sites in the country, the community has set its sights on becoming a recreation destination in southwest Montana (Quinn, 2021). While a vast cleanup effort has brought changes across the landscape, the 585-foot smelter stack was saved from demolition and remains visible across town. This poses the question of how or if a community can move forward, harness resources, and implement change when the past continues to be on display.

We first discuss the relevant community resilience and collective memory literature and their intersections. We then draw on interview data to illuminate how collective memory functions and impacts community resilience in Anaconda, Montana before providing insights for post-industrial communities and beyond. Our study is guided by the questions: 'what is the connection between collective memory and community resilience', and 'how do collective memories act as anchors or facilitators of community resilience?' Our research answers Vaneeckhaute et al.'s (2017) call for more empirical work on how collective memory affects resilience and decision-making.

2.0 Literature Review

2.1 Community Resilience

The concept of community resilience serves as a boundary object between diverse disciplines and fields (Brogden et al., 2022). We draw on the integrated approach to community resilience offered by Berkes and Ross (2013) to examine resilience at the community rather than individual or system scale. As Buikstra et al. (2010) found, characteristics that promote resilience are not solely found in individuals or in the community but are interconnected. We aim to understand the specific social processes in a community and acknowledge the interdependencies between how those social processes came to be within a larger environment of contamination and cleanup.

Community resilience offers a lens to examine post-industrial rural towns, especially as risk and change affect the nature of communities (Faulkner et al., 2018). A community's resilience includes their ability to address problems, navigate change, and maintain a quality of life in the present and future (Berkes & Ross, 2013; Kulig et al., 2008, 2013; Magis, 2010; Norris et al., 2008). Post-industrial rural communities' resilience is important as it can support community survival, promote wellbeing and shared objectives, and enhance governance during slow burn and rapid changes (Aked et al., 2010; Imperiale & Vanclay, 2016; Pike et al., 2010; Sánchez-Zamora et al., 2014; Steiner & Atterton, 2015). Community resilience definitions are often normative in that communities should intend to be resilient with an emphasis on identifying strengths and building capacity (MacKinnon & Derickson, 2013; McAreavey, 2022; Mulligan et al., 2016). Scholars have identified characteristics or capacities that make communities resilient such as (a) economic diversity, (b) self-organization, (c) leadership, (d) social capital and networks, (e) access to resources, and (f) community participation (Berkes & Ross, 2013; Buikstra et al., 2010; Kulig et al., 2008; Magis, 2010; Martin & Sunley, 2015; Norris et al., 2008; Wilson, 2012). While scholars have identified factors that can enable resilience in post-industrial rural communities, such as trust, connection to the land, social services, ability to work together in difficult times, and leadership (Lazzeroni, 2020; Markantoni et al., 2019; Matarrita-Cascante & Trejos, 2013; Schwarz et al., 2011; Sullivan et al., 2014), uncertainty remains regarding what makes some communities more resilient than others (Glass et al., 2022; McAreavey, 2022; Markantoni et al., 2019).

Case studies in other post-industrial towns provide a roadmap for defining community resilience in these areas. Post-industrial communities often exist in rural and remote regions and lack alternative industry options (Skeard, 2015). After the mining company left a rural town in Newfoundland, the community drew on their shared identity as survivors, social cohesion, and attachment to the mining landscape (Skeard, 2015). These capabilities fueled the creation of local community groups and propelled forth leaders. Community groups facilitated economic adaptation by securing funding and implementing development projects (Skeard, 2015). Services (i.e., health, education, social services, municipal) also serve a critical function for communities as they navigate change (Sullivan et al., 2014). A town in British Columbia responded to a mine closure by utilizing strong community cohesion and social capital to form a task force which focused on providing services and stabilizing infrastructure (Sullivan et al., 2014). The task force purchased and sold inexpensive homes in the community—which also attracted new residents and increased the tax base—and obtained funding to maintain or increase other services (Sullivan et al., 2014). However, some residents were resistant to economic

diversification and hoped for similar industry projects to fill the gap (Sullivan et al., 2014). Similarly, in three post-industrial towns in Europe, an emotional connection to the industrial past negatively affected a community's willingness to change while local institutions initiated development projects and offered services facilitating change (Lazzeroni, 2020). A tension emerged across the three case sites, where homage to an industrial heritage could enhance or diminish resilience (Lazzeroni, 2020). For example, the creation of an industrial heritage-based museum may generate community engagement and promote new narratives or create nostalgia and desire to look to the past rather than the future (Lazzeroni, 2020). A comparative case study in two Costa Rican communities examined factors that contribute to resilience as they experienced transitions from extractive to tourism economies (Matarrita-Cascante & Trejos, 2013). They found that (a) the ownership of resources, (b) an entrepreneurial drive of community members, (c) community agency—interest in working toward community improvement over individual interests—and (d) flexible institutional arrangements—and the services they provided—enabled one community to respond to changes (Matarrita-Cascante & Trejos, 2013).

2.2 Collective Memory

The previous case studies and community resilience scholarship have not explicitly incorporated the concept of collective memory. Some resilience research has integrated social memory (Adger et al., 2005; Colten & Sumpter, 2009; Wilson, 2012) or social-ecological memory (Barthel et al., 2014; Folke et al., 2002), but we contend that collective memory extends beyond these concepts. An opportunity remains to bridge disciplinary divides and explore collective memory and community resilience in post-industrial rural communities (Adams et al., 2018; Hirst et al., 2018).

Collective memory has emerged from disciplines such as sociology, history, geography, anthropology, and psychology (Olick et al., 2011). Vaneeckhaute et al. (2017) describe collective memory as "the active past that forms our identity" (p. 13). Said differently, collective memory is "the connective structure of societies" (Assmann, 2011, p. 267). Collective memory refers to shared memories of individuals which contribute to group identity (Hirst & Manier, 2008; Wheeler, 2014; Wilson, 2015). Therefore, collective memories are not merely shared memories but require an "identity shaping function" (Coman et al., 2009, p. 129). For example, a shared memory may include knowing the ABCs or the value of pi, while a collective memory for an American may include the 9/11 terrorist attacks (Coman et al., 2009; Roediger & Abel, 2015). While Americans may have a collective memory of 9/11, the intensity, feelings, and emotions around the event will differ between individuals (Erll, 2022; Halbwachs, 1992). Collective memory can change throughout time, where older generations may share distinct collective memories from those of younger generations, resulting in different behaviors, priorities, or decisions (Halbwachs, 1992; Jelin, 2009; Stone et al., 2014). While there can be a dominant or 'official' collective memory, there are also diverse, competing, or conflicting memories that can exist about an event or place within a group or community (Conway, 2010; Feola et al., 2023; Hirst & Merck, 2022).

We define collective memory as how individuals, as parts of groups or communities, remember/forget, (re)shape, transmit, and share knowledge, experiences, and information through traditions, public symbols, conversations, oral history, texts, or networks (Assmann, 2008; Foote, 1990; Hirst & Manier, 2008; Wertsch & Roediger, 2008; Wheeler, 2014; Wilson, 2012). Collective memory is the nexus of social

identity and historical memory (French, 1995), where memory is "part of the symbolic foundation of collective identity, where the question, 'who we are,' is answered, at least partially, by answering the question, 'where do we come from'" (Foote & Azaryahu, 2007, p. 127). Collective memory forms through interactions between an individual, society, and public display (Coman et al., 2009; Hirst & Manier, 2008; Olick, 1999). In this way, "there is no individual memory without social experience nor is there any collective memory without individuals participating in communal life" (Olick, 1999, p. 346).

Collective memory can be present in various ways—it can maintain a connection with the past which, dependent on the context, can help or hinder present and future decision-making and planning (Madsen & O'Mullan, 2013; Messer et al., 2015; Rawluk & Curtis, 2017; Van Assche et al., 2009). It likely impacts community resilience in various ways. It can "promote group legitimacy, connect past and present, enhance a sense of 'we-ness,' empower and display a uniqueness of a group's cultural heritage" (Messer et al., 2015, p. 5). Rawluk and Curtis (2017) note that collective memory can directly impact decision-making "because it connects a society to the past, but it can also act as a window into the future" (p. 951). In contrast, Van Assche et al. (2009) argue that collective memory hinders local planning efforts due to an attachment to the past along with unrealistic expectations and desires—where a fixation on one time period leaves the community unable to see different future narratives or scenarios. Madsen and O'Mullan (2013) add that collective memory "plays a very practical role in helping or hindering the community to respond to adverse situations" (p. 62).

Many case studies of post-industrial towns have utilized a collective memory lens (e.g., Keane, 2000; Messer et al., 2015; Wheeler, 2014; Wråkberg, 2019), but have not explicitly connected it to community resilience. Across these studies, mining communities felt more connected to their industrial histories or pasts when features of the landscape were visible. Messer et al. (2015) used collective memory to examine two former mining towns' contamination approaches. In one Colorado community, a zinc smelter functioned as the primary industry for 80 years before closing in the 1970s. The collective memory of the smelter was associated with better times, community values, economic prosperity, and rurality—where the current contamination was a tradeoff for economic progress (Messer et al., 2015). Alternatively, in a town in Oklahoma, a uranium plant was never seen as part of the community, but rather something that polluted the landscape. Community members' collective memory about pollution was in direct opposition to their values and led them to protest the company creating a waste site in their town (Messer et al., 2015). Two former mining communities in Colorado pivoted to previous economies, like ranching, rather than trying to market their mining identities (Keane, 2000). In these communities, underground mining left less visible scars across the landscape and the industrial equipment was removed once the industry left (Keane, 2000). Wråkberg (2019) applied collective memory as a lens to assess transitions in the mining town of Kirkenes, Norway. Collective memory influenced the social license that residents gave new mining companies and impacted local opinions and decision-making. Wheeler (2014) found that the landscape of the former mining town in northwest England evoked and shaped collective memories. Structures or remnants from the mining era, like a slag pile or railroad tracks were repurposed or left to waste away. Many of these landmarks or ruins were informal in that there was no specific remedy for preservation or plan to clean them up, which allowed for

various understandings and collective memories of these sites, which shifted and transformed over time (Wheeler, 2014).

Communities construct or preserve landmarks and historical monuments to create unity or a specific narrative of the past (Otterstrom & Davis, 2016). The physical embodiment of landmarks or monuments can contribute to various collective memories. These collective memories may provide a counter-narrative when assessing the landscape for restoration or environmental cleanup. Robertson (2006) suggests that mining has created a "stigmatized symbolic landscape [where] mineral extraction and processing areas…have become icons of dereliction and decay. For those who live in these places, however, these landscapes may function as meaningful communities and homes" (p. 2). Beckett and Keeling (2019) concur, "remediation projects rely on narratives of toxicity and containment, often forgoing discussions on heritage, remembering, and healing" (p. 219). Langhorst and Bolton (2017) add that the main objective in Superfund sites—whose contaminant cleanup is funded and administered by the federal government—involves a standardized cleanup response to mitigate risk which fails to address "the particular socioeconomic and cultural contexts" (p. 164) across landscapes. Landmarks in these landscapes may impose memories on a community—influencing a community's resilience. Proponents of landmark preservation aim to commemorate the past and provide something for future generations, which may neglect how the physical structure affects a community in the present (Milligan, 2007). Landmarks and other historic resources can act as stabilizing forces "during times of crisis and help to preserve community identity even in the face of traumatic change" (Appler & Rumbach, 2016, p. 1) and promote economic development.

3.0 Case Study Site

Our research focuses on the community of Anaconda in southwest Montana. We see a community as people that live within the same geographic area who interact, have social ties, and share common resources (Matarrita-Cascante & Brennan, 2012; Wilkinson, 1999). In 1883, Marcus Daly, one of the 'copper kings' of the colonial, early western United States, established Anaconda as a location to process copper ore from Butte. He chose Anaconda due to its proximity to Butte and its ample supply of timber and water to fuel the smelter operation (Quivik, 1998). In 1881, Daly started the Anaconda Copper Mining Company (the Company), one of the largest mining companies in the world (Snow, 2003). The Company used its power in state politics, where it almost succeeded in making Anaconda the new state capital in 1894 (Snow, 2003). For decades, the Company also exercised its influence through its ownership of most state newspapers.

The smelting operation in Anaconda transformed the landscape (Bryson, 2013; MacMillan, 2000). In 1884, the Old Works smelter opened and processed five times as much ore as the smelter in Butte (Bryson, 2013). Eighteen years later, the Washoe Reduction Works smelter opened, processing 8,000 tons of copper per day and a new 585-foot smelter stack that expelled fumes and gasses from the operation (Bryson, 2013; Quivik, 1998). The smelter smoke contaminated and killed forest patches, agricultural crops, and livestock throughout the Deer Lodge Valley (Bryson, 2013; MacMillan, 2000). Airborne emissions released heavy metals into soils and water sources. The company disposed of smelter waste materials in various ways—as fill for railroad beds, driveways, or foundations (Environmental Protection

Agency [EPA], 2023). In 1983, the EPA designated a 300-square-mile area adjacent to the town as the Anaconda Co. Smelter Superfund site.

In 1980, the U.S. Congress passed the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) establishing the Superfund program to address contaminated areas in the United States (United States Government Accountability Office, 2019). The program was enacted as a response to growing national concern about environmental contamination and hazardous waste in sites like the Love Canal (Tolan, 2008). Under CERCLA, the potentially responsible party, usually the owner—or previous owner—of a site pays for the cleanup and works with the EPA and state agencies (GAO, 2019). In the case of Anaconda, the potentially responsible party is Atlantic Richfield, who purchased the Anaconda Company and the smelting operation in 1977. In 2020, the consolidated city–county government of Anaconda–Deer Lodge County and Atlantic Richfield reached a settlement agreement, which allocated $28 million for economic development and increased funding for an attic dust removal program, domestic well testing, waste in place measures, and blood lead testing (McCumber, 2020). The EPA, U.S. Department of Justice (DOJ), Montana Department of Environmental Quality, and Atlantic Richfield recently reached an agreement where Atlantic Richfield will pay $83 million for future cleanup work for hillside soils, residential yards, flue dust and rock tailings, and $48 million to reimburse the EPA and DOJ for previous cleanup costs (Eggert, 2022).

4.0 Methods

This research is part of a larger interdisciplinary initiative that examines legacy water quality issues across the state of Montana. We chose Anaconda as a case study location because our research questions focused on and could be examined at the community level of analysis (Beckley, 1998). Anaconda posed as a unique opportunity to describe the relationship between memory and resilience as Superfund remediation nears completion (Baxter & Jack, 2008; Crowe et al., 2011). It also allowed for the phenomenon of collective memory to be examined in a "real-life context" (Yin, 2009, p. 18) rather than in other avenues such as experiments or document analysis. In the interviews conducted for this study, our original intent was to understand community environmental issues, perspectives on the Superfund process and the entities involved, and the impacts of the process on the community. Collective memory and the smelter stack emerged and highlighted the need to better understand these themes in this community.

In late 2019 and early 2020, we began interacting with the community by meeting members and leaders, visiting the community, attending various community meetings and events, and frequenting local shops and gathering places. We conducted 33 semi-structured interviews with community leaders in Anaconda during the summer of 2020. Due to COVID-19, interviews were conducted remotely, either via Zoom or by phone; interviewees chose which platform worked best for them. We began by interviewing people on a list of names gathered from our preliminary trips to the community to speak with key informants. Potential interviewees were community leaders or those directly involved in the Superfund process (See Table 1). This list then expanded through chain referral sampling, as interviewees provided suggestions of community leaders to also speak with (Hay, 2005).

Table 1. *Interviewee Profile: Interviewees' Current or Previous Professional Affiliations.*

Affiliation	Number of Individuals
Government Position	11
Nonprofit Organization	3
Business	8
Environmental Work	5
Civic/Volunteer Organization	6

We used an interview guide as the broad framework for asking questions, which allowed some flexibility (Hay, 2005). This structure enabled us to follow up or probe interviewee responses that were of interest or are particularly revealing (Hay, 2005). Interviews ranged from 21 minutes to 2 hours each, with an average interview lasting around 65 minutes. Most interviewees (n =16) had lived in the community for more than 36 years, though not always continuously). Others (n =10) had lived in Anaconda for 16–35 years while a minority of interviewees (n=5) had a residency of 15 years or less.

Interviewees were emailed the consent form to look over before the interview. Interviews began with a brief restatement of the project, followed by obtaining the interviewee's verbal informed consent. However, if interviewees did not read the consent form or wanted clarification, we read it to them or discussed pertinent sections. Interviewees gave verbal approval for the interview to be recorded and were reminded their interviews would be kept confidential. The interview process and guide were approved by the University of Montana Institutional Review Board (IRB Protocol Number 23-20).

We coded interview transcripts following thematic analysis (Braun & Clarke, 2006). The first round of coding took an inductive approach. We developed a codebook by reviewing three interviews and creating a list of general codes that emerged from the data. We then coded two additional interviews and modified the codebook. We coded the rest of the interviews based on this coding scheme using NVivo 12, a digital organizing platform for qualitative analysis. These codes were then reviewed and aggregated into potential themes. The second round of coding took a deductive approach and focused on themes of collective memory and community resilience.

4.1 Limitations

The greatest limitation in this research was COVID-19. We conducted our interviews in the summer of 2020 when information and circumstances were uncertain and rapidly changing. This resulted in us contacting and speaking with community leaders from afar, rather than in person. While Zoom and phone interviews provided robust data, we know that there is no substitute for in-person connection and engagement. Additionally, we only spoke to community leaders—their power and status could influence their collective memory and desires for the community. We see our interviewees as diverse in that some had formal positions of authority, as city-county officials, heads of nonprofits, or government officials,

while others were seen as informal community leaders, those with expansive knowledge of the community history or trusted perspectives. We did not ask explicitly about collective memory during our interviews. Rather, this topic and connection to the stack emerged as community leaders talked about their town, in the past, present, and future. It is possible that additional and conflicting collective memories exist but were not discussed. Our scale of focus for resilience and collective memory was the community. However, further research could examine the interactions between community-level collective memories and collective memories at other scales, both spatially and temporally. Additionally, further research is needed to examine how to harness collective memories and identify how or why they hold communities back or inspire change.

5.0 Results

Interviewees mentioned various sites and events that evoked collective memory. All interviewees mentioned the Anaconda Smelter Stack (hereafter, 'the stack') as a landmark and physical embodiment of memory, which imposed particular collective memories on the community. The theme of the stack as an anchor to the past emerged throughout the interviews. We organize the results into two sections: the stack as an anchor and the impact of collective memory on community resilience.

Interviewees were eager to talk about the stack as a physical structure and its meaning in the community. Some interviewees were quick to point out that the stack was "the largest free masonry structure in the world" (Interviewee 15). The stack looms over Anaconda and is visible from highway I-90, 30 miles away from town. As one drives into the east side of town, it stands out over the valley, or as one interviewee said, "we're in the shadow of the stack" (Interviewee 1). While another said, "the big stack sitting out on the edge of town is hard to ignore" (Interviewee 7). Beyond its physical characteristics, many interviewees saw the stack intimately tied to their history, mining culture, and identity. Interviewees expressed pride in their history and mining culture. One interviewee said, "we're very proud of our mining history. Miners work extremely hard, they're very industrious" (Interviewee 10). Others talked about the deep connection between the stack and the community. As one interviewee said, "that is Anaconda, the stack. It is, it's every person that lives here" (Interviewee 18). While another added, "Well the stack is a reminder of roots" (Interviewee 29).

5.1 Anchor to the Past

The stack emerged as an anchor to the past in that it kept the community reminiscing about what it represented and was formerly capable of, hindering economic, cultural, and social change. Five sub-themes were evident within the larger theme of the stack as an anchor: (a) holding out hope; (b) a reminder of better times; (c) a connection to history, culture, identity and family; (d) their life source; and (e) a source of contamination and loss.

5.1.1 Holding out hope. Interviewees thought that the generation that worked on the stack and who were often 65 years or older, waited for smelting to resume after the operation was shuttered in 1980. They were holding out hope. One interviewee said, "it's taken decades for some of those old timers to realize that [the smelter re-opening] is not going to happen" (Interviewee 5). Another added that the older generation still clung to the idea of the smelter, "I think they wanted that smelter to open up…to this day, they probably want that smelter to reopen" (Interviewee 19).

The older generation's disbelief in the abrupt closure of the smelter operation often manifested in uninterest to envision a new path for the community. One interviewee remarked,

> I look at the stack as this double-edged sword. It is definitely a connection to the past and in some ways it is a bit too much of an anchor to the past that has kept a lot of people, at least their thinking from moving forward (Interviewee 5).

A different interviewee took a stronger view of how the stack kept Anaconda in the past, "I'll be honest with you, you need to take the stack down…Anaconda is still waiting for that stack to start belching smoke again" (Interviewee 10).

5.1.2 A reminder of better times. The stack reminded the community of better times. These better times were often classified economically, in terms of the smelter operation providing an economy and jobs for the town, and the overall importance of Anaconda on the national stage. The visual appearance of smoke coming out of the stack denoted the smelting of copper and directly related to miners' livelihoods. One interviewee commented, "I think the way that I grew up, if there was smoke coming out of the stack it represented prosperity" (Interviewee 12). The smoke from the stack was a powerful indicator of both jobs and a certain type of company town, where there was stability. One interviewee said that the community felt "taken care of as long as there was smoke coming out of that stack, people were working" (Interviewee 5).

The stack served as a reminder of the influence and impact of mining in the 20th century. The copper mined in Butte and smelted in Anaconda was responsible for supplying the needs of the United States and the world. The stack reflected the importance of copper, and by association, Anaconda for advancing electrical and military needs for the United States. One interviewee spoke of the inherent connection between copper and the stack, "when you think about the copper that came out of Butte and Anaconda that copper basically served to electrify much of the eastern U.S." (Interviewee 10). The copper smelted in Anaconda was critical for various military efforts. One interviewee added, "This town contributed greatly through the effort that went into transforming all the car factories into factories that made planes, trains, and trucks in WWII. The copper from the smelter was essential to that" (Interviewee 29).

The importance of copper mining during this time period led interviewees to comment on the overall impact it had on Anaconda. The stack was "a reminder [that] we were a little more economically important city back then" (Interviewee 16). Similarly, the stack reminded another interviewee that "we were a focal point for industry both in Montana and for the U.S. for the generation of copper, and we were financially very important at that time to the entire U.S. Economically, we were very important" (Interviewee 30).

5.1.3 A Connection to history, culture, identity, and family. The historical and cultural connection interviewees felt to the stack continued to define their relationship with mining and their identities. As one interviewee noted, "I think it represents the culture that we have here. We really are unique; it makes us unique" (Interviewee 11). Interviewees' relationship to the stack often stemmed from when either they or their families worked at the smelter. One interviewee said, "I think the aging generation is really attached to it, and to them, it's the sign of their history and

their culture and what they did here" (Interviewee 6). Another interviewee saw the stack as deeply connected to their family roots, who had lived in Anaconda for multiple generations, "So myself, my family had ties to the Anaconda Company, so the stack is certainly a positive image in my mind and most of the folks I grew up with" (Interviewee 25).

Interviewees expressed the importance of preserving the stack. They felt that their history required a physical symbol to remember and celebrate it. One interviewee said, "but people wanted to hang onto the stack to preserve a part of the history of Anaconda" (Interviewee 12). Interviewees often compared the need to maintain the stack to other communities in Montana or Idaho that had torn down their smokestacks after the industry disintegrated. However, residents in Anaconda fought to make the stack and the surrounding area a state park. One interviewee discussed this effort,

> I know when the smelter shut down there was a group of residents that got together and formed the Save the Stack Committee. And they ended up getting it designated as a state park so that they were able to keep it as part of the heritage (Interviewee 14).

5.1.4 A life source. The desire to preserve and maintain the stack denotes an inextricable link to the existence of their community. A few interviewees spoke of the stack as the genesis of the community and their families. They said, "it's why we're here" (Interviewee 18), "the reason for Anaconda to exist was the smelter" (Interviewee 2), and "...[they] saw the smelter as this huge life source essentially" (Interviewee 25). The first interviewee elaborated on these perspectives saying, "they have talked about tearing it down because it has asbestos. Well, cap it. They can't get rid of it, it is Anaconda" (Interviewee 18). Another interviewee added that the stack reflected a sense of place, "I knew I was home because I could see the stack in the distance" (Interviewee 1).

5.1.5 Source of contamination and loss. The collective memory around the stack as a source of contamination and loss hinted at the complexity and polarization of the stack for some residents. It also explicitly highlighted the generational divide and divide between new and long-term residents. Interviewees acknowledged that for older generations, those who had lived in Anaconda for many years, or whose families had worked at the smelter, the stack connected them to their history. For some, this connection was expressed negatively due to the abrupt closure or the economic downturn that followed. One interviewee said, "about a third of the old timers you talk to, they'll say the shape of the mountains around the stack make it look like a great big middle finger that's pointing at the community" (Interviewee 30). Newcomers and younger generations were confused by the loyalty to the stack. One interviewee commented:

> But the more new folks you're seeing come through Anaconda, it's like well this is a symbol of the damage that was done to this community environmentally and why would you keep it held so sacred. So you've got both opposing views….Both this is tied into my family, this is part of who

> we are. And the newer view, which is that it's a symbol of the past, a symbol of damage (Interviewee 25).

Another interviewee elaborated on this sentiment and said:

> I think there is a cadre of older people or people whose families go back a long way in Anaconda. And there's a tremendous amount of pride in the stack, and the history and the toughness of the people that it represents. I think on the other side, there are people that have moved here more recently, and/or younger people that don't feel that connection with the stack. And to them, they see it as a monument to our industrially contaminated past. I think some see it as a big neon sign advertising how contaminated the town is (Interviewee 28).

The stack contributed to collective memories that anchored Anaconda to the past. Interviewees wanted to return to when the smelter was running, longed for more prosperous economic times, held on to the historical and cultural connection to the stack, and experienced a disconnect in collective memory between generations. Collective memory offers insight into how the stack may influence the ability of Anaconda to move forward and transition, which has implications for the community's resilience.

5.2 The Stack: A Connection to Resilience

The collective memory of the stack related to the community resilience of Anaconda in two distinct ways. Collective memories about the reliance on mining and the Anaconda Mining Company captured the community's feelings of reluctance to change and adapt after the smelter closed. At the same time, the community considered itself resilient. For Anaconda, collective memory influenced their perceptions of community resilience, and thus, their capabilities to embrace a new identity and economy.

The reliance on the Anaconda Mining Company—a powerful force in Montana and the world for many years—left the community less able to change. Much of the community still saw the mining industry as tied to the economic boom and their identity, which left them only considering a different industry as the solution. One interviewee offered that Anaconda just wanted a different industry to move forward, "I think Anaconda is still kind of stuck in the past with the way they think of industry" (Interviewee 19). Another interviewee took a more forceful stance about how the community's mentality about the past:

> The older generation really is holding us back here. Holding us back a lot. They really are stuck in the past, they're stuck in the smelter's heyday in the '60s and '70s and it is heresy here to say the smelter is gone and it is not coming back. I mean it is like you're killing someone's sacred cow to say that (Interviewee 30).

While many expressed that the mining mentality ruled in Anaconda, others did see that change was necessary. One interviewee offered this perspective:

> I think some of the old mentality of the smeltermen's days where they depended on the smelter to take care of things for them is still somewhat prevalent. But I think people are realizing that for us to get things done we need to do them ourselves and not depend on a one company town and that company to take care of everybody and all of their needs (Interviewee 17).

The Anaconda Mining Company not only provided the industry and job opportunities in town, but also built and maintained infrastructure such as roads, buildings, and streetlights. The Company developed and maintained community amenities such as parks, common areas, and a theater. They also hosted yearly community parades and events. One interviewee described this relationship as one of dependence on the company, "It took a long time for the mindset [to change] of oh somebody is going to come and rescue us. What are we going to do, the Anaconda Company abandoned us, so poor us, we're not going to survive" (Interviewee 1). While another interviewee elaborated on the community and economic structure provided by the company:

> And so the ability to adapt there was never really an entrepreneurial spirit here it seemed like while the Anaconda Company was here because it wasn't needed. You basically either worked for the company, the smelter, or you provided goods and services to the people that lived and worked here. And it all was relatively predictable, uniform, unchanging over the years. And when that went away people didn't know what to do. To some extent, there may still be an element that is struggling with that. You have a company that was the sole purpose for this town to exist and it operated for 97 years here. When that lifeblood goes away…that leaves a lot of people paralyzed not knowing what to do (Interviewee 5).

The collective memory of the stack left the community stumbling to find or reinvent itself 40 years later. One interviewee said,

> Anaconda has had to learn how to not be dependent on one huge company. It's taken us a while to learn who we are now with that one company town gone. So we've struggled to find ourselves, but it's happening. Anaconda is really coming into its own. It's taken a while (Interviewee 11).

Another interviewee concurred, "I think Anaconda is still evolving and still trying to find itself after the smelter closed in 1980" (Interviewee 15). A slow process occurred throughout both the community and environment in Anaconda. Exemplified by one interviewee: "I honestly believe, Anaconda is in a rediscovery

mode right now…And that will lead to prosperity in the future. It'll take some more time" (Interviewee 8).

While Anaconda struggled to change and move forward, interviewees also saw their community as resilient since the smelter shut down. One interviewee stated, "I would say it's the toughness, the fact that we're a resilient group of people, and the fact that the town has done so well after the smelter and the big economic concerns that happened in the early '80s" (Interviewee 3). Anaconda continued to survive, despite the lack of economic growth and Superfund designation. For example, one interviewee commented,

> I would say Anaconda is definitely not dying. It's holding its own, and it's always trying to get new life, and I think that's the resilience of the community, too. I think that they're always pulling in that direction. They kind of refuse to die… (Interviewee 27).

A few interviewees were more optimistic and saw Anaconda as a thriving community. One said, "The transitions occurred and there's a new generation and even a new generation's offspring are the ones that are operating today and it's business as usual" (Interviewee 20). While another went further and said, "I think we are thriving, and I think we're just going to grow. There's going to be green still, greener than it already is. We're going to keep up with our infrastructure, building homes and just bringing in the people that are good for the community" (Interviewee 3).

6.0 Discussion

The lens of collective memory helps us understand Anaconda as a community in transition, the impact of collective memory on community resilience, and provides insight for both post-industrial towns and communities facing change. For Anaconda, the stack contributed to collective memories that functioned differently throughout time. In some instances, especially right after the smelting operation shut down or when the stack was scheduled for demolition, collective memory functioned as a galvanizing force for the community to protect their history. In other instances, collective memory acted as baggage, often preventing the transition to a new future. All interviewees had a collective memory of the stack, but their emotions and feelings toward the stack differed. For some, the stack was a life source and for others, it was a source of contamination and loss. This hints at the complexity of collective memory, where within a memory, competing or conflicting emotions can exist around landmark or event (Conway, 2010; Kojola, 2020). While interviewees shared a collective memory of the stack, that memory was informed by their own feelings and experiences.

Post-industrial communities that face transitions do not start with a clean slate (Wilson, 2012) but rather bring those collective memories to the table, which can impact decision-making, willingness to change, innovation, and engagement. Currently, in Anaconda, collective memory acts as a constraint in many areas, with many noting how the community preferred to look back to a bustling town with streetcars, bars on every corner, myriad schools and churches, and a source of stable employment rather than ahead to a tourism and recreation destination. This fits with other research that has found that many post-industrial communities associate 'better times' with the heyday of industry (Bell & York, 2010; Messer et al., 2015).

In Anaconda, community members' definitions of community resilience highlighted the numerous ways in which post-industrial communities may consider themselves resilient. For many, resilience equated to survival—for some that survival entailed remaining the same while others that survival meant navigating economic, social, and ecological change. Some community members pointed to a lack of services and leadership as a sign of less resilience (Sullivan et al., 2014) while others pointed to the growing infrastructure and businesses as a sign of continuing without the company. Like Skeard's (2015) work, many community members described resilience as surviving, holding on, and simply not dying out. Other community members felt the community was stuck—a lack of entrepreneurial spirit, a resistance to economic diversification, and a preference to look toward the past rather than the future—echoing findings by Lazzeroni (2020), Matarrita-Cascante and Trejos (2013) and Sullivan et al. (2014). We contribute to previous scholarship by including the concept of collective memory, specifically, the role a physical landmark or monument plays by imposing and maintaining collective memories and impacting community resilience. Collective memory is not inherently good or bad, but rather depends on the context and timing—it can both aid in recovery, rebuilding, and rediscovery and constrain thinking, displace alternate visions of the future, and divide community members.

Anaconda is nested within a larger Superfund site and process. The labeling around Superfund—stigma, contamination, risk—has implications for communities. While classification as a Superfund site is necessary to receive technical assistance, provide funding, and ensure legal obligations to clean up, it can become the dominant narrative for a community, especially for outsiders looking in. The status of a Superfund site only offers a partial picture of Anaconda and, for some communities—especially those who have lost visual symbols on the landscape—may drown out their collective memories. Often, collective memories remain strong and passed down through generations due to these visible reminders. Shackel and Palus (2006) add, "what we remember and celebrate on the landscape helps to serve and legitimize the past and the present" (p. 50). For entities working with communities with histories of contamination, cleanup processes must acknowledge and incorporate their collective memories, or they may lack community support or public engagement (Metcalf et al., 2015).

We highlight the importance of dissecting and understanding the social elements, like collective memory, that facilitate community resilience. While Anaconda has a legacy of smelting contamination that extends into backyards, parks, hillsides, attics, driveways, gardens, and water sources, collective memories specifically attached to contamination or natural resources did not emerge as a tangible thread in this community. Rather, collective memories of the stack provided context that otherwise would have been missed with a singular focus on the specific environmental concerns. While the social–environmental connections are a critical area of exploration and study, different approaches may be needed to tease out those connections, or, in many cases, a focus on the elements may illuminate connections that are not strictly understood as social-environmental. We see this as an invitation to better understand the human experience through the eyes of interviewees, who may lead us down paths we did anticipate, providing insights for research, the development of Superfund activities, local planning, and development.

Our research provides insight for organizations and agencies working with Superfund and post-industrial communities. Entities should understand the potential

tension that communities feel between protecting and preserving their pasts and cleanup processes. When possible and appropriate, these entities should use collective memories to build trust and create buy-in with communities. Additionally, these groups should carefully balance history and cleanup. They should exercise creativity to preserve community landmarks or areas while following legal and environmental regulations. These lessons also translate beyond the post-industrial or Superfund context, as the role of collective memory likely extends to myriad communities. Entities should take time to understand and incorporate collective memories into broader public engagement and decision-making processes. For example, these groups can address past injustices retained within collective memory to bolster community resilience. A community's hesitancy to engage with agencies or other entities may signal a strong pull toward the past and a feeling of not being heard during land management decisions or other processes. Finally, we see this as an opportunity for outreach, science communication groups, and researchers to collaborate when working in these communities. They can incorporate activities or education into their events that gather, preserve, or promote a community's stories and collective memories.

6.1 Future Directions

Further research, such as a community-wide data collection, would prove useful in identifying Anaconda's collective memories. This would provide a different method of understanding collective memory and community resilience together while addressing some of the previously mentioned limitations. The Perceived Community Resilience Scale (Kulig et al., 2013) exists but has not been tested with collective memory, nor are there measures that have been tested for collective memory. As communities transition, the question of their future visions and trajectories must also be incorporated into questions of memory and resilience. We see great potential in linking these three concepts, especially in investigating how collective memories may impact the future a community envisions for itself. There is also an opportunity to further investigate the relationship between emotions and collective memories surrounding the stack, especially for different generations. We encourage scholars to pursue these fruitful research directions.

7.0 Conclusion

Our case study of Anaconda, Montana explored the collective memories of the community and the critical piece collective memory plays in community resilience. By understanding a community's collective memories—which can aid in recovery and rebuilding or constrain thinking—we can increase the utility of community resilience scholarship. We found that the community had various collective memories, but that the stack perpetuated the strongest collective memories. The stack served as an anchor to the past for Anaconda, where people held out hope or wished for the better days of the past. The stack contributed to collective memories which often constrained the community's resilience. While some in the community saw themselves navigating change or prepared for a transition to a recreation economy, many thought the stack inhibited change and adaptation. Our work in Anaconda will be useful for post-industrial towns straddling transitions and other communities wrestling with their identities and histories in the present around decision-making or management.

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