

***What's Your Heritage Worth? Gallus Frames, Community, and Experience in Butte, Montana***

John Mihelich

On December 1, 2005, while living in Butte conducting research on the culture of the community during its underground mining era, I briefly experienced what it was like to work in the mining industry in Butte. Continuing a long-standing tradition of “lighting the frames,” a small group of Atlantic Richfield Company (ARCO)/Anaconda Copper Mining Company (ACM) retirees worked each winter to place and maintain Christmas lights on several of the mining headframes still left in Butte. In the heyday of underground mining, electricians and ropemen decorated the gallus frames every Christmas for the company and “lit” them each Thanksgiving Eve.<sup>1</sup> I had helped this group with a variety of small projects during my time in Butte and had spent many hours listening to them talk about their lives and mining copper. As they prepared to work on the Christmas lights that year, my uncle John T. Shea volunteered my services. I don’t remember the temperature that December morning, but it was one of those sunny, frigid, windy Butte winter days. I accompanied Joe Navarro, Tommy Holter, John Bailey, and John T. Shea to the Belmont, the Travona, the Kelly #2, and finally the Anselmo. I discovered that the wind

blows harder 120 feet off the ground.

After gathering materials and driving a short way to the mine yard, we prepared to ascend the Belmont gallus frame. Joe and I climbed the five or six flights of stairs (about six stairs each) that went straight up the vertical legs of the frame. The steps led to a deck used historically to attach the “cages” to the cables leading down the mine shaft. From the deck, a horizontal catwalk ran from the vertical west leg to the angled northwest leg, where it joined with the long line of steps and rail that tracked up the angled length of the northwest leg to the top deck of the frame. Once across the catwalk, Joe, leading the way, paused and said, “We’ll just take it slow; we are not getting paid.” He said not to tell him if I got scared.

As we began to climb, Joe explained how, when holding the rail carefully with both hands during the climb, they used to say “one hand for the company and one hand for you.” We stopped about three times on the way up so Joe could catch his breath. Although I welcomed the rest, I preferred to continue without pause because the height and the cold frayed my nerves and stopping only gave me more time to think about what I was doing—and to look down. With my knees shaking, and barely holding my balance, I wondered if Joe had experienced a similar sensation on his first trip up one of the frames. I just wanted to get up to the deck and off those steps. It was a steep trip to the

bottom on the steps and a straight shot to the bottom off them! The last stop was about five steps from the top deck. Joe stood on the step and untwisted a wire around an electrical insulator swaying with the wind just above the rail. I thought he might salvage the insulator for use at the top to protect one of the wires from weathering against the handrail of the deck. However, when he freed the insulator from the wire, still standing on the stairs, he turned back and handed it to me. He said, “Here, a souvenir. Someday when you have an office, put it on your desk and you’ll always remember this day and climbing up the Belmont.”

When we finally reached the top, Joe said, “Here we are. I told you you’d have a view from up here.” We stood there a few moments, temporarily forgetting the cold wind as we surveyed the city. Joe then turned to a brief lesson on the workings of the frame, wheels, and cables before we checked and repaired all of the strings of lights and the star atop the frame. John Bailey, an electrician by trade, then turned on the power to the lights from the ground so we could check them again.

Having made the repairs, we started the journey down the stairs. Joe said he would go first to show me the safe way to get to the bottom intact. We descended facing away from the frame, with our backs to the stairs. Joe instructed me to lean back and hold onto the rails. “Remember,” he said, “two hands for yourself.” Apparently, the company was not involved in this

trip after all. He explained how some of the veteran ironworkers would drape their arms over the railings and kick their feet up in front of them on the railings and slide to the bottom. With a little care to loosen the grip of their hands as they slid over the rivets holding the side posts of the rail to the steps, they made a quick and easy descent. Later that day, coming down the Anselmo Mine headframe after visiting the Travona, I saw Tommy Holter, a former ropeman, make half of this move. He laid his shoulders across the rails, leaned back, and slid down the rails with his feet lightly skipping on each step. I was behind him, carefully placing one foot in front of the other on the descending steps. He reached the bottom well before I was halfway down. He had made the trip before many, many times when they maintained the frames, cables, and wheels, and he knew the ropes.

I spent much of my fieldwork listening to men talk about the process of mining, their work, and their lives in Butte. Nearly every week for eighteen months, I visited the ARCO retirees’ club, where members spent much of their time recounting their experiences on the Hill in the mines, in the bars, and in their

**Facing Page:** *Figure 1. Anselmo gallus frame & mineyard, Butte, Montana early 20<sup>th</sup> century. Photographer unidentified. Courtesy World Museum of Mining, Butte (WMM 3413)*



neighborhoods. Shortly after my first visit to the club, I borrowed the *Mining Engineer's Handbook* from the Montana Tech library and voraciously read relevant chapters to get a sense of the mining terminology embedded as second nature in the stories floating around the coffee table at the club. While some of the men wanted little to do with me, a steady group of them gradually welcomed me into their conversations and openly shared their stories. They came to call me “the kid,” often razzed me about why it was taking me so long to “write a book,” and frequently reminded me that not all learning “comes from them books”—a reference to my graduate study.

One day early on in my visits, a short, gruff-looking man asked me how old I was after (Frank) Panisko had talked about a clown school and mentioned one had to be eighteen to twenty-five years old to attend. With a half-serious nod in my direction, the man said that somebody ought to send me there and then asked me how old I was. I told him I was thirty. After a short pause, he looked at me and said, “Thirty years old and still in school? Ya’ must be a slow learner—I was done when I was thirteen.” I also individually and more formally interviewed many men who worked in the mining industry, including miners, boilermakers, ropemen, bosses, station tenders, motormen, hoisting engineers, and people who worked in the offices in various capacities for the Anaconda

Copper Mining Company. In the process of writing about mining in Butte, including the content that fills most of this article, I asked several of the men to review my writings, which they did and approved.

An understanding of life in Butte firmly rests on knowing a good deal about mining practice during the underground mining era. “The miners made this town, not the rich people” says my grandmother, Rose Mihelich, an assessment echoed in the minds of nearly everyone I spoke with during my research on the city. Although the actual miners were the heart and soul of the mining operations—John T. Shea, a ropeman on the Hill for thirty years, fondly characterizes them as the “best craftsmen on the Hill”—the term *miner* in my grandmother’s usage extends from those who actually blasted the ore to the various craftsmen and laborers who collectively worked the mines. Based on the practice of underground industrial copper mining, the miners and, in turn, the rest of the folks working and living in the city carved a culture, a way of life, and a heritage on Butte Hill—represented then, as today, by the massive black structures called “gallus” frames.

### *The Copper*

As the Butte mining camp, based first on gold placer and then silver mining, transformed into a copper mining community, it was destined to become a thriving, sustained metropolis isolated, with the copper

ore, in the cradle of the Northern Rockies. Mining copper, even from rich veins, was a different beast than mining precious metals. In 1885, the *Engineering and Mining Journal* forecast the fate of Butte as the community embraced the nature of copper and became intertwined with world markets:

Western miners who are in the habit of mining only for gold and silver have been accustomed to work out their mines in the quickest way possible (a policy for which much is to be said where the precious metals are concerned); but copper, they have found, can not be treated in this way. Copper, like iron and coal, is strictly a commercial metal, and the world will have no more of it than it can use.<sup>2</sup>

Copper was a commercial metal largely valued for its physical properties, including its malleability, ductility, and electrical conductivity—all important to industrialization. Copper wires and cable became increasingly important both to industry and to daily life of people all over the industrial world as they adopted electric lighting and machinery. Living on and with copper demanded extraction in massive amounts, over the long run, in capital-intensive operations. The backs (and lungs) of immigrants offered the labor for mining

the copper, but the gallus frames that lifted the ore out of the earth were the backbone of the extraction process.

As Butte rapidly developed around the copper mines, the community reflected the nature and routine of the work in the underground mines. The mines ran around the clock, stopping only for temporary shutdowns caused by a decrease in the market price of copper, by strikes or accidents, or by the need to conduct maintenance. The vital parts of the city, including its bars and restaurants, remained open throughout the twenty-four-hour day. Stories claim that the process for christening a new drinking establishment in Butte entailed breaking the lock out of the front door—there was no need for the door ever to be locked if the bar never closed. In periods of peak production, three shifts a day of men “went down” the shafts into the mines and returned to the surface coming off shift. Coming off shift, day in and day out, or “round in, round out” as the miners used to say, the men often stopped by their neighborhood bar for a shot and a beer before returning to their homes or to a boardinghouse.

Every miner’s life passed from the surface world to the underground world via the entrance guarded by and regulated through the gallus frame or “headframe” (see Figure 1). The insulator that Joe handed me on the Belmont rests on my desk as a reminder of my

work with Joe, John, John T., and Tommy; of all the stories the people of Butte shared with me; and of the central practical and enduring symbolic importance of the gallus frames as they stood sentry over both the production of copper and the crafting of life on Butte Hill. Significantly, and silently, although with a compelling story to tell, many still stand. I hope to share something of what was passed to me about how gallus frames worked, about the experience of working with them, about the men who did the work, and about why they still punctuate the landscape of the Richest Hill on Earth, the Mining City, Butte, America. For all its faults, failures, and defeats, the community earned its monikers honestly.

### *The Frame*

The sole practical purpose of the gallus frame was to provide leverage for pulling and lowering loads into and out of the underground mine. Concrete footings anchored the relatively simple machine on the surface directly over the “shaft,” the rectangular, usually vertical, opening to the mine (see Figure 2). Four rigid legs bolted to the footings rose from the corners of the base to form the frame, with two legs standing vertical, each with another leg angled toward it. Numerous crossmembers joined and reinforced the four legs. Planking, called the “sheets,” floored the ground under the frame. The size of the frames varied as did the material used in

their construction. Massive lengths of wood formed the earlier and smaller frames. Larger and stronger, steel “latticework” frames later replaced the wood frames, and, still later, stronger solid steel “T” beam frames replaced some of the latticework structures. The larger steel frames stood from 100 to 180 feet high.

The gallus frame was essentially a massive pulley consisting of the frame holding a set of wheels at the top, each strung with a cable, designed to transfer the force used to lower and raise men and material in and out of the mine. Two “main” hoist cables each passed over a wheel atop the frame. John T. Shea, who replaced many cables when they wore out, described the cables: “The hoist cables at the Kelly, the Con, the Anselmo, and the Belmont were all inch and seven-eighths. You could change a cable in any one of the mines. But the ones at the Con and the Kelly were the longest because the Con was so deep.” One end of the cable wound around the massive drum of the hoist housed in the “engine room,” which was built on the surface some distance from the headframe. The “engine,” powered by either compressed air or electricity in Butte, turned the drum one direction or the other, winding and unwinding the cable, which in turn lowered or raised “cages” or “skips” (depending on the situation) that were attached to the other end of the cable. The cage, used to haul men and materials, was a box-shaped structure made with iron bars with a grated bottom. The skip

was a tall, solid-walled, rectangular metal bucket that carried the ore out of the mine.

In multiple ways, the gallus frame depended on balance to function. Both the hoist and the gallus frame shouldered the load on each cable. The cables strung over the main wheels of the gallus frame each traveled through corresponding, side-by-side compartments of the shaft. They wound around separate but parallel drums on the main hoist in the engine room such that the two drums formed a large cylinder split in half. The halves of the cylinder could rotate independent of each other, but, in normal operating mode, the cylinder rotated as a unit in either direction. On one half of the cylinder, the cable was wound over the top; on the other, the cable wound from the bottom.

With the cables wrapped in opposite directions around the drums of the hoist, and when both drums were engaged, the load on one cable traveled down the shaft while the load on the other cable traveled up, counterbalancing to some degree the weight of each other. If the rotation of the hoist drum reversed, so did the direction of each cable. One engineer explained the counterbalance principle of the hoist: “When the rope on one drum would come off the top, see, and the rope on the other drum come off the bottom, so when one was coming up the other was

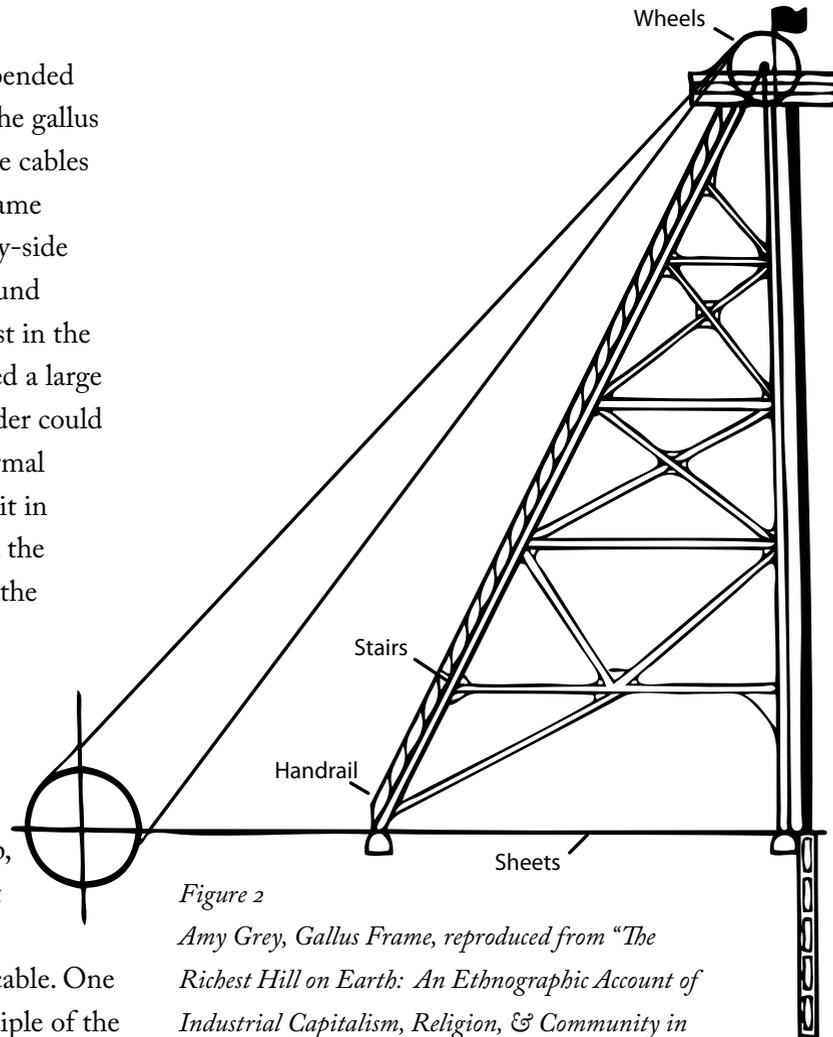


Figure 2  
Amy Grey, *Gallus Frame*, reproduced from “*The Richest Hill on Earth: An Ethnographic Account of Industrial Capitalism, Religion, & Community in Butte, Montana, 1930–1965*”, by John Anthony Mihelich, PhD dissertation, Washington State University, 1999.  
Courtesy of Amy Grey.



coming down, figure that out, they called them counter-balance.” He continued:

Both drums were turning in the same direction, but one rope was coming in at the top and one was coming in at the bottom, a lot of guys could never figure that out, how the hell do you do that, and that was the answer, one was an overshot rope and the other was an undershot rope. It was very interesting side of it, my father explained all that stuff to me when I was much younger, before I ever got around a hoist, it was beneficial to me, I broke in a lot of guys up there.

The weight of the empty skip, and the cable itself, traveling down the shaft aided the hoist with the weight of the loaded skip coming to the surface. During normal operations, the wheels atop the headframes continuously turned in one direction or the other. Any prolonged stoppage of the wheels caused concern.

A third, smaller wheel atop the frame supported a cable running through a third, smaller compartment in the shaft and connected to a second, smaller hoist.

**Facing Page:** *Figure 3. Leonard main hoist engine room, Butte, early twentieth century. Photographer unknown. Courtesy World Museum of Mining, Butte (WMM 1116)*

Called the “chippy” hoist, the smaller hoist raised and lowered men and materials, especially timber, needed in the mine during the shift. Finally, some of the deeper mines, such as the Mountain Consolidated Mine (the Con) and the Steward and the Leonard, had a hoist and engine room at a deep level. Ore was hoisted from lower levels by the underground hoist and transferred to the main shaft so that the main hoist could bring it to the surface. John T. explained:

At the Con, the big ones only went right to the 4400. But then they had another on the 4000 of the Con, they had a hoist, an engine room and everything down there. And then they had their own skips, they were smaller. They’d bring the rock up, and they’d dump it in what they call a transfer chute. And the transfer chutes would come over to the big chutes in the big shaft, and then, the big ones would go down and get it from there and haul it to surface. The Steward had an underground hoist on the 4000, the Leonard had one . . . and then the rock from the bottom levels of the mine were hoisted up to that.

Steel “shoes” welded on the sides held the cages and skips in place as they traveled on “guides” running

the length of the shaft. The shoes were short, three-sided square steel tubes with the two protruding sides hugging either side of the hardwood guides (about six by eight inches times the length of the shaft) standing vertically on the walls of the shaft compartments. The sides of the cages were also equipped with mechanisms called “dogs,” which were held open by the tension on the cable from the weight of the cage or skip. In the event of a loss of tension, or “slack,” in the cable—for example, if the cable broke—the dogs quickly closed and gripped the guides to stop and hold the cage in place, preventing it from plunging to the bottom of the shaft.

At the surface, men “changed over” the cages and skips depending on whether rock or men were to be hauled through the shaft. The skips traveled the shaft most of the day hauling rock. For lowering and raising men, the cages, stored hanging to the side on the gallus frame, replaced the skips. This replacement, or “changeover,” took only about five minutes. At the start of a shift, the cages lowered the new workers to their appropriate places in the mine. Four cages hung from one cable, and six men, two rows of three front to back, squeezed in each cage when the shift was lowered. A seventh squeezed in the end, facing the middle to expedite the process when raising the shift at the end of the day. Lowering the shift, twenty-four men at a time, sometimes took over an hour, with the men taking their turn in the cage depending on what level, or how deep

into the mine, they were headed. The process began at the lowest level and worked its way up.

For the bulk of the day, the men underground loaded the skip with ore from a storage “pocket” at some level in the mine. The skip was then hoisted to the surface, where it automatically dumped into holding bins built adjacent to the gallus frames. Near the end of the shift, the skips again were swapped for the cages and the main hoist lifted the shift to the surface. At changeover, the cages were run to the bottom of both compartments to “sweep” the shaft. Sweeping cleared the shaft of any chunks of ore that may have lodged in the shaft after falling from the skips during the daylong process of hoisting ore.

### *The People*

The primary task of underground mining was to extract ore from the ground using a cable pulled by an engine over a pulley supported by a gallus frame. Despite the often cited triumph of technology in industrial production, people were central in the process. In the case of the gallus frame, men at both ends of the machine controlled the cables through a challenging and complicated coordination of efforts. On the surface, the hoisting engineer ran the hoist in the engine room and moved the skips and cages through the shaft as directed. Engineers went through an extensive training and apprenticeship program, as

Frank, a retired hoisting engineer, explained: “I was 1st class engineer, you started out as an oilier, then you get a 3rd class license, then a 2nd class license and then a 1st class license, and then you were ready to go anywhere, it took four years for the apprenticeship.”

On the other end of the cable, men underground, usually designated as “station tenders,” communicated with the engineer through a “bell” system somewhat resembling a Morse code. They pulled the cords that rang the bells in the engine rooms in a particular pattern. Based on his interpretation of the bell code, the engineer moved the hoist, raising, lowering, or stopping. The code told the engineer what level to take the cage or skip, when the cage or skip was “clear,” and when it needed to be raised or lowered only slightly. Ray, a retired engineer who remembered pulling ore from a number of mines, described the code for hoisting ore: “When it gets loaded, they give you two-one-and-two, it’s in the clear. That means it’s yours, do what you want, and you come up with it.”

The process of moving men and ore tested patience, resolve, and wits day in and day out as workers depended on one another to meet production expectations and to ensure safety and survival. Underground mining in general entailed a significant amount of trust, but this was nowhere more apparent than in running the cable, because the men at either end could not see what was going on at the other. The

engineer sitting in a building at the surface could not see the cages and skips as they traveled underground, and those underground could not see other levels in the mine, the surface, or inside the engine room. The cables were marked and the engineers had the aid of a depth gauge on the hoist, but for the most part engineers relied on the station tenders’ bells and their own ear, developed through years of training and experience, to control the cages and skips. Shaking his head for emphasis, Ray told me in no uncertain terms that it was an unnerving job moving cages with “people’s lives hanging from that cable.” Hoisting copper ore also tested both men and machine day in and day out. Frank described the challenges of hoisting the particularly high-grade ore from the Leonard Mine: “I could tell there when I was running that damn deep level hoist . . . [we] were hoisting from the 38 and 3900. That’s where they were finding that stuff there. Boy, when you get a skip of that on there, that damn hoist could barely take it. She’d barely take it. And that was the richest ore on the Butte Hill.”

As in most industrial production, time and efficiency lorded over the cable operations. Thus, along with knowing where and when to move the skips and cages, the engineer also regulated the speed of the cable. The engineer moved the skips at a much higher speed than the cages, at about 1,500 feet per minute, called “rock speed.” Frank remembered running the hoist at

the Kelley, the newest and fastest shaft on the Hill, with the “biggest hoist motor made in the world. . . . It was some hoist, that son of a gun, 2800 feet a minute with a ten ton skip on the end of it.”

The company kept a “tally” of how many skips came to the surface each day, which pressured the engineer somewhat to keep the skips moving rapidly. A good tally was more than 100 loads, but at the Kelley Mine, Frank explained, the company expected “130 on the graveyard shift, and if you didn’t get that you have to answer why. That was 10 ton skips, that’s 1,300 ton a shift, so a skip in a minute and a half, that was really rambling.” A continuous paper tape, called a “stool pigeon,” tracked every movement of the hoist through the day and counted the dumpings of the skip. The skip was lowered to the “pocket” underground where miners and motormen dumped and stored the ore. At the Kelley, the pocket was on the 4600 level and ran to the 4800. Frank explained: “There was a guy in the control room, at the 4800 as they called it, and another guy standing at the station. He would put a red mark on the cable, when it was right at his eye level, he would signal the other guy to open the door and he would load that skip that quick (snaps his fingers), ten tons of rock in that skip.”

Because the engineer never saw the skips and cages reroute to the surface and they were in his hands once he heard two-one-and-two, he relied on

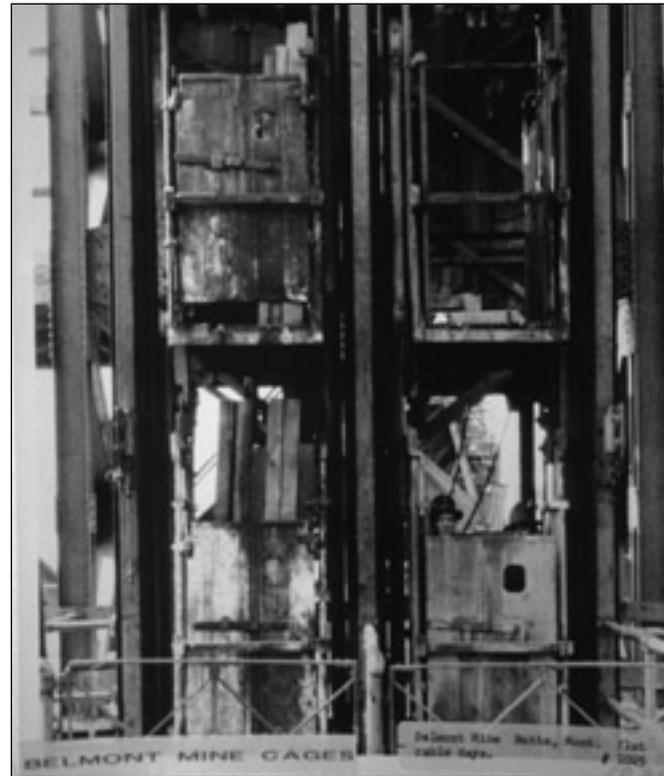
his knowledge and feel to rapidly hoist the skips the appropriate distance to the surface. Once to the top of the mine, the skips dumped automatically into the holding bins, and then the engineer dropped them back down the shaft. Sometimes, however, the engineer, who continually kept in mind the depth and speed of his skips, made an error. It was not unheard of for the engineer, thinking his skips were lower than they actually were, to pull the skip, or even the cages, right over the top of the gallus frame. “They call that ‘hitting the wheel,’” Frank remembered. “On the end of that rope, that’s a lot of weight, the weight of the loaded skip and the cable itself. If that ever got away from you, you could never stop it. . . . A lot of guys hit the wheel. My dad used to say, ‘Hell, you’re not an engineer until you hit the wheel, because you only do it once.’”

Moving the cages was even more challenging because men’s lives, rather than a load of ore, hung at the end of the cable. The cages were hung two, four, or sometimes five deep from the cable. The engineer lowered the cages to a specified level, “spotting” whichever cage the station tender “rang” for with the bells. Once the men got off or on a particular cage on a specified level, the station tender sent another bell signal to the engineer so that he could spot another cage or move to another level. Considering the fact that the cages might be three or four thousand feet down the shaft, spotting the cages for men was exacting work.

Ray described in detail a typical process of lowering the shift. The station tender got on the cages at the surface with the men and, once the men were loaded, rang the engineer to indicate the desired level. For instance, according to Ray: “You always, at the Con, started with the bottom level first. So when he starts out, he’ll give you ten-and-two. Ten-and-two means 4200. He gets on the 42 and he wants to go to the 40, so he rings nine-and-five, that’s the 40. You never stopped until you got a stop bell, unless you got lost, and then you stopped immediately.” Once at the station, the maneuvering from one cage to another went something like this:

When he leaves the men off, he gives you two-and-one. Two-and-one. Two-and-one means down. . . . He gives you two-and-one, so you pull that down and spot the next one. Then he does the same thing again, he gives you two-and-one, you spot the next one, one right after another. . . . Once all the men are on the station, he gets on the cage, and he’d go one-and-two. Then he goes to the next level. You spot the one he is on because you don’t want to get lost, you want to make sure that station tender is there. . . . He takes the men he wants . . . then he’d give you two-and-one, two-and-one. When you’re hoisting the shift, it’s just the opposite. . . . He spots

the cage he is on . . . then he gives you one-and-two, one-and-two . . . then you spot the next one up here. Then he gives you one-and-two and you spot the next one.



*Figure 4. Belmont Mine cages, Butte, early twentieth century. Photographer unknown. Courtesy World Museum of Mining, Butte (WMM1025)*

The description is a bit confusing, and rightly so as it conveys a sense of the complexity of the bell system. Ray explained how quickly the bells rung: “It was not a slow ding, ding, ding; it was a very rapid ring of bells.” As he demonstrated the sound by rapidly tapping his pen on the table in front of him, I asked, “So you have to count those that fast?” He replied, “You don’t count them, you just listen, if you count them you’ll never get them. Now some people may count them, but I never count them.”

At times, particularly when pulling skips over and over, the job was routine. Frank put it like this: “There was two compartments, one [skip] was on one side and the other was dumping on surface, then when they rang the bell to take it to the 4800 you would go home, the top side is already dumping as the other one is loading, it’s that quick too, it was a busy thing I tell you, but I like those, just sit back there and pull skips.” More than busy, it was serious work with men in cages—their lives depended on the coordination between the station tender and the engineer, and something could go wrong at any time. Reflecting on his days running various hoists on Butte Hill, Ray remarked, “I don’t know how we never killed guys.”

The cages with men were hoisted at only about eight hundred feet per minute, called “man speed.” Engineers could set the hoist to man speed, which both regulated the upper speed of the hoist and added safety

precautions so the cages could not be pulled through the wheels—the breakers would kick out if the cages came up too high, stopping the electric hoist. However, practice did not always reflect policy. Both the main hoist and the chippy were used to lower the shift, and, as Ray explained, one time the safety officers, or the Safety First crew, “threw the man speed on at the Con chippy.” He told this story:

Now they threw the man speed on at the Con chippy one time. And it cut it to half the speed. Safety First came up and said, “now you always have to keep that at man speed when you are lowering the shift.” I said “you bet” [laughs]. Well, [the men going on shift] were supposed to be down at 9:30, and it was 11:00, and they were still not down [laughs]. So they come and they says, “don’t do that no more, never do that no more” [laughs].

As this story reflects, the pressures of time and efficiency expectations provided, or necessitated, some leeway in the speed at which engineers drew the cages through the shaft. However, time and efficiency were not the only ways in which engineers exercised their freedom to vary the speed of the cages. As one miner explained, some engineers would “really give you a ride.” Ray, of course, said (chuckling) that he never did that

because he knew someday he would have to ride the cage down the mine and he wanted that ride to be safe. At other times, engineers unknowingly moved men at an unsafe speed.

A story told more than once at the ARCO retirees' club coffee hour, to the great amusement of those within earshot, illustrates some of the antics that infused the mining day with some pleasure and pain and the propensity of people in Butte to confer nicknames. Apparently, one man wanted a ride out of the mine, so somebody told him to jump on top of the skip and hang onto the cable. They told him that once he got on to "ring two-one-and-two." As stated above, two-one-and-two signaled the engineer that the skip was "clear" and he could hoist it at full speed. The man went up at rock speed, and since the engineer could not see him on top of the skip, when the skip dumped back down he went. Once loaded again below, the skip was cleared by the station tender, and the engineer hoisted the skip up and down with the man riding on top. Finally, the station tender looked down the shaft at the skip to make sure the automatic dump was loading the skip properly and saw the man on top. Sticking one's head out into the shaft posed a severe danger as a skip could come flying by, taking one's head with it, so people rarely leaned out for a look. Once spotting the man, the station tender signaled the engineer, who pulled the skip to surface at a slower speed and paused

to let the man off. According to the account, the man had "that big cable squeezed to practically nothing!" From the adventure, he earned the nickname "Skip."

### *The Ride*

While the engineer and station tender controlled the cable, other men had to ride it, and the experience could be harrowing. One longtime Catholic miner said that every time he went down in the cages he drew the cross on his chest, blessed himself, and asked that he arrive safely. When he got to the proper level, he would look up and say "thanks." Men vomited in the cages, showering those in the cages below; occasionally a limb slipped outside the cage as it traveled through the shaft; and often, once packed in the cage, the men began kicking the shins of those across from them and a foot battle ensued.

Each trip down the shaft also carried the possibility of "going into the woods," a phrase referring to a wreck in the shaft. In the case of a wreck, the cage became lodged or tangled in the wooden guides and timber lining the shaft, known as the "woods." On one occasion, a crew of craftsmen, traveling down the mines to fix a problem, went into the woods. When they got that wreck fixed, they headed down once again to address the original problem. They went into the woods again. The second time, they simply went home, declaring, "Twice in the woods in one day is enough!"

Although soothed by the rhythmic clicking as the shoes rode the guides, every person who went down in the cage knew it could be his last ride.

On one's first trip down the shaft, however, little could soothe the nerves of a "greenhorn." Although nearly every greenhorn feared his first journey into the darkness, few let on. Joe recalled the first time he "went down." He had already heard many tales of the dangers in the mine, and he would soon assemble a collection of his own, but stories of "going into the woods" offered plenty of reason for Joe to fear his initiatory ride in the cages. He had quit school at age seventeen and was "sitting around the house not doing much one afternoon." His father said, "Let's go for a walk. I have to pick up my paycheck." When they arrived at the ACM pay office, Joe's dad told the clerk to give his son a "card." The card was a "rustling card," issued by the ACM, which enabled the youngster to work in the mines. The clerk said they could not hire him because he was too young. The father firmly replied, "He's going down with me. Now give him a card." Joe's father was an experienced miner, and this was sufficient to convince the company to give him a job.

Joe recalled his experience of heading down the shaft at the Mountain Consolidated Mine as his father's new mining partner. He said: "I about shit my pants, but I wouldn't let anyone know that. I told everybody, 'this ain't so bad.'" He explained how his dad

taught him the ins and outs of mining and described what happened when, after collecting his first paycheck, his dad took him to one of the numerous bars in Butte. As they "bellied up," his father said, "Bring us a beer." The bartender replied with the obligatory "I can't serve him; he's too young." Joe's father answered: "He's my partner; he's doing a man's work. Now give him a beer." Joe drank the beer, but, as a greenhorn, he knew he had a long way to go to equal his father as a miner.

Butte was beset with masculine bravado such as Joe displayed with his statement "This ain't so bad," when, in fact, he was very scared of his first ride in the cage. One of the least understood, if not one of the potentially most destructive, of these expressions of masculinity was the thorough integration of drinking into Butte life along with the central role bars played in neighborhoods. The workers on the Hill spent much of their life in dangerous manual labor making a living for themselves and their families. However, I was often told that the men "broke more rock in the bar" than they ever did underground. The workday did not end for many men until they gathered, on the way home, at one of the numerous neighborhood drinking establishments. There they would put their lunch "buckets" on the bar, buy a shot of whiskey and a beer for a dime, and rehash the day, previous days, and long-past days with their compatriots. Those who did not practice this routine every day at least stopped in the

bar on payday. One man told a story about asking an old-timer why miners drank so much. The man replied: “Well son, they go down in the mines every morning, and they don’t know if they will come up again. If they do come up, they are happy and want to enjoy a drink. They don’t know when the end will come.”

### *The Caring*

When the underground mines were open, iron workers, called “ropemen” on the Hill, cared for the gallus frames to sustain their function in ore production. Ropemen performed any work that had to do with the cables or erecting and dismantling the gallus frames. They installed new cables and coated them with pine tar when needed, sometimes each week, to protect them from the copper water in the shafts. They lowered equipment down the shaft that would not fit in the cage, usually by “tying” it below the cage or to the bare cable. They also built, replaced, and maintained the numerous pumps and pipelines on the surface and in the mines.

One responsibility of the ropemen involved getting the wrecks out of “the woods.” In each engine room, a visible sign reminded engineers that, in the case of “slack cable in the shaft, shut down and call the ropemen.” Slack cable alerted the engineer to a wreck in the shaft. The ropemen were called, loaded into the free cage, and lowered to the wreck, where

they proceeded to do whatever it took to free the stuck cage and any men in it. Many ropemen spent as much time in the mines as on the surface, lowering, installing, or maintaining equipment. Often, following strict union proscriptions governing the type of work each craftsman could do, they worked in “composite crews” consisting of two ironworkers, two boilermakers, and a machinist. John T., a ropeman on the Hill for over thirty years, told the following story about the events and dangers in working on the “ropegang”:

We were taking down the Leonard headframe, and we had to take down the flagpole first. We had a derrick set up to lift it out and set it on the platform handrail so we could then lower it. It was all done with ropes. As we lifted the flagpole out, the rope broke, down went the flagpole, all the way down the gallus frame. Everybody on the ground was running in every direction. Luckily nobody got hurt. We came down that night, and [chuckles], the foreman of the mine come over to our boss and he said, “don’t ever do that again!” The boss said, “I won’t, there was only one flagpole.”

John T. was also part of the crew mentioned above that went into the woods twice in one day and

decided to go home because that was enough.

The ropemen, as well as the other craftsmen, often had to work odd hours or overtime to fix a problem. The company wanted as little loss of production as possible. John T. tells the following story about one of these overtime nights when he was called to repair a wheel atop the Leonard gallus frame:

I got a call Thursday night after I got home from bowling. I used to grab a pork chop sandwich on the way home from bowling, but for some reason I didn't that particular night. We got the call and started to fix the wheel at about nine o'clock that evening. At about 2:30 a.m., the boss sent somebody down to get the crew something to eat. He brought back chicken salad sandwiches. It was Friday, Catholics could not eat meat on Friday, and the guy that went to pick up the food was not Catholic. The rest of us damn near killed him!

They worked all day that Friday until four o'clock in the afternoon without eating.

With the strength of their steel and a design to withstand decades of use, gallus frames carried a sense of permanence, and some have indeed endured decades of winters in Butte. However, ropemen knew well the capricious nature of mining and disassembled and

moved many frames on the Hill. John T. talked often about moving, modifying, dismantling, and erecting the frames:

In 1950 we put up the Kelly. We went down and took it down at the Leonard, after we took it down, and then we brought it back up to the Kelly and we remodeled it, widened it and raised it up. . . . We got the Kelly headframe up, and then we, there was another crew putting in the hoists and that, the big engines. . . . Then, that was just the one main hoist, the big headframe was all in, the idling towers were there, they had another crew putting up the idling towers. . . . And then in 1952, they started sinking the Kelly shaft. Well they had a wooden frame up and we put the big frame up over it. But then we started. We went to the Anaconda and took the headframe down. . . . The next stop was the St. Lawrence, and we took down the gallus frame, and then, those frames were lattice work, and they just took 'em up and stored them up behind the Diamond Mine. They never put them up no more. . . . From there we went up the hill to the Mountain View, and we took the Mountain View down. Then we took the High Ore down. Then we

come down and we took Tramway #4 down. And we took it back up to the Kelly and we put it up. That's the Kelly #2, is the Tramway #4. We put that back up, then, we went back down and we took down the Berkeley, we took down the East Colusa, we took the West Colusa, we took down the Alex Scott, that's the, we put that back up, that's the Lexington. Then was stopped doing all the destruction, and then we went down, went back up and helped a lot around the Kelly.

While underground mining still produced ore, the ropemen knew each time they took down a large gallus frame that they would reassemble it over another shaft on the Hill. As underground mining gave way to open pit methods, the large frames still held the sense of permanence but they grew increasingly quiet. However, for many in tune with the legacy of this city or who grew up while the whistles blew and the wheels turned or who worked on and under the headframes or who depended on the work conducted through them, the gallus frames permanently encode a memory in material form. The more I learned about Butte and its mining heart, the more the gallus frames dominated my perception of the Hill.

In the era when the community of Butte beat to the rhythm of the underground mines, the daily

cadence set by the wheels and whistles and work of the gallus frames provided residents with a sense of comfort, routine, security, and meaning. The whistles in the engine room blew at regular intervals, marking the end of the shifts. The wheels turned around the clock, lowering and hoisting the shift and dumping the copper ore into the holding bins on surface. They churned out the material of the sometimes grueling work of mining and of labor's tenuous relationship with the company. The frames marked the worksite, the place where fathers toiled, and the neighborhoods where people lived. In the early days of Butte, before automobiles, people lived in the shadow of a gallus frame because they built their homes as close to the mines as possible to shorten the walk to work.

Each mine had a name, a history, a reputation, an identity based on underground happenings known only to surface dwellers through the frame. The Anaconda Mine, the claim where abundant copper was first encountered in Butte, was named, with a bit of irony, after the constricting snake. Some in Butte would say that the snake, at times, coiled more tightly around the body of a miner than around any prey in the Amazonian jungle. Such names as the Anselmo, the Belmont, the Tramway, the Granite Mountain, the Mountain Consolidated, the Travona, the Orphan Girl, the Kelly, the Diamond, the Original, the Steward, the Lexington, the Leonard, and others contributed to the



lexicon in Butte.

While the headframes provided only one of the images that dominated social life in Butte, Butte's life oriented around the gallus frames because of the centrality of copper mining. Lit with lights at night, they shone brilliantly, giving rise to the phrase "the glittering hill." Only through the gallus frames could one make passage from the world of the sun to access the vast underground labyrinth of danger, riches, camaraderie, and mystique. Underground was a man's world, an adult world, a world of labor. It was also, as nearly all who ever took that first ride down the shaft for a shift as a "greenhorn" will attest, a world of humility, albeit punctuated with a Butte-sized dose of bravado.

The gallus frames signaled both prosperity and the enduring struggle of life for the working community. If the wheels atop the gallus frames turned, life was in order—at least in terms of how order was established in Butte. Any time the wheels stopped for any duration, there was cause for alarm. The wheels stopped only for accidents, work stoppages, or the end of an era. Each case threw the rhythm and

balance of the community out of order and often led to human suffering. The wheels have been stopped, for the most part, since the late 1970s, when the ACM phased out underground mining and left only the open-pit operations, which themselves finally shut down in 1983. My uncle John T. Shea remembers that last day:

And then when they shut the pit down, they shut the whole pumping operation down [which still used some of the mine shafts]. July the 30th, 1983, I was the last ropeman left on the Hill cause I was the oldest one in seniority. . . . I worked overtime on the last day, I had to go around and pick up all the propane tanks. We were the last ones that left, I always remember a good friend of mine went by in his truck and, he called me on the radio and he said, "hey harp," and I said, "ya," he says, "been nice working with ya, so long!" [laughs].

Life does go on in Butte, but it beats to a different drummer and has a different order. To be sure, life changes, and often in many ways for the better. Life was not necessarily "better" in the underground era of Butte, but many who remember the old order have a story to tell—and they are fond of telling stories. The

**Facing Page:** *Figure 5. Granite Mountain mine, Butte, after 1917. Photographer unknown. Courtesy World Museum of Mining, Butte.*

stories are central to their individual and community identities, and many see gallus frames as an important part of such stories.

In 1986, Montana Resources took over the mining properties from ARCO and sold some of the underground mines, including the gallus frames, to New Butte Mining. Then New Butte Mining began cutting up the steel at the Mountain Consolidated Mine, across the street from my uncle's house on 7 West Pacific, to sell as scrap iron. My uncle, along with many others, never quite relinquished his responsibility and care for the gallus frames. He kept them working during the days of mining, and he is determined to keep them working, in another sense, for future generations of Butte residents as well as for those interested in what life was like in Butte, America. Sustaining the work of the gallus frames depends on both preserving the structures and telling the stories. John T. tells the stories any chance he gets—not just for the enjoyment of telling them but also because they represent a community, a generation, and a way of life. He thinks that we need to remember from whence we came and that, by extension, we can learn something from the past about living today. I will close with my Uncle John's explanation, as he can tell it like no other. One day at his house on Pacific Avenue, he offered this:

They were going to tear all the gallus frames down. Well, that's when I got on that committee and we got the people of Butte behind us. And we got the governor and the senator and everybody else. We raised enough hell in there. That guy from New Butte Mining told me, he said, "We're going to take the Lexington gallus frame down." I said, "Good luck." He said, "What do you mean?" I said, "You better have bullet-proof vests." "What for?" he said. I said, "Well, that's where mining started in Butte, Montana. I guarantee, they'll shoot you right off the gallus frame." A few months later they were in the Kelly Mine yard. I went up there and the same man told me, "We're going to take down the two gallus frames at the Kelly Mine." I said, "I'll guarantee you one thing. . . . You take the first one down, you'll hang off the second one."

Many shared my uncle's sentiments, and, as such, the frames continue to hold an important, if not profound, presence in Butte. The relics of the history of industrial copper production still have a sense of permanence, and they preserve something of the essence of the community. My uncle continued:



*Figure 6. Leonard gallus frame “blow,” Meaderville, Butte, 1973. Photo Copyright © Karl Volkman 04/05. This image is copyrighted. Unauthorized reproduction prohibited. Courtesy World Museum of Mining, Butte (WMM 1428).*

They salvaged that whole shop out of there, but they didn't touch the gallus frames. Like I'll tell you and I tell those little kids on the mining tours, "Remember one thing, this is your heritage. This is something that was left to you by your grandparents and your great-grandparents. My father came from the old country to go to work in these mines. So did your grandfather and great-grandfather. They all came from the old country to work in these mines. This is what *made* Butte, the people that came from the old country. This is your heritage, this is Butte, there's only one place like it. Scrap iron sells for \$70 a ton, but what's your heritage worth?"

**Note:** The Ray Calkins Memorial Research Fellowship from the Butte Historical Society (1996) assisted with the research from which this paper is drawn. Please also note that all quotations without source notes are drawn from the author's personal interviews (1995–2004) with the people mentioned in the text.

---

- <sup>1</sup> The term *gallus* is formally spelled "gallows," but I will use "gallus" throughout because it is nearer to the pronunciation of the word in Butte. The word is pronounced "gallus," with the "g" as in *game*, the "a" as in *bat*, and the "u" as in *us*.
- <sup>2</sup> Unnamed miner, "The Copper Mines of Butte, Montana—The Outlook for 1885," *Engineering and Mining Journal* 39 (May 23, 1885): 351.