



A safety counterculture challenge to a “safety climate”

Gregory Wayne Walker*

Department of Sociology, Lock Haven University of Pennsylvania, Lock Haven, PA 17745, USA

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ABSTRACT

This case study is about a small group of workmen caught in a common dilemma regarding work safety. They must work safely and maintain production within a pathological organization that does not meaningfully reward participation or communication. They do so as a group and socially construct danger, injury and safety for themselves. They constitute a functioning counterculture and challenge the safety climate contrived by managers. Although limited in scope, the study suggests that we can learn from the details of their interactions with their work environment, with one another, and with their managers.

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1. Introduction

The formal safety meetings at MacDowell Grain Company's massive Middletown plant seem to lack function. At least once a month “Lonnie the safety man” visits from the company headquarters to review what the blue-collar employees know about working around heavy machinery, in confined spaces with little oxygen and in dusty, explosive environments. But the blue-collar audience ridicules him and contradicts his messages at each opportunity. One might assume that this antagonism is dangerous. This is not the case. The hallway between the white collar office and the blue-collar lunchroom is lined with awards for safety. The oppositional blue-collar men make MacDowell a relatively safe place to work.

To see the concept of “work safety” from these workers' bottom-up perspective is worthwhile. They are, after all, successful at working safely like many other workers. And, as the observation above implies, they are in spite of managers, not because of them. Their world is really a culture and it could tell us about the social constraints around which some work cultures actively form. It would also make visible how such a culture sees other cultures and “safety climates”, as embodied by Lonnie's presence above.

2. The question of safety cultures and climates

The concept of “safety culture” can be very contradictory. Is it a climate with symbols and enthusiasm or is it a culture where

groups come to share interpretations and learn from experience? Is it managers' prerogatives or workers'? Is harmony best or is conflict more functional? This paper reports my ethnography into the safety culture of blue-collar workers at a large grain facility in the American Midwest. Although I cannot infer the results to a population, the power is in the details, social psychology and the relatively rare ground-upward perspective. I conclude that the workers at MacDowell Grain Company (MGC hereafter) have created a counterculture that formed in relation to the inadequacy and pathology of the larger organization in which it is embedded. I challenge the reader to reconsider what appear to be dysfunctional attitudes and actions on the part of many blue-collar workers and to consider another function of what we have come to call “safety climates”.

We often portray blue-collar workers as the source of danger. When it comes to stories about safety, male workers, especially, are often their own worse enemies (Choudhry, 2008; Paap, 2006). Cultures of machismo can be very dysfunctional.

These are not the only cultures in organizations, however. Other types happen when managers and workers cultivate orientations toward safe behavior and call them “safety cultures”. Safety cultures are distinct from “safety climates”, what Cox and Flin (1998) describe as a snapshot of safety articulated by surface attitudes and perceptions among workers and managers. It is an important distinction because safety climates are only an articulation of safety cultures. They are not synonymous operatives and there is not always fidelity between the two. Rosness (2002) defines climate as an organizational commitment to safety that “does not automatically generalize to other aspects of safety... It is not

* Tel.: +1 570 484 3088; fax: +1 570 484 2823.

E-mail address: gwalker@lhup.edu

something inside the head of people, but rather a dynamic process in the organization such as involvement, attention and feedback” (Rosness 2002, p. 4). As only a manifestation of safety culture, safety climate does not always make for a safer workplace. Flin et al. (2000) say safety climate is conducive to quantitative survey research. Climate itself could thus be articulated in the symbols of safety; the powerpoints, the “safety person” position, his or her meetings, the bumperstickers, the posters or the banners lining hallways and the light words in lunchrooms. It is part of the formal organization; the rules, rituals, roles and paraphernalia. The mere presence at MGC of “Lonnie the safety man”, means that MGC has a formal safety climate.

It does not serve the work world or its scholars to limit our understanding of safety culture to the formalities and superficialities of “safety climate”. As a surface phenomenon, it could be more vulnerable to manipulation by interest groups within the organization. Perhaps managers cannot cultivate an authentic culture on behalf of another group, though safety climates are malleable and more “at hand”. Safety culture is deeper and has to do with “values, underlying assumptions. . . rituals, norms and rites of passage” (Cox and Flin, 1998, p. 191). By Haukelid’s (2008) definition informed by Geertz (1973), “culture is a condition for creating order in the world. . . the way we think and the way we act are culturally mediated” (Haukelid, 2008, p. 415). Richter and Koch (2004) explain that organizational culture is multifaceted. This sheds “a clearer light on how, why or why not, hazards and safety measures are thought and handled by different actors” (Richter and Koch, 2004, p. 709). These authors understand the “integration perspective” where we see culture as rationally administered and broadly shared is naïve. It is troubling, in other words, to take safety climate at face value and equate it entirely with all other dimensions of culture. Cultures, as we live them in organizations, are actually differentiated and ambiguous according to the different positions of the social actors. They can also be very informal in that the only thing required is a shared experience and a shared interpretation of reality. Managers are unnecessary.

If unrecognized, this more complex existence of cultures, climates and the different groups can lead to organizational pathologies. There is the obvious economic strain. Managers are positioned to produce while cutting costs, while workers have a personal and direct stake in safety (Halle, 1984; Nichols, 1997). This clash between cultures can also damage the ability of an organization to coordinate effectively around safety and danger. Workers are an important source of information and knowledge should flow up from down as much as it flows down from up. But when managers use “incident reports” and “near misses” as part of worker performance evaluations (Collinson, 1999) or even complaints workers have about work conditions, it motivates workers to control valuable information (Gray, 2002). This is especially problematic among the most insecure managers who actually mask their poor management by blaming workers (Champoux and Brun, 2003). This remains a problem even when managers are not so motivated, but only apathetic. If the information workers are to provide does not return to them from managers as practical lessons, workers do not feel part of the larger system and become apathetic themselves to formal incident reporting. They then develop alternative schemes about how to work safely that actually competes with managers’ ideas (Sanne, 2008).

The concept of power is very important when discussing culture, production and safety (Antonsen, 2009). When workers do not share information with managers, in a sense, power becomes inverted. The authority and power of managers comes from the fact that they “know” more than workers. We like to conceptualize managers as thinking and workers as acting, but Karl Weick points out that people very often think and learn while acting. “Action precedes cognition and focuses cognition” (Weick, 1988, p. 307).

If it is workers making adjustments and controlling information, then workers gain a type of power and authority inconsistent with the official reality. Managers might suffer from what sociologist Zuboff (1988) calls a “crisis of managerial authority”. Why follow a manager, when you are smarter? Why should the manager even exist?

When workers have this power, their cultures gain an edge of legitimacy and authority that would be invisible were one to take an organization at face value or look only at the safety climate. Safety climates, after all, are sensitive to managers’ prerogatives. Managers purchase and hang the posters. They run the powerpoints. They choose the educational videos. But Hopkins (2006) says that unsafe behavior is the “last link in a causal chain” and it is misguided, therefore, to aim safety programs (or climates) at front-line workers. He admonishes us to aim safety programs up organizational ladders and at managers themselves.

Brun (1995) takes a unique perspective in this direction. When looking down the organizational ladder for wisdom, he found linemen often disregard some safety devices and procedures for the sake of safety itself. Following the official rules makes for a cluttered work place and often forces the worker to blindly trust that the devices will work. Linemen also appear to take controlled risks in order to “own” danger. This is preferable to working around danger they do not know or control. This obtuse culture is not entirely designed to spite managers although it may have that effect. It is simply the product of experience and part of a skill set of linemen. It is an authentic culture and not really part of the formal organization and it is definitely not reflected in a safety climate. Workers can know better.

In healthy organizations, where communication is open from top down and from bottom up, safety climates would reflect the wisdom of workers. In pathological organizations, like my contention below with MGC, formal safety climates may be initiated by managers and lived under by workers. This would tinge the face-work of safety with company politics. One might assume workers would step further and revolt against such initiatives. In a quantitative analysis of unsafe work behavior, Seo (2005) makes part of this point for me. Seo found that safety climate, meaning manager, supervisor and coworker support, had the most impact on workers’ behavior as an indirect force. It lowered the barriers and pressure workers saw as a precursor to safer work behavior as much as it was a source of motivation and information. Safety climates may not function in the direct manner we suppose. Rather, workers may be getting something else out of them – perhaps some power and voice to use against their managers; perhaps the very managers who designed the safety climates.

Since there is some difference between safety climate and safety cultures, especially in pathological organizations, it makes sense that points of divergence between the two would feel hypocritical to workers and help focus their opposition. In a study of corporate violations of workplace safety, Gray (2006) observed that on days of safety inspections, managers quickly masked safety violations and ordered everyone to conform to the rules. The safe workplace was a façade, a surface climate. There is energy in the resistance to such official stories. Sociologist Paul Willis might help us understand the cultural counterweight to the facade. Willis defines culture as a people that “mark out the aridity of abstract or purely theoretical solutions. It is only real people at work on real objects in an uncertain world who actually produce new movements in style, consciousness and feeling – new arts in life. . . . And this material experience has not had the benefit of prior validation, of collective discussion, or the security of the common line. It is embedded in the real engagement of experience with the world” (Willis, 1978, pp. 1–2). In other words, cultures and their solutions to problems come from people engaging the messy world

of reality – like front-line workers. He goes onto say “we must listen to the streets before we listen to the towers” (Willis, 1978, p. 7).

3. The MGC setting and method

I believe I have found an example of a functioning work counterculture in the context of a formal safety climate at MGC. It might lend itself to helping us understand how workers’ cultures form not only in relation to the work being done, but also to the safety climates put forth by managers. Safety appears to be something around which many managers and workers compete. In this story safety climate is distinct from safety culture, and it has a unique, latent function in the organization. Workers not only feel they know better than their managers, but they use the climate against their managers.

My ethnography does not build or test theory as much as it synthesizes, animates and validates existing ideas. It is as descriptive as it is analytical. It tells of the situation, perspective and interaction process among specific people. This strength is also its weakness. I mean it only as a small piece in a growing mosaic about the cultures of work safety. We cannot apply the lessons we learn here to other situations without knowing this limitation.

Since the physical layout of the plant matters for work safety, a brief description of it and a few work processes are in order. MGC owns and operates many grain elevators and processing plants. This story is about its Middletown Grain Division located on the flat farmland 4 km from a mid-sized Midwestern city in the United States. It is immense. Farmers and sellers haul grain to the plant in semi trucks. The plant has eight pits for grain dumping. On four of the pits are hydraulic platforms that can lift the largest of trucks at nearly a 90° angle.

Most of the grain storage is in 24 tanks. Each holds 10,886 metric tons and is 23 m tall and 37 m wide. They are configured in two parallel rows and are filled from above by wide conveyor belts. All service catwalks are exposed to the elements. Workers pull grain from the tanks by using two of five conveyors nearly a meter wide that run the length of the rows. These sit in tunnels less than a meter high, but over 250 m long. The service path is only 45 cm wide at several points. Workers use carts to move.

Since the tanks have flat floors, extracting all the grain requires unbolting a large door and wriggling in an endloader with a three cubic yard bucket. They use the endloader to push the grain into the underground conveyors via valves embedded in the floor. This is called “pushing grain”. The task requires a helper to remove 32 large aeration tubes as they become exposed. Preparing a tank to fill is also labor intensive. Workers reset all aeration tubes, seal them and weld them to the steel floor.

Other storage includes a cluster of 12 concrete silos that are 45 m tall. Cleaning them involves suspending a worker on a rope from a small portal 50 cm wide. In a pinch, MGC can also store 22,000 metric tons on a large pad of concrete serviced by an exposed conveyor. They can also fill three parking lots. This happened twice during my field work.

MGC can also dry grain with a series of 10 homemade dryers. Each use natural gas burners and the air produced by two tractor engines belted to two large cage fans. This all happens inside a concrete block building where there is a dense maze of machinery. To move grain away from the plant, there is a four-track switchyard, two locomotives and a complex process of “loading grain” where they fill “strings” of six cars one after the other.

The mechanical complexity is, of course, not limited to this description. There are fertilizer domes and its associated machinery: two machine sheds and a workshop filled with metal and wood working tools; vehicles of all sorts; several hundred electric

motors all powered by 480 V service and a labyrinth of ladders and catwalks.

The social structure at MGC is also consequential. The plant’s heyday was the 1970s when the US government subsidized grain storage to maintain crop prices. MGC employed between 20 and 30 full time workers in addition to waves of contingent workers during this time. In the 1980s, however, this ended and so begun the “farm crisis”. All but seven were redundant. This smaller group became highly skilled and unofficially empowered over their bosses and over the larger waves of contingent workers that supplement their numbers.

For two full years I was a contingent worker and participant observer. I worked all the jobs at the plant and with everyone. I wrote abridged fieldnotes everyday on a small notebook I kept in my overalls. During my off hours, I word processed detailed versions of them. After this 2 year period, I performed semi-structured interviews with all seven of the permanent employees and with several of the most experienced and trusted contingent workers. I analyzed this data in the traditional Chicago-school manner as articulated by Strauss and Corbin (1990) in the form of codes. This gave me a wide-angle lens for analysis and writing and yet they retained detail and verbatim quotes. The quotes that follow are parsimonious. I used no software.

4. Results: what does “safety mean among the men at MGC?”

Richter and Koch (2004) emphasize that experience and position drive cultures. It is imperative, therefore, that we glimpse danger from the perspective of the MGC workmen. Safety climates often package safety into dos and don’t’s. The men, however, cannot. Their work is hazardous and necessary, a recipe for fatalism. But the men have an interesting perspective on safety given this circumstance. They fool themselves into having a sense of control and then go forth with their day of danger, constantly measuring a dialectic between fatalism and personal responsibility. This paradox shows in the words of Allen, an experienced temporary worker.

The way I perceive danger out there is how you go about your work. It can be as safe as you make it or it can be as dangerous as you make it. A good example of that; Scott and I were working the tip liners on C-1 (a large underground conveyor) yesterday. At the same time, Blumer was having to run leg 2 which was right there where we were puttin’ the tip liners in. One false move, within seconds, we could have been ground meat. Nothing to think twice about. It just would have been.

Fooling the self might seem reckless and ignorant. It works in another way, however. It makes a true agent that keeps his eyes open and his feet out of the grinder in a place where accidents seem inevitable. He is not repressing fear. He is repressing fatalism.

The repression of fatalism is cultural. This regulates individuals and keeps them rational. As shared sentiment, the men’s fatalism and efficacy are not competing abstractions. One is not a compensation for the other, but food for the other. For instance, all of the men act nonchalant about minor injuries in such a dangerous environment. They actually make lessons out of the occasional shock, burn, bruise or cut. They entertain themselves by reading injury reports at other workplaces in the company newspaper. The company owns stores and the men laugh at employees who slam their thumbs in cash registers, slip on grapes or strain their backs lifting bags of dogfood. They even laugh at their own misfortune and make jokes. A man who burned himself with molten steel from a torch, for example, shouted “hey somethin’s cookin’ and it’s me!”

The acceptance of pain and injury in the culture and the repression of fatalism keep the individual men coherent during trauma. They wash their eyes when splattered with filings, they sit when knocked in the head and they limp until sprained ankles heal. The men's obdurate reaction to injury explains the paperwork behind their great safety record. No one reports such injuries because the men see them as natural. This is entirely consistent with the observations of others (Brun, 1995; Gray, 2002; Vaught and Smith, 1980).

This would not be necessary in a healthier organization where information flowed properly and responsibility was better allocated. Workers' obdurate cultural reaction, however, can be life saving; the men have never been too overwhelmed to take important immediate action. Mike suffered a life-threatening injury in the winter of 1988, the only year since 1985 MGC did not win a safety award. He was on top of a 23 m tall tank when a heavy tensioning lever beat his arm several times as it made circles. He recounted every detail. His hand was at an unnatural right angle to his arm and if he had not been layered with thick clothing it may have "snapped off altogether". He described warm blood saturating his clothing and his need for a cigarette. He pointed to the crooked bones in his arm and showed me where doctors drilled for pins. Most impressive, however, was how he was this conscientious and thoughtful during the accident itself. It saved him, for he had a long climb down. Because of his culture, the trauma remained merely physical.

I never saw it comin'... The radio got broke in three pieces, so it must have been in line with the arm (tensioning lever) swinging. It was probably a few minutes before I realized what happened. My glasses were gone, the radio was gone so I could not call for help. I knew I was fucked... Jim was PMing (short for the act of preventative maintenance) the locomotives, but he was inside I could not yell down to him... It was like, "Ok as long as I don't pass out on the way down I'll be OK" ("on the way down" is 19 m of steps, 30 cm wide with only one handrail and a spiral flight of steps down the 15 m tank side)... So I decided to go down without a tourniquet or anything. I did fine. I got all the way to the bottom and one-handed it down the ladder.

This intimacy with danger and injury leads to informal safety rules that are not always congruent with formal ones. For instance, although wedding rings are part of the broader culture, they are a real problem among the men at MGC for they can crimp to your flesh. And the men will not clean small metal parts on a large wire wheel attached to the powerful bench grinder though it is made for that purpose. The wire wheel grabs small parts and throws them violently. The intimacy also leads the men see many apparently essential safety measures as unnecessary, like hardhats and plastic safety glasses. Those items protect against "minor injuries" and actually offer very little protection from events that could result in death. Indeed, the men feel they obscure vision and thus their control over safety. For similar reasons, the men rarely wear safety glasses unless they operate the drill press, grinder or when they hammer the hardened steel from a roller bearing. Then the men wear entire face shields. At times, this experiential knowledge must be protected from managers. Les, an informal leader, purchases cheap leather gloves for all of the employees. He knows through experience that they prevent injuries. He hides the purchase from the managers, however, because gloves are not part of how their notion of safety.

The men ignore the danger of minor injuries. "110 V will just tap you a little". They finesse their way through the danger of severe injuries. They learn to hold small metal pieces in a heavy vice and clean them with a hand operated power tool instead of using

the bench grinder. They "lock out" machines before reaching into them. They protect themselves heavily from dangerous electrocutions. At MGC, this knowledge comes from experience. They cannot learn it from a book, diagram or formal lesson. Below, Les is describing to another worker and me how to finesse fertilizer with a large front end loader. The fertilizer is di-ammonium phosphate (D.A.P.) in little brown pellets in a 25 m tall dome. In humidity, D.A.P. cements itself into a mountain. To load the fertilizer into trucks, the men normally scoop it from the bottom. When it is stuck together, however, the worker must learn to "read" the mountain in order to survive.

"If you notice, if you dig low, the pile above you falls straight down in front of the loader. You should never jab at the pile with your bucket in the air. If you do that it all comes down on you. I remember when it all came through the window of the cab on Alvin Lang. He had his bucket up high. Didn't hurt him none, cut his finger with glass. He was able to climb out. The loader was buried so deep it couldn't pull itself out. We had to pull it out with the other loader."

Les was confident the mountain of D.A.P. would fall with its own weight. He had undercut the pile that morning and we could now hear the constant roar of it falling down and cutting little streams in itself. "In the next 15 min, that peak oughta (ought to) be down." Les said. "I do all the undercutting. I wouldn't ask a seasonal to do it. If somebody got hurt I couldn't sleep at night."

4.1. Results: the formation of a counterculture of safety

In many ways, the men's culture runs counter to the safety climate that is formed from above their culture. For the men's culture to survive it must draw sharp boundaries between itself and the world above them. The notes above tell about this boundary. I asked Les about explosives to make the mountain safer. Les answered in a sarcastic way that eliminated formal outsiders altogether.

"Now back when you used explosives, would you have blasted it by now?" I asked.

"Yep, long before this. But we got rid of our explosives. Not supposed to have it around anymore. Ever since that Oklahoma City bombing, they've gotten a lot stricter with who uses it. Last year, the insurance inspector came and looked at our blasting cap supplies. We kept it there in the toolroom in a wooden box with a padlock on it. That inspector sat down with me and said, 'you ain't no where near where you need to be on this storage.' Now we're supposed to have it in a wooden box, encased in steel, and set in concrete so nobody can walk off with it. I said, 'shit, you come with me.' (he inches his finger at face level and looks through his eyebrows sternly.) I took him over there and put all them blasting caps under a five-gallon bucket and set them off. 'There, now it ain't a problem!' Those people who blew up that building in Oklahoma City didn't even use regular dynamite. They used fertilizer, the stuff we'd blast."

The insurance company antagonized the men's safety measures by simply threatening intervention. Les avoided the rigmarole and today he is the only one who "undercuts" the mountain of D.A.P. because it is simply too dangerous. Les is sure to note, however, the unthinking and unperceptive quality of the bureaucratic format to which the men are supposed to conform. "They" restricted the use of a material Les could easily make by dissecting a handful of shotgun shells. It is especially ironic that the men have totally

unrestricted access to all the components of the Oklahoma City bomb and know how to put a similar bomb together. The managers and bureaucrats do not have the men's "feel" for safety.

This aversion to authority is a product of the men's experiences with it. It is easy for them to see the logic of hardhats or guards around spinning chains. There is something illustrated, however, by Les' choice of doing away with explosives altogether rather than following the rules. In humoring the authorities, the men empower themselves and create another line of separation between those groups. Uncertainty is a matter of perspective, and these actions give the men discretion and mystify the process for managers. When Les "did away" with explosives and their new formal rules, he gave new life to the informal rules that could never be owned by the current management. They were rules mastered only by the man on the ground intimately observing the mountain of fertilizer and its particular properties. This mastery is consistent with the MGC man's sense of efficacy. This is a mastery that is relative and readily demonstrated.

When authorities seek to improve safety, the men often see danger. Such changes can actually miss the mark. Danger in a blueprint, for instance, can be quite different from reality. The men happily update machine guards or follow lock-out rules, but in many situations, the men are asked to built pointless things or change their routines. Although this absurdity highlights their control; it can also be dangerous. As safety is lived at MGC, it exists snugly in a system where a change in one set of behaviors can radically affect the others. Thus a regularity or daily structure is actually a safety mechanism. If a formal authority introduces new safety measures or techniques, then new crops of dangers arise from the complexity, especially if the change disrupts routines. It is then something they cannot work around or ignore. This new danger is not nearly as visible to the distant engineers as they are to the men at MGC. The note below describes how Ervin foresees danger in a new technique and how the men wax their perspective.

MGC must soon remedy the danger of workers standing on railcars. The men routinely walk across the tops of the strings of cars to open and close lids while loading. They must soon install 190 m of gallows and a cable line that will support 20,000 lb (the weight of four 200 lb people falling at once). Ervin wonders about whether OSHA realizes they might create another danger while solving one. "A guy from McCoy Brothers (a safety contractor) told me that we could buy harness that you clip to the top handrail of the railcar's ladder. I said, 'so you expect our men to bend over at the edge of each railcar to clip and unclip themselves as they move from car to car. They're a hell of a lot more likely to fall doing that than if they didn't have the goddamned harness'."

Les replies, "I remember when we were installing the manlift cover on top of the headhouse. Lamont (the old maintenance supervisor) wanted us to belt ourselves to the crane cable through the carriage we were in. I said, 'so if the carriage falls, I have to fall with it and then support the som'bitch (son of a bitch) on my shoulders when the safety line goes tight.' I finally belted myself to the carriage itself. That thing would'a never broke."

Safety climates conjured by formal organizations can contradict and the individual is forced to deal with the contradiction. In my study, OSHA, the insurance company, MGC itself and the temporary employment agencies had cross goals. The insurance company and OSHA seek to make the work setting safe and are not concerned with company profits. The temporary service agencies and MGC, seek to lower costs and increase revenue. They are only concerned with safety as it is enforced by the other two agencies. It

has been my observation that each agency, public or private, seeks to avoid responsibility for the individual. For example, all four temporary employment agencies in Middletown require that their workers follow strict safety measures. Their videos, posters and colorful pamphlets with cartoon characters tell the worker not to "use power trucks", to "work above one story or more than four feet below ground" or to "lift more than 40 lb". When the temporary worker arrives at MGC, however, nearly all the work they do involves endloaders, working well below ground, working well above ground and lifting 55 lb buckets of grain or 200 lb aeration tubes. I have never observed a temporary worker balk at performing the work because it contradicted what they were told by the temporary agency. After questioning, it seems they never read the pamphlets. The little employee complacently lives out the contradiction without forcing the bureaucracies to collide. They subsidize and enable the bureaucratic contradictions. Contingent workers illustrate this nicely.

The mere existence of the contingent worker at MGC is problematic and helps to define the counterculture. MGC hires "temps" as a regular seasonal agenda to keep labor costs low. The temporary service agency is responsible for their safety compensation, allowing MGC to cut further costs. In 1995 MGC began making the first-day ones sit through an ineffective, hour-long video in the lunchroom that describes the dangers of such a work setting. The problem emerges when the temporary worker makes contact with the informal culture that none of the formal agencies can acknowledge. Since the formalities of safety climates are largely ineffective in insuring safety, it is of utmost importance that the counterculture shares insider knowledge. For a long period of time after they begin work, however, the contingent worker remains an outsider.

The men's distrust of temps is warranted. Many such contingent workers were obviously scraped from the very bottom of the Middletown stratification system. Since they do not officially hire and fire, the men cannot fully marginalize the new temporary until they can better understand who he is. Often, the new temporary is directly inserted into a complex work process. For instance, I drove a 40-ton locomotive my first day at MGC. Once inserted, the management apparatus leaves training to the blue-collar crew. Since the downfall of the grain industry, this tendency on the part of management has become more pronounced. The average training for a locomotive operator had gone from a full shift in 1990 to about 30 min in 1999. It is very common for the entire outdoor train crew to be made up of temporary workers earning \$7.50 an hour or less. In an interview below, one experienced contingent worker assesses the situation and repeats what he boldly said to Carl Peters (the plant superintendent).

I said, 'I don't like trains.' I said, 'you get them boys out there that don't know how to drive them locos' (locomotives) I said, 'I'd just end up switchin' (verb for the role of switchman) I said, 'I don't like that, you ain't gonna (going to) kill me.' I said, 'you don't give those guys that you put in them locos enough training to turn them loose by themselves. You get them just to the point where they know what to do and then you come put somebody else in it and then you have them people train them.' I said, 'those people you got training them ain't got enough sense.' (laugh) I said, 'you'll kill me, I ain't workin' your trains. (laugh) That's a crazy set up out there, God!' (laugh)

This situation is a very dangerous one. It is common to hear an angry switchman screaming at a locomotive driver over a radio or to hear the thunder of railcars impacting one another at unusually high speed. On each locomotive, the seats are broken from the drivers' body weight being hurled against the back and neither machine has the original rear view mirrors. Periodically, cars slip

between the rails upon impact or cars tear off the loadout spout because drivers do not finesse the brakes. When notable accidents happen, managers immediately blame the lowest workers and the experienced crew shakes their heads in disgust at the situation. Below is a field note of when I could have easily been killed. I include the reaction from the absentee supervisor (Peters), and his emotions.

I operated the door opener and since we had two inexperienced men driving, Curt (an experienced contingent) was the switchman. I could hear Curt over the radio talking to Albert (a new contingent) who was driving a locomotive and pulling heavy cars, “you’ve got six cars” (“cars” refer to car lengths) (pause a few seconds) “You’ve got four cars, you’d better slow down” (pause) “You’ve got two cars Albert stop!” With each call, Curt was obviously holding the mic close to his mouth and becoming frantic. We later found that Albert was not holding the radio close enough to his ear in order to hear it. They did not wreck the string being unloaded, but they did hit hard. Curt told me later that he is frustrated with setting new men out on their own too soon. Albert had 30 min of training. Curt pointed out that it was not Albert’s fault. After that I could hear Curt remind Albert over the radio that he was hauling loaded cars (much heavier) forward and should monitor his speed.

After a few hours I was operating the door opener on Dale’s (another new man in the other locomotive) string of cars. Suddenly the door opener bolted from my hands and went down the track following Dale’s string at a running pace. This accompanied the “boom” of full cars smashing into empty ones. Albert had pulled up behind Dale too quickly to stop (locking the brakes does nothing) and his train hit Dale’s full steam. This laid a deep patch of corn on the asphalt about 20 m long and 3 m wide. The door opener, hanging on a trolley at the top and connected to the rail car at the bottom, reached the stop that keeps it from going off the edge. It bent the hangers badly, but not so much so as to put it out of commission.

Carl Peters could hear the following radio conversation about damage and impact and responded in exactly these words over the radio in a desperate voice: “Switchman’s supposed to keep things under control”.

These words made Curt very angry. He began to complain of Peters’ absentee authoritarianism. Blumer witnessed the accident and agreed with Curt. Neither man blamed Albert who was driving too fast and ignoring Curt’s warnings.

When the experienced men are interdependent on contingent workers, they will subvert a number of very important formal rules in order not to place too much trust in a “temp”. It seems the formal organizations (the company, OSHA or the insurance company) assume that the presence of another worker is an unmixed good regardless of quality. Below, the interview excerpt is about cleaning silos, the most dangerous job in the grain industry. The man inside deals with mountains of remnant grain, a very steep slope, lots of explosive dust and little oxygen. He works suspended on a rope and harness. The rules say that an observation man must be present on the tiny platform outside the bin porthole holding a rope half-hitched (wrapped) to the handrail to control the descent of the man inside. Sometimes a worker must bypass the rules to be safe. Below is from an interview.

I remember when I was working third shift (alone in the plant). I had a helper who was not worth a shit. Man this guy would come in all drunk and stoned and shit. I remember having to clean bins with him. I would just tie myself off directly at the handrail and have him stand there. When you let someone else lower you down, you’re puttin’ your life in their hands. Man, you cannot do that with people who are not worth a shit.

As the 1990s proceeded, OSHA became more serious about holding MGC accountable for the dangers at the plant. Formal accountability, however, often amounts to documentation and an invasion of the formal rules into the worker’s daily round. This diffuses the responsibility of safety onto lower members of an organization. The men received word of this “crackdown” indirectly when Carl Peters began asking the men to complete forms before performing certain jobs. The men are now mandated to use bin entry forms and “hot work” permits. This is was problematic.

The forms seem to be designed to actually prevent necessary work rather than permit it. Answering many of the questions on the bin entry form would require the worker to write “no” in some of the places. One such question, for instance, refers to a set amount of time that the bin has been ventilated. The bins at MGC have no ventilation. Another question asks if entering is the only way to perform the task. An answer to this question at its logical extreme would be “no”, for the worker could spend days pecking at the piles from the porthole with a very long-handled scraper. At the end of the form, however, it clearly states that if the worker answered “no” to any of the questions they could not go into the bin. Peters and two of the tenured men have been designated to observe the work and sign off on such forms, during my fieldwork I never saw such an inspection. Violations appear to be built in. In Mathilde Bourrier’s words:

As long as the design of working procedures remains out of reach for those who implement them, there will be no other alternative than to break the rules, when conflicts or contradictions emerge. In normal times, these adjustments will reduce some of the pressure and generally help the system to operate smoothly. However, they contain many features known only to those who implement them, creating opaqueness and pockets of private knowledge (Bourrier, 2005, p. 7).

The design of the forms seems to be an effort to push responsibility and accountability for accidents from management onto worker. Management can demand that certain work be done, but since the worker must bend the truth to complete the form and do the job, they are left as the ones responsible for bending the truth. In the words of Gray from another study, “the issues of legality and safety requirements seemed to take a secondary place and it was ‘up to me’ to challenge an unsafe job” (Gray, 2002, p. 157). And yet the MGC men do not take this documentation seriously. For the worker at MGC, paperwork is of minor concern and he allows it only a few seconds of his day if any time at all. Many men have entered a bin with only the quiet OK between the one doing the job and a nearby operator. For the management, on the other hand, the paperwork is brickwork for an important front stage presentation to OSHA or the insurance company.

This matter of responsibility became obvious 1 day concerning “hot work permits”. “Hot work permits” are to be filled out by a worker about to perform welding, cutting or grinding work near the plant. It is a form where on which a worker answers questions about the necessity of hot work, marks that the area has been inspected for flammable material and gets signed authorization. When the question emerges about “who” is to sign off on such permits, however, Peters the plant superintendent, avoids the responsibility entirely though not without indicating himself. Below, Les and Bill contemplate playing a joke on him.

During break, Curt and Bill were just about to repair railroad track about a mile from the plant. Bill asked Les jokingly, “you think I need a welding permit (hot work permit)?” Les smiled and responded, “No, but you might wanna (want to) get one ready. . . but don’t check anything off and take it to Carl and see if he’ll sign off on it. Yesterday during the inspection OSHA wanted to see our hot work permits. We found three of

them without the checklist marked off. All we needed to do is mark off a few things to show we've been over it and checked for flammable material. Well Carl told me, 'you need to make sure that gets done.' I was looking them over this morning and I only signed off on one of those. He signed on the other two. I thought about showing them to him, but that'd just piss him off. He's already in a bad mood."

4.2. Results: the counterculture countering

Monthly, the men at MGC have the opportunity to confront, dismiss or laugh at the company's safety apparatus. This is when MGC holds its "safety meetings" to rehearse safety issues with the men. Gouldner (1954) discovered that safety meetings were one of the few arenas where there was some solidarity between workers and managers. They appreciated the space to express themselves. This is not what happens at MGC. Lonnie, MGC's safety man, is the regular spokesperson for the company during this time. His full time job is to deliver these safety presentations to people at the company's worksites and act as liaison to OSHA and the insurance company. The men at MGC's Middletown plant, however enter the meetings skeptically. Although it is an opportunity for them to sit, eat, drink coffee or smoke cigarettes, they overtly act like they do not appreciate the break.

The men act upon the situation in one of two ways, neither of which embraces Lonnie and the authorities. The men either blatantly ignore Lonnie during his presentation and his attempts to discuss or they actively challenge the company's ideas of safety. Given their experience with inconsistent bureaucratic rules and their own high stakes it is quite logical that the men resist this intrusion. This is a way the men maintain boundaries around their informal counterculture and control over their work.

When the men ignore Lonnie, it is passive resistance. They explicitly agree upon this before each meeting. In the morning hours on the day of a meeting, I have heard, "he sure likes to talk. Lot's of bullshit. It's a good thing he got him a job where he just talks". Or, "this guy we're about to see has about 10 min of important stuff to say. It's the garbage in between the important stuff I could do without". Or "we'll just keep the fuck quiet and let 'er roll". During the safety meetings the men intend to make their ignorance into a visible message. The following two notes are observations at separate meetings.

1. I sit at the table with the safety man, Boss, Bill and Greg. At the other table are Les, Jim and Jimmy. Bill is directly in front of Peters and the safety man, yet he continuously thumbs through a catalog of safety equipment Lonnie has brought with him. He thumbs through it slowly and keeps it off the table and elevated at eye level. Les keeps his head down and occasionally puffs on a drooped-stem pipe. The other men are quiet and smoke cigarettes.

2. Lonnie began his presentation with "now you all know". Mark and Troy (inexperienced contingent workers) were sitting closest to him and kept consistent eye contact. Jim was sitting across from them and letting his eyes wonder the walls. Mike and Bill were sitting in front of me (I was against the wall). They were sharing cigarettes. Their laps were in view from where Lonnie was standing and they occasionally stroked one another's thighs. When Bill did, he made a faint panting sound. When Mike did, he smiled broadly and twisted his eyes.

When the men actively resist Lonnie and his message about what is safe and unsafe, it takes a number of forms. Sometimes the men break the passive resistance when they find an opportu-

nity to express humor that derails the entire message. The cue for this is when Lonnie becomes bold about something suspicious and probes the men for participation.

1. Lonnie then talked about confined space entry and the limited dangers of breathing grain dust. "It's only an irritant", was his comment. "The real hazards are with poison gases and lack of oxygen. What are some of the most dangerous things here at this plant to breathe?"

"Cigarette smoke?" Bill replied. Everyone laughed, Curt Mike Greg and I were smoking.

2. Lonnie was talking about a new respirator molded with an acrylic face shield and rubber gasket. It looked like something a fireman would wear. "If you want one it needs to be fitted", he said.

"What about this needs to be fitted?" I asked as I looked it over.

"They come in three sizes", Alex said.

"Small, medium and Lonnie?" Mike asked (Lonnie is overweight).

"It's that little piece inside, that's the matter", Alex said. "All he did for me was put them on me until I couldn't smell a banana."

"We don't handle bananas", Curt said. Everyone laughed.

"Boy tha'd (that would) be a helluva (hell of a) mess!" Jim said laughing with a cigar in this mouth and his hands on his head.

Other acts of resistance are much more specific. The specific acts target any of Lonnie's topics that invalidate the men's informal codes for interpreting injuries, danger and bureaucratic structures. When the men break the frame of passive resistance in this way, it is often an emotional and insolent challenge to MGC. It always accompanies their own definition of the situation. Below is a field note about a minor injury. The men give Lonnie a lesson in natural consequences prevalent at the plant and the meaning of getting hurt.

Before the meeting began formally, Mark (a contingent worker) was telling of how Jim nearly cut off his thumb when working in a tank about 30 min earlier. The safety man perked up a bit from his preparations and inquired about how it happened. Jim was sitting across from Mark and leaning back on his chair with his arms up and his hands behind his head. He was smoking a large Swisher Sweet cigar and never took it from his mouth. "His hands were where they weren't supposed to be", he said.

Mark lifted his hand and looked it over. A piece of flesh larger than the size of a quarter was missing in the web of skin between his index finger and thumb. The blood had clotted and it had a blue tint. "Yea, took part of my hand with it", Mark said. Apparently, Mark was attaching a logging chain to the bucket of an endloader Jim was operating in their work routine. The men laughed. When Lonnie heard the laughing he went back to his preparations.

When the men openly challenge Lonnie and the formal rules, they offer not only their definition of the situation, but also examples of their lived reality. This is especially so when bureaucracies collide and they are the smaller men making things do, enabling the contradiction and taking full responsibility for mistakes. They are attempting here to be part of what Marais, Saleh and Leveson call a "feedback loop" [39]. This, of course, refers to structures that are very difficult to change and does nothing to elicit a satisfactory answer from the company spokesperson. In fact, the doubletalk the men hear from Lonnie in response only confirms their cynicism.

Lonnie was talking about the rules for bin entry. He very clearly and firmly stated that there needed to be three people present, each of whom had a lofty title: “the entrant, the observer”, and “a qualified supervisor”. Blumer is our only qualified supervisor and he is to make out the paperwork concerning time and reason for entry.

Jim perked up as the safety man listed out these firm guidelines. “So what if it’s just me and my help at 3 o’clock in the morning?” Jim stated in a firm, strong voice. Jim is often on third shift and almost always has one helper. They are always cleaning silos at this time. It is part of the purpose of third shift.

The safety man had no direct answer, but responded by telling of when someone at another plant asked if it was all right to mow grass while another man cleaned a silo if he checked on him once in a while. The safety man then presented another hypothetical situation where someone at another elevator asked him if it was all right to leave as long as they carried a radio with them. He responded to those vicarious hypothetical questions with firm “no’s”.

Bill retorted, “but you can mow grass with a radio”. Everyone laughed. Lonnie never answered Jim’s question.

In the details of his presentation, it seems the safety liaison unwittingly implicates MGC’s tactics for handling other, contesting organizations that are concerned with safety. MGC has a profit motive that will often contradict demands from OSHA or the insurance company. Lonnie sometimes makes it obvious that part of MGC’s economic game is to skirt those other formal regulations. When Lonnie does this, logically he is assuming that the men are totally in favor of MGC and are in favor of working where things are less than safe. Part of the men’s active resistance, however, is to implicitly side with the authority of OSHA. This is ultimately a threat of honesty from the working men in that they lead Lonnie and their boss’s to believe they would refuse to support the company’s frontstage with their backstage knowledge. This is exactly what Bill did in the fieldnote below.

Lonnie continued about what to do during a surprise OSHA inspection. “Make ‘em show his badge, so we know he is who he says he is. And be sure to call your general manager or boss and then call me in Iowa. I’ll make a special trip over.”

“If an OSHA inspector ever makes a surprise visit, it’ll make your blood pressure rise”, Peters said with some loudness and excitement in his voice. The other men simply sat expressionless, trying not to stimulate Lonnie into “running his mouth” any longer than he needs.

Bill broke in calmly, “why would an inspection make your blood pressure rise? It shouldn’t”.

“Oh trust me Bill”, Peters said. “It’ll make it rise.” Then Peters turns to everyone, “if an inspector comes and flashes that badge at you it’ll scare you to death. If I’m not here just ask if they can hold off on the inspection until one of us is here. If it can’t wait then (pause) you guys have been here for 20 years, (pause) just be damned polite and don’t volunteer information.”

“Yes”, Lonnie confirmed. “That’s very important. Be polite be very polite. Statistics show that when OSHA inspectors encounter resistance, then the number of violations and fines go up. And if you are giving an OSHA inspector a tour, only answer the questions he asks you. Don’t volunteer information.”

Challenges to Lonnie and the company also revolve around the men’s control over their own safety. Formal organizations, by definition, create policies that are insensitive to individual discretion and have no informal levels of trust. MGC’s Middletown plant is littered with red and white tin signs reminding workers of their hardhats, safety glasses and hearing protection. Currently at MGC, it is easy for the men to skirt these rules when they need

to. When the company motions to clamp down and make rules firmer, however, is when the men rebel. Below, Mike confronts Lonnie on an issue of discretion. Mike simply does not understand the company distrust of employees.

Lonnie was talking about smoking at the plant. He mentioned it was a behavioral problem at other plants. “Headquarters is talking about banning smoking from around the plant entirely. This means once you enter the drive, you could not smoke. A. E. Staley (a large grain processor) is like that now. Employees and even truckers hand in their cigarettes and lighters at the front gate.

“You say it’s a behavioral problem”, Mike said. “Wouldn’t it be better if you allowed smoke breaks occasionally and people would be less tempted to sneak them in unauthorized areas. Here nobody says anything if even every hour you stand away from the tanks and smoke a cigarette.”

In response, Lonnie began talking about a number of subjects. They were difficult to note because the topics did not precede one another with any continuity and they seemed unreasonably rapid. He did not directly address Mike’s comment.

5. Conclusion

It may be helpful to consider safety climates as a superficial and comprehensible version of a safety culture. As a symbol of what an organization might want or hope to be, managers can have a hand in its construction. In this paper, another safety culture is organic, less visible but no less active. It is the product of a group of people dealing with the world and sharing experiences and interpretations of them. In healthy organizations, safety climates might work well. At face value, they are oriented toward safety after all. But when the organization is pathological, like when there is a disconnection in communication and motive, safety climates devolve into superstructure, propaganda or sideshows. MGC is a bad example and quite helpful for understanding the emergence of a counterculture.

Workers in this pathological organization know something is not right. They learn from life at the plant and their reaction is collective. They construct what is dangerous and not dangerous to them. They are in a different world from the sanitized workmen on safety posters. To maintain the validity of their “opaqueness and pockets of private knowledge”, they drawn sharp boundaries between themselves and those who do not share their experiences. Safety meetings become circuses and forms become irrelevant. This report suggests that for a safety culture to exist in a pathological organization, perhaps it has to become a counterculture. The formal organizations that impose themselves on these men’s lives seem busy eluding responsibility. The counterculture seems busy assuming it.

An outsider walking into MGC might see an ambiguous culture where there “is lack of clarity, differences in meanings, interpretations of symbols which are incommensurable and irreconcilable” (Richter and Koch, 2004, p. 707). Ambiguous cultures are dangerous. However, MGC has a good safety record, in part, because its workers work strongly against this ambiguity. They disobey it, talk back to it and cultivate privacy. Contingent workers are often stunned by the contrast in what the two groups, managers and workers, tell them. Rebellion and back talk may not indicate ambiguity at all. It may indicate a very coherent culture.

Overall, however, the safety climate works at MGC. This is Seo’s contention in his own study of the Midwest American grain industry. But it may not work as directly as we think. In Seo’s own words, “Once perceived safety climate is improved, it decreases the level of perceived work pressure which, in turn, reduces

perceived risk. Then, the worker perceives fewer barriers to safety, which becomes conducive to safer behavior” (Seo, 2005, p. 207). In Seo’s story, a safety climate lowers the barriers we see to being safe. It gives workers a rationale for resisting dangerous speed ups and short cuts. It is the same at MGC. The workers know the managers want to show they have a safe work place and they use this fact as leverage. In a sense, managers at MGC have created a Frankenstein-type monster over which they have little control. This explains why Lonnie the safety man can exist *and* work against honesty to OSHA. At MGC, workers work safely in spite of managers, not because of them.

In many arenas, we often take safety climate to be safety culture. My study advises against this assumption. Cox and Flin point to an ominous pattern that began as “safety culture” became an organizational fad. It reflects the confidence of organizational leaders to say they had a “superior safety culture” (Cox and Flin, 1998, p. 190). It gives scientists the same sensation to use “cultures” as predictive of industrial accidents (Flin et al., 2000). All this may be inflated because we are apt to measure climate more than culture. If many other organizations are remotely like MGC, then we should not be confident of anything we can easily measure.

Many managers reading the current study probably appreciate that authentic culture can indeed emerge from front-line workers. Workers have both vested interests in their own safety and the capacity to learn from their experiences. They learn in close, informal groups and, if the relationship with their bosses has reason to be spiteful or untrusting, they wax differences between themselves and those above them. Safety regulations imposed upon them in a single direction, from top to bottom, can be sloughed off and with some good reasons. This pathology need not be, however. To breach the boundary, one would need to integrate themselves into the counterculture by respecting the culture enough to learn from it. Front-line workers are experts, in many ways, and to be treated like experts is flattering and a step toward trust.

For many scientists, we need further research into the latent functions of programs in organizations. We need deep analyses of the rituals and social regulations that are hidden and exist as informalities. Humans are logical and to find such logics, often we need to work with them over a period of time. With this tactic, we can begin to share the meanings they give to common objects in their daily rounds. When it comes to safety, people have very visceral reactions. As scientists, we can share them and develop the deep explanations for behavior that are so valuable in safety science.

MGC is a bad example of an organization yet its human resources are good examples of a functioning counterculture. As for MGC itself, the future does not look good. Safe behavior is dependent on the counterculture and the experienced crew that drives it. In the words of Mike, an experienced man:

That place is gonna change. When the old guard rotates out enough that somebody else is making the decisions (pause) I do not wanna be the last old guy there (pause) at all (emphasis). Cause there’s gonna be some accidents and some stupid shit (pause) I think.

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