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“Getting on and Getting by”: the gold miners’ informal working practice of making a plan (planisa)

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“GETTING ON AND GETTING BY”: THE GOLD MINERS’ INFORMAL WORKING PRACTICE OF MAKING A PLAN (PLANISA)

Timothy Sizwe Phakathi
DPhil (Sociology)
Green Templeton College, University of Oxford
timothy.phakathi@gtc.ox.ac.uk

Abstract

The specificity of ultra-deep mining – depth, heat, fall of rocks, rockbursts and seismic events – represents a unique, artificially created, total work environment. Workers learn to deal with the complexity of uncertainties that characterise this environment and it is out of this scenario that their occupational culture is born. Workers are required to “read” and anticipate changing conditions in the immediate geological environment, work safely in order to survive while responding to production demands. Under these mining conditions, workers tend to face blockages that impinge upon their day-to-day work life. The combination of factors compels underground workers to make a plan (planisa) or improvise the production process either as a result of an instruction or out of the work team’s self-initiated action. In other words, they “get on and get by” underground in order to cope with these organisational constraints and inefficiencies. The miners’ informal working practice of planisa suggests that management’s formal or standardised work methods (rules and regulations) are not always efficient in complex work situations. Moreover, making a plan inside the pit indicates that the gold miners are creative beings capable of maintaining control over their working day. Any strategy designed to improve the productivity and safety of underground miners must recognise, elaborate and systematically articulate the workplace culture of planisa as an existing and alternative work practice in the day-to-day running of the production process down the mine.

Keywords: Informal work practice, Formal work practice, Making a plan (Planisa), Underground, Mining, Management, Workers

Introduction

Where formal or bureaucratised work methods fail to overcome production bottlenecks, shopfloor workers bypass work standards and adopt informal work strategies in order to maintain control over their working day (see Roethlisberger & Dickson 1939; 1952, 1984; Roy 1952; Gouldner 1954; Lindblom 1959; Burawoy 1979; Ackryod & Thompson 1999; Webb & Palmer 1998; Hodson & Sullivan 2002; Iszatt-White 2007; Lopez 2007; Noon & Blyton 2007; Richards 2008). This raises questions about the efficiency of formal or bureaucratic methods of work organisation in certain work situations (see Merton 1949; Merton et al. 1952; Gouldner 1954; Lindblom 1959; Goffman 1961; Blauner 1964; Strauss 1978; Watson 1980).
This paper draws on the author’s participant observation doctoral study of worker responses to production goals and management policies in a deep-level gold mining workplace. The paper focuses on the gold miners’ informal working practice of making a plan (planisa) at the point of production deep down the mine. Planisa is a Fanakalo (mining lingua franca) injunction, entreat ing miners to deploy their skills and ingenuity to tackle the day-to-day problems posed by the endemic uncertainties and organisational dysfunctions of mining. Making a plan or planisa involves creative, self-organised improvisation and initiative on an individual and collective basis, often circumventing standard work rules. At the rock-face, as will be discussed in greater detail later in this paper, making a plan (planisa) is an innovative yet risky informal working practice underground workers adopt to restore production.

The paper is divided into six sections. The section that follows provides a brief discussion the research method that was used to collect data, followed by a discussion of formal and informal work strategies in industrial organisations. The third section discusses the gold miners’ work practice of planisa as an informal mode of work organisation at the rock-face down the mine.

The fourth section discusses the limits of formalised methods (rules and regulations) as promulgated by Max Weber (1946, 1958) and Frederick Winslow Taylor (1911, 1947) in the light of the gold miners’ work practice of planisa. It argues that formal methods (rules and regulations) of work organisation are always more efficient at achieving certain goals. Rules and regulations may be counter-productive in unpredictable conditions such as those encountered by underground mineworkers in deep-level gold mining. In the fifth section, given the innovativeness of planisa in resolving production blockages, the paper discusses the implications this underground gold miners’ informal work practice has for worker autonomy and management policies in the daily running of the production process. The paper concludes that any strategy designed to improve the productivity and safety of underground miners must recognise, elaborate and systematically articulate the workplace culture of planisa as an existing and alternative work practice in the day-to-day running of the production process down the mine.
Research Methodology

The research methodology that was used to conduct this study was qualitative in nature and a research technique of participant observation was employed. Participant observation was considered an ideal research style with which to conduct an in-depth qualitative study of underground gold miners’ subjective experiences of work processes and their reactions to management strategies (for example, the production bonus scheme not discussed in greater details in this paper) in deep-level gold mining (see Roy 1952, 1954; Burawoy 1979; Gouldner 1954; Lupton 1963).

Participant observation is the main research technique employed by ethnographers when in the field. As Hammersley and Atkinson (1995:1-2) point out:

Ethnography involves the ethnographer participating, overtly or covertly, in people’s daily lives for an extended period of time, watching what happens, listening to what is said, asking questions – in fact, collecting whatever data are available to throw light on the issues that are the focus of the research.

To fully immerse myself in the daily working lives of mineworkers for an extended period of time, I adopted the role of participant observation (Burgess 1984; McNeil 1990), working with underground work teams and participating in the tasks they performed over a period of two months at GoldCo (pseudonym) – a deep-level gold mine situated approximately hundred and fifty kilometres south-west of Johannesburg in South Africa. Overall, the fieldwork lasted for six months down the mine (from April to September 2007). Table 1.1 below shows the underground worksites at which the author conducted participant observation research for this paper:

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1 The names of people used in this paper are pseudonyms.
Table 1.1: The Underground Worksites at which the Author was Located

<table>
<thead>
<tr>
<th>Production Section</th>
<th>Mine Level</th>
<th>Nature of the Worksite</th>
<th>Size of the Work Team</th>
<th>Time Spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 (SV1)</td>
<td>61</td>
<td>Stoping</td>
<td>17 stope workers,</td>
<td>Four weeks</td>
</tr>
<tr>
<td>32 (SV3)</td>
<td>64</td>
<td>Stoping</td>
<td>15 stope workers,</td>
<td>Four weeks</td>
</tr>
</tbody>
</table>

The underground work teams studied were sampled on the basis of their performance over a twelve-month period. Assisted by the mine’s HR department, the production results of all the underground work teams were used to identify high performing teams and low performing teams. A high performing team under the supervision of Jimmy (section 12, SV1) and a low performing team under the supervision of Lee (section 32, SV3) were sampled as case studies. Jimmy and Lee introduced me to their crews when I kick-started my participant observation research inside the pit.

A typical gold mine consists of a number of production sections. At the time of fieldwork, Great Noligwa mine consisted of four production sections abbreviated as SV (South Vaal): SV1, SV2, SV3 and SV4. At the time of fieldwork, SV1 was the high performing section (see Chapter 4 for production results per mine section). Within each section, there are number of work teams (stope workers, production crews or gangs), foremen (shift-bosses) and middle managers (mine captains or mine overseers). The mine captains were briefed about the study by Gert, the human resource (HR) manager at GoldCo. The mine captains introduced me to shift-bosses (Jimmy and Lee) of the underground work teams studied.2

Jimmy’s and Lee’s production crews were stationed at depths of 2 000 to 2 500 metres below surface. I went underground every morning with shift-bosses and production crews. The underground workers’ cage usually goes down the mine very early in the morning. The shift-bosses cage goes down the mine a bit later, around 8am. Jimmy’s crew went down the mine for the eight-hour underground shift at 4:30am and Lee’s crew at 6am.

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2 In South African gold mines, production supervisors or foremen are often referred to as shift-bosses or shift overseers. This thesis uses the terms supervisor, foreman and shift-bosses interchangeably.
Underground work teams varied greatly in their constitution and strength depending on the size of the stope\textsuperscript{3}. A development-end team would comprise anything from six to eight members while a full-strength stope team might comprise ten and eighteen members with a team leader. Each team member would invariably perform the tasks of barring, drilling, backfilling, support (with timber or cement packs and pressurised elongates with headboards), and sweeping or removing the broken ore (gold-bearing rock), whether formally trained or not.

The mining jobs I performed underground entailed assisting team members in offloading production material such as timber packs from the locomotive and transporting them to the rock-face, installing (rock) support by means of timber packs and props, clearing travelling way (commonly known as housekeeping) to the rock-face and loading mud in the haulage stream into the hopper.\textsuperscript{4} These production tasks were less dangerous and did not require much on-the-job knowledge and experience compared to rock-drilling. Underground mining in general is a highly regulated business for safety and legal reasons. Although I attended the mine’s induction programme, I was not formally trained nor certified to perform any of the underground mining jobs. I was not an official mine employee. This is the fact I had to bear in mind during the course of fieldwork. If something had happened to me, be it accident or injury, the mine would not have been held responsible. For this reason, I took the life cover insurance as a precautionary measure.

\textsuperscript{3} A stope is any excavation underground to remove ore (the gold-bearing rock).

\textsuperscript{4} This is quite a physical job. I asked one of the production crew members, Jobby, why they were not using a loader to perform this type of job. He told me that the loader or what the miners call boesman (bushman) in Fanakalo, is not user or worker-friendly in that it is difficult to control: “It injures people, the spade is good and we enjoy working with it”, Jobby said. Jobby’s comment illustrates the tacit knowledge underground gold miners possess and meanings they attach to the day-to-day conduct of work down the mine. I took the participants by surprise in that they did not expect the graduate research student (a makhulu skop or educated person) to handle such as strenuous job. I viewed myself a novice in deep-level gold mining prepared to learn from the miners with immense experience in underground work. This confirms Burawoy et al. (1991:x) argument that “working alongside those we study necessitates a dialogue between the observer and the observed.” In concurrence with Burawoy et al. (1991), Stewart (2000:1) argues that “ethnography – the placement of the researcher and social analyst into life context of other human beings, wherein mutually reinforcing, reciprocal relationships are established – enables the development of a multifaceted perspective and point a view from the inside of the social situation under review.”
Underground, I held conversations or informal interviews with underground work teams (or stope workers) and their production supervisors (shift-bosses) on various issues relating to the organisation of work, union-management relations, supervisory and management practices, occupational health and safety, production targets, production bonuses, training and skills development.

Given the diversity of the culture of the workforce, as researcher, I interacted and communicated with the informants in their choice of seven languages, namely English, isiZulu, isiXhosa, Sesotho, Setswana, Xitsonga and the workplace lingua franca, Fanakalo. In the mine hostel, I shared a room with “the observed” and ate with them at the hostel’s communal kitchen. On certain afternoons and during weekends, I played football (soccer) with the informants. I spent time with them in the pub drinking a soft drink or beer, playing pool and watching television. All this facilitated a dialogue and strengthened the rapport between the research and the informants.

Above ground, the role of observer-as-participant (Burgess 1984) was used to conduct in-depth interviews in the form of conversations with mine supervisors, managers and trade union representatives. Information on production results was obtained from management and from workplace notice boards. My contact with management and shop stewards was brief and formal. Much of the time was spent underground and in the mine hostel with the work teams.

I also spent time in the Training and Development Centre where induction and training are given to workers. Data from conversations and in-depth interviews, both underground and on the surface, were jotted down immediately in my fieldwork diaries, culminating in detailed field notes or “thick description” (Geertz 1973, 1988) and analysis of the events, personalities, activities, behaviour, processes, arrangements, interactions and group dynamics in the workplace (Schwartzman 1993; Pant & Alberti 1997; Tope et al. 2005).

Documentary data was also collected. These included wide-ranging, but relevant data from newspapers, annual company reports, the internet, mine news briefs and workplace notice-
boards. Documentary data supplemented data collected through participant observation and in-depth interviews. In the end, this produced an in-depth and rounded picture that places the perspectives of underground work teams at its heart and reflects the richness and complexity of their social world.

**Formal versus Informal Work Practices**

To start with, Gouldner’s (1954) study in a gypsum mine responds directly to Max Weber’s notion of the inevitable efficiency of bureaucratic rules and regulations, which Winslow Federick Taylor applied to his scientific system of management. According to Max Weber:

Bureaucracy involves a clear-cut division of integrated activities which are regarded as duties inherent in the office. A system of differentiated controls and sanctions is stated in the regulations. The assignment of roles occurs on the basis of technical qualifications which are ascertained through formalised, impersonal procedures (for example, examinations). Within the structure of hierarchically arranged authority, the activities of trained and salaried experts are governed by general, abstract, clearly defined rules which preclude the necessity for the issuance of specific instructions in each specific case. The generality of the rules requires the constant use of categorisation, whereby individual problems and cases are classified on the basis of designated criteria and are treated accordingly. The pure type of bureaucratic official is appointed, either by a superior or through the exercise of impersonal competition, he is not elected. A measure of flexibility in the bureaucracy is attained by electing higher functionaries who presumably express the will of the electorate (for example, a body of citizens or a board of directors). The election of higher officials is designed to affect the purposes of the organisation, but the technical procedures for attaining these ends are carried out by continuing bureaucratic personnel (Merton 1949:196).

The “official” aspects of work organisation, in accordance with Taylor’s scientific management principles include:

All the official arrangements made by those who control the organisation – and by their agents – to achieve the goals of those in control whilst at the same time coping with challenges and contradictions which may arise and threaten to undermine this goal attainment. Included in this is the hierarchy typically represented by the official organisational chart, the contents of the organisation’s
rules book, the range of prescribed work procedures and techniques, the budgeting and reward systems, etc. (Watson 1980:192).

In questioning the efficiency, precision and reliability of formalistic or bureaucratic work methods in a gypsum mine, Gouldner (1954:20-21) raises the following questions: First, to whom did the rules have to be useful, if bureaucratic authority was to be effective? Secondly, in terms of whose goals were the rules a rationale device? Whose end did they have to realise if the bureaucracy was to operate effectively?

According to Gouldner (1954:20-1), Weber overlooked these questions because he assumed that:

The ends of different strata within a bureaucracy were identical, or at least highly similar, and hence was not compelled to distinguish them from each other. This appears to have derived partly from his use of the seemingly solidarity government bureaucracy as an implicit model. Had he focused on the factory bureaucracy with its more evident tensions between supervisor and supervised [as this chapter will show] ... he would have been immediately aware that a given rule could be rationale or expedient for achieving the ends of one stratum, say management, but might be neither rationale nor expedient for workers.

The capacity of shop-floor workers to evade formal, standardised or bureaucratic rules and regulations highlights the autonomy of workers over their working day and the inadequacies and unintended consequences of official methods of operation in relation to efficiency (Roethlisberger & Dickson 1939, 1952; Gouldner 1954; Lindblom 1959; Burawoy 1979; Watson 1980; Nichols 1997; Webb & Palmer 1998; Iszatt-White 2007; Lopez 2007).

Writers such as Merton (1949) have pointed out the manner in which rule-following, as a result of excessive “red tape”, could work against innovation. In such a situation, “standardisation and predictability could easily degenerate into rigidity and defensive behaviour” (Thompson & McHugh 2002:39). Furthermore, labour process studies reveal and stress that employees have the rational propensity to break, bend or modify rules in order to get things done more effectively. Blau (1955) cited in Thompson and McHugh (2002:39):
Exemplifies this kind of argument through his studies of a state of employment agency and a federal law enforcement agency in the US. At the law enforcement agency it was more functional to ignore rules such as those related to reporting attempted bribery in order to be in a position of power over the perpetrators at a later date.

Moreover, Gouldner’s (1954) study in a gypsum mines operating in a closed, rural community has revealed that there are alternatives within bureaucratisation. In this study, Gouldner (1954) discovered that prior to the appointment of the new manager, informal practices largely characterised the day-to-day running of the production process. This was most evident in supervisor-worker relations and when workers in collaboration with management simply ignored the “no-smoking” rule. According to Gouldner (1954) the mine’s “no-smoking” rule became a “dead letter” – what he calls “mock bureaucracy” – except in the presence of the fire inspector from the insurance company was around. The following remark from a gypsum mineworker illustrates the point: “We can smoke as much as we want. When the fire inspector comes around, everybody is warned earlier ... The Company does not mind” (Gouldner 1954:183).

What this point to is that management does break rules and regulations as much as workers do (Ackryod & Thompson 1999). Gypsum mineworkers believed that management should not stop them from smoking because smoking kept them from getting nervous. Furthermore, enforcing the “no-smoking” rule would have disrupted worker-foreman relations in that workers disliked close supervision (Gouldner 1954). Gouldner (1954:186) notes further that:

... workers viewed management’s enforcement of the rule as compelled, that is, they’re not doing this because they want to. The inspection was not seen as an occasion joyfully seized upon by management to increase its control over the workers. On the other hand, workers who violated the no-smoking rule under ordinary conditions were not viewed by supervisors as “troublemakers”, giving vent to their hostilities. Instead, workers who smoked were viewed as being in the grip of an uncontrollable human need, for smoking was presumably required to quell their nervousness.

There are a number of instances where gypsum mine management bypassed formal rules when they deemed it fit to do so. For example:
At one time, the mine required a number of new workers immediately, in order to cope with a difficulty which was slowing production. Applicants for mine work were, however, ordinarily given a special physical examination before being allowed to enter the mine. This was a time-consuming requirement, and the workers were desperately needed ... The workers were put to work first and given their examinations later (Gouldner 1954:200).

The resistance of mine supervisors to enforce management’s “no-absenteeism” rule also illustrates the extent to which bureaucratic rules were evaded and inoperative in a gypsum mine. Although there were tensions regarding conformance to rules and regulations in a gypsum mine, there were instances where workers and management conformed. This was most evident in safety regulations. At times though, Gouldner (1954) argues, management overlooked safety considerations at the expense of production. In such a situation, “workers will initiate bureaucratic [safety] controls, while management may be a barrier to their implementation” (Gouldner 1954:201). In doing so, they put production before safety as Nichols (1997) discovered that one of the causes of industrial injuries in the manufacturing and mining firms he studied was management’s deviation from safety rules and regulations as set down on paper. Once more, this points to management’s involvement in workplace fiddles (see Ackryod & Thompson 1999; Lopez 2007; Webb & Palmer 2007).

A number of labour process studies have shown the interplay between formal (official) and informal (unofficial) work arrangements. For example, Burawoy’s (1979) discovered that the machine operators’ shop-floor game of making out was governed by a set of informal or “unofficial” work arrangements between operators, supervisors and auxiliary workers. Burawoy’s (1979) discovery of the game of making out confirmed Roy’s (1952, 1954) findings that playing the game of making out allowed the machine operators to bend formal rules and regulations laid down by management. Finlay’s (1988) study of longshoremen in California discovered that in spite of the mechanisation (containerisation) of the West Coast longshore operations, the day-to-day running of the production processes was governed by informal work arrangements (deal-making) between longshore workers and foremen. It is precisely for this reason that Roethlisberger and Dickson (1952:258) argue that:
Informal organisation appears at all levels, from the very bottom to the very top of the organisation. Informal organisation at the executive level, just as at the work level, may either facilitate or impede purposive cooperation and communication. In either case, at all levels of the organisation, informal organisation exists as a necessary condition for collaboration. Without it [informal organisation], formal organisation could not survive for long. Formal and informal organisations are interdependent aspects of social interaction.”

Furthermore, a number of sociology of work studies have shown that workers engage in unofficial work activities as a means not only of fulfilling production goals but to “survive the boredom, tedium, monotony, drudgery and powerlessness that characterise many jobs” (Noon & Blyton 2007:238). By doing so, workers exert control, create meaning, develop autonomy and express creativity over their working day (Blauner 1964). For instance, Burawoy (1979) and his co-workers engaged in informal work activities not merely to increase their bonus earnings but to reduce fatigue, pass time, relieve boredom, attain pride and status in making out on a tough job and to avoid social stigma and frustration of failing to make out on an easy job. It is however important to note that by engaging in unofficial shop-floor activities, workers may not necessarily be challenging or resisting management’s rules and regulations (see Burawoy 1979; Collinson 1992; Noon & Blyton 2007). In fact, as Burawoy (1979) discovered in the machine operators’ game of making out, workers may be complying or “consenting to the formal rules and structures imposed by management” (Noon & Blyton 2007:249).

As the next section of this paper will show, workers’ informal work strategies come to the fore particularly in the context of production failures or bottlenecks owing much to management inefficiencies. Nichols (1997:51) discovered that shop-floor workers engaged in “illegal” work practices (through shortcutting or risk-taking) in order to:

Maintain or restore production. In every case the dangerous situation was created in order to make it quicker and easier to do this. In every case the company’s safety rules were broken. The process failures involved were not isolated events. Nor were the dangerous means used to deal with them. The men acted as they did in order to cope with the pressure from foremen and management to keep up production. This pressure was continual, process failures were fairly frequent and so short-cutting methods used to deal with them were repeatedly employed.
In the context of underground mining operations, especially in the area of worker safety, complying with formal rules and regulations is not always adequate. The ability of miners to detect and predict dangers on the basis of their beliefs, normative prescriptions and tacit knowledge highlights not only the limitations of but also the existence of official safety rules side-by-side with unofficial safety rules in the underground mining workplace (Gouldner 1954; Dennis et al. 1956; Fitzpatrick 1980; Leger 1992; Nichols 1997).

Moreover, Clawson’s (1980) study of scientific management (Taylorism) at the Watertown Arsenal in the early twentieth century revealed that arsenal workers could only get the job done if they relinquished the “scientific” approach and relied instead on their own expertise and judgement. In a similar vein, Juravich (1985) points out that at National factory (name of the factory he studied) faulty materials and equipment failures constantly prevented the smooth running of the production process and could only be offset by experienced and informed operators. Commenting on the significance of workers’ on-the-job skill, Juravich (1985:52) asserts that “it is not that craft knowledge at National merely facilitated speedier production. Rather, it was integral to getting the job done at all.”

Other studies have also noted that workers’ informal work methods are crucial to effective performance of tasks on the shop-floor. In his study entitled *The Science of Muddling Through*, Lindblom (1959) points out that, at times, formalised, blueprint decision-making policies tend to fail to resolve complex policy-related problems or questions. In practice, when confronted with complex social problems, instead of following the instructions of the prescribed policy method (the rational comprehensive method), policy administrators would relinquish the prescribed method and seek an alternative method (the method of successive limited comparisons). In Lindblom’s (1959) view, at times, the theory cannot help the policy practitioner. This difference between theory and practice explains:

Why the [policy] administrator often feels that the outside expert or academic problem-solver is sometimes not helpful and why they in turn often urge more theory on him. And it explains why an administrator often feels more confident when ‘flying by the seat of his pants’ than when following the advice of theorists. Theorists often ask the administrator to go the long way round to the solution of his problems, in effect ask him to follow the best cannons of the scientific method, when the administrator knows that the best available theory will work less well than more modest incremental comparisons. Theorists do not realise that the administrator is often in fact practising a systematic method. It would be foolish to push this explanation too far, for sometimes practical decision-makers
are pushing neither a theoretical approach nor successive comparisons, nor any other systematic method (Lindblom 1959:87).

Lindblom (1959:88) points out further that in situations whereby the prescribed policy is of limited helpfulness:

The reaction of the public administrator to the exposition of method doubtless will be less a discovery of a new method than a better acquaintance with an old. But by becoming more conscious of their practice of this method, administrators might practise it with more skill and know when to extend or constrict its use. (That they sometimes practise it effectively and sometimes not may explain the extremes of opinion on ‘muddling through’, which is both praised as a highly sophisticated form of problem-solving and denounced as no method at all. For I suspect that insofar as there is a system in what is known as ‘muddling through’, this method is it).

This section of the paper has highlighted the inadequacies of formal methods of operation and significance of workers’ informal work strategies in the daily running of the production process. It is for this reason that it argued that we need not view the organisational structure in terms of:

Pre-given official arrangements into which individual actors are slotted, but as the emergent pattern of the relationships and behaviour of organisational actors. All aspects of this behaviour and these relationships are to be understood as influenced to some degree by the official structure of the organisation: had not some official structure been set up in the first place there would be no subsequent members of the organisation. Nevertheless, a great deal of what actually goes on cannot be accounted for solely in terms of the official apparatus (Watson 1980:192).

Having discussed the theory of bureaucratic and scientific management of production, I now discuss the meat of this paper – the gold miners’ informal working practice of planisa. This unofficial shop-floor practice of making a plan (planisa) is the 

Making a Plan (Planisa) inside the Pit

As noted earlier, in the mine studied it was found that in response to production bottlenecks at the rock-face, the stope workers bypassed work standards and adopted the informal or
A combination of factors compelled underground workers to make a plan (planisa) or improvise around the production process either as a result of an instruction or out of the work team’s self-initiated action. These include material shortages and mechanical breakdowns, production pressures, production bonuses, budgetary constraints and imposition of standards.

**Material shortages and mechanical breakdowns**

Material shortages was a frequent blockage to production down the mine and which affected the capacity of stope workers to meet their production targets and earn their bonus earnings. To offset the negative impact of material shortages on their production targets and bonus earnings, the stope workers made a plan by searching for material in every possible place underground including the madala site (previously mined area that has been shut down). As Philemon, a rock drill operator, commented: “When there is no material … we look for material elsewhere or in the madala site so that we can blast. We make a plan. We take that risk …”

A lack of supplies consequently leads to theft and robbing of materials underground resulting in unsafe practices and non-adherence to standards. As Petros, a stope worker, remarked: “We [stope workers] do make a plan by stealing or searching for material from other sections and cross cuts …” Themba, a winch operator, had this to say: “We borrow the material from the neighbouring panels. Miners do it.”

For safety reasons, unauthorised entry to such an underground site is by law prohibited and considered a hazardous act. Nonetheless, as the above-mentioned stope workers’ remarks indicate, I observed stope workers going to the madala site to search for materials they could improvise with. The miners searched for a host of material including timber packs, unused props, bolts and nuts or a piece of a wire to fix equipment such as winches. As Lefa, a winch operator, pointed out: “We do run short of material for weeks or months.” Sylvester, a rock drill operator, echoed the same sentiments: “We do experience delays [in the delivery of materials]. This can cost you a blast [production]. Mike, a stope team worker,
had this to say: “There is a problem with the material not being delivered on time ... especially [timber] packs for [rock] support. Drill sticks or *amajombolo* are always in short supply, spares and pinch bars are old.”

I observed that stope workers did go to the madala site to search for material they could use to improvise or restore production. Moreover, a lack of supplies led to theft and robbing of materials underground resulting in unsafe practices and non-adherence to formal work standards (see Merton 1949; Lindblom 1959; Watson 1980; Nichols 1997). Furthermore, the breakdown of machinery was another blockage to production leading to shorter rock-face advance, unnecessary expenditure of effort and increased worker frustration at the rock-face. Installed fans, pumps and winches often required almost immediate replacement or fixing but it took longer than necessary to fix broken equipment. As one shift-boss pointed out: “Things are not easy to do properly where the mono-winches is out of order for seven months and where there are only few locos to transport people. But you regard these problems as temporary.”

Broken winches and shortages of winches preventing stope workers from removing the broken ore from the gully to the ore-bins causing the broken ore to pile up in stopes and gullies. By work standard, it is illegal not to remove the broken from the stopes and gullies in that it leads to the reduction of the content of gold in the broken material.

The research finding of material shortages and equipment failures which compelled the stope workers to resort to the unofficial or coping work strategy of making a plan is in line with Nichols’ (1997) finding that mine management’s failure to provide enough tools at the coalface was one of the factors that led Turkey’s Zonguldak coal miners to engage in unofficial or “illegal” practices (for example shortcutting) which, of course, endangered their health and safety. The following remark from one of the coal miners cited in Nichols (1997:188) illustrates the point: “We can’t support the hanging wall safely because the props don’t come on time. We don’t have enough tools. To finish the job that I’m supposed to do I sometimes have to pinch things from somewhere else.”

*Production pressure*
The mine studied was under pressure to produce gold from the mine manager at the top of the organisational hierarchy to the stope worker at the bottom. However, the pressure of production was most felt by the stope worker excavating the gold-bearing rock. I observed that the pressure to meet production targets compelled stope workers to make a plan underground. As Danny, a winch operator, remarked: “There is pressure on team leaders and miners to blast. They have double pressure [production and safety]. We rather blast to protect them. If you refuse to work in an unsafe area, you are badmouthed and told that you have a bad attitude.” Petros, one of the miners, echoed the same sentiments:

Sometimes people are in a dilemma of … that attitude of forcing people to work in an unsafe area. Following the law might work against you. It can affect your [performance] record because you put safety first. For the miner not to blast [the gold bearing rock] for three days is a bad [performance] record. Five days without blasting is worse. As a miner, you should know that safety [law] can break your [performance] record. The mine can dismiss. So you are tempted to risk for the sake of boosting your [performance] record.

Danny’s and Petros’ remarks suggest that the stope workers made a plan [planisa] not only for the purpose of meeting production goals but also for solidarity reasons – to protect their team leaders and miners from being punished by their shift-bosses and mine captains. In this context, making a plan inside the pit entailed an element of coercion. This highlights the informal occupational culture with which the miners resented management control and maintained control over their working day. The team workers understood the harsh treatment their team leaders and miners faced if they failed to impress their superiors (Gordon 1977).

In the eyes of the shift-bosses and mine captains, team leaders and miners who failed to improvise production through making a plan were incompetent. In this instance, making a plan is a response to coercion. As David, a stope worker, remarked: “Team leaders who stick to the law [by refusing to make a plan] are bad-named and changed from one gang to another. They are called they know too much [makhulu skop] and do not want to listen. You are being intimidated, I will charge you. You must blast that panel at all cost.” This was particularly the case in the apartheid mining regime. As the President of the NUM, Senzeni Zokwana, pointed out: “In those days, if you went back and said you didn’t want to drill in an area
because it was bad, you were ridiculed and threatened. You were told to make a plan and were sent back” (Sunday Times Business Report, 31 August 2008).

The miners, shift-bosses and mine captains were also under pressure to produce. Hence they tended to instruct their charges to make a plan to resolve blockages to production. This usually meant non-adherence to formal work standards and adoption of alternative informal work practices. As Kau, a rock drill operator, pointed out: “They [shift-bosses and mine captains] would tell you drill, *tshaya* and blast, *tshisa*. You will then make a plan to please them. If you do not you would be asked so many questions as if they did not know that you did not have the necessary material and equipment.” Petros, a stope worker, shared the same view: “If you happened not to do it on another day, the shift-boss might ask you why you did not make a plan.” The shift-bosses’ and mine captains’ interests in the miners’ work practice of making a plan affirms the notion of the involvement of management in workplace fiddles (Ditton 1977; Gouldner 1954; Finlay 1988; Webb & Palmer 1998; Nichols 1997; Ackroyd & Thompson 1999; Iszatt-White 2007).

**Production bonuses**

The desire to increase bonus earnings by all means perpetuated the work practice of planisa underground: “Workers make a plan in order to blast and get a productivity bonus …” Manolo, the winch operator, commented. To meet the production target and qualify for the bonus, “we [stope workers] do make a plan by stealing or searching for material from other sections and cross cuts”, Petros, a stope worker, said. Themba, the team leader, added the following: “We borrow the material from the neighbouring panels [production crews]. Miners do it.” Jay, a rock drill operator, shared the same view: “The miners and shift-bosses too do make a plan in order to get the bonus.”

The miners and shift-bosses improvised production through planisa because they were also paid bonuses when their crews achieved the production target: Hence they tended to instruct their charges to make a plan to resolve blockages to production. This is best illustrated in the manner in which shift-bosses handled budgetary constraints. This usually meant non-
adherence to formal work standards but adoption of alternative informal work practices such as planisa

**Budgetary constraints**

Workers face the implications and consequences of the practice of planisa at higher levels within the organisation. As noted earlier, the informal work practice of making a plan takes place at worker level and also at supervisory level. Miners, shift-bosses and mine captains were also under pressure to produce not only in terms of meeting production targets but also saving operating costs. The pressure exerted by top management to supervisors does not only apply in a deep-level gold mining workplace. For example, Dalton (1992) discovered at Milo that cost pressures compelled middle and lower officers to distort cost figures in order to impress top management and gain promotion.

Down the mine, in order to secure bonuses, mine captains must deliver their specified targets under budget while struggling against the costing department who attempt to ensure that work is performed within the budgets allocated for planned routines. Mine supervisors (shift-bosses) are consequently reluctant to apply for extensions to their budgets. Where stope workers sense dangerous or hazardous conditions and require additional materials, support especially, the normal stresses of dealing with a hostile working environment are compounded by having to beg and plead for equipment to make a working area operationally safe.

As stated earlier, mine supervisors are under their own pressures as the costing department systematically pays 85% of budget, thereby squeezing supervisors to make do with less materials and equipment than they in fact need. Workers at the rock-face end-up bearing the brunt of attempts at controlling the fiscus under conditions of the fluctuating dollar price of gold and weakened Rand (South African currency) as mine management attempts to stay in business. The interest of shift-bosses and mine captains to get the job done was found to
conflict with the costing department’s concern to cut costs and ensure the profitability of the mine.

In response to cost pressures, budgetary constraints and material shortages, shift-bosses made a plan amongst themselves. One day, Lee, the shift-boss, remarked to me while underground overseeing production:

You end up having to make a plan or steal material. We do also assist each other. For example, the other shift-boss asked me to loan him some money from my budget to buy material because he does not have the money in his budget. I loaned him R500 [about $70.00]. I know he will help me with something in future.

Jimmy, the shift-boss, concurred with Lee that they made a plan by taking calculated risks and shortcuts in response to production blockages: “I am not 100% within standard and would say it openly. And mining is a risky game. You are taking risks every single day.” Jimmy went further to say:

… but there are risks you must be prepared to take and there are certain risks you must not be prepared to take. And I would say this openly to anyone. And with the support and safety of the person, that is the risk you can’t take. And if they are willing to take that risk, they must be willing to take the repercussions that come with that risk, which are major repercussions.

**Imposition of standards**

Mine standards, rules and procedures have developed from both engineering specifications and designs as well as how these have been modified by past experience. As this chapter has already shown, adherence to these standards often conflicts with responses to uncertainties workers are required to make as they manage their work to achieve production targets and increase their bonus earnings. Stope workers viewed planisa as part and parcel of gold mining – something which gold mining would not take place without. As Max, the team leader, remarked: “Every job entails the element of planisa. You cannot authorise someone to make a plan, but we do make a plan.”
Risk-taking under these conditions of multiple constraints becomes inevitable. Workers are then blamed in the event of injuries incurred as rules may have been breached in order to get the job done, not yet having institutionalised the *de facto* power of the right of refusal to work under dangerous conditions as promulgated by the South African Mine Health and Safety Act of 1996. In this sense, the past of the despotic workplace regime negatively intrudes on current attempts to introduce a new work culture of high-performing and safer underground work teams and occupational practices. To some extent, this has to do with the production pressures the managers of the mine studied were under which left the responsibility of cutting corners with the miners themselves and their supervisors (see Hopkins 1984; Nichols 1975, 1997; Quinlan 1988).

The reality is that making a plan has pros and cons for stope workers down the mine. If they engaged in planisa, the stope workers tended to bypass formal work standards including their right to refuse to work in unsafe areas. As Billy, a rock drill operator, commented: “Planisa is … about taking chances. It is out of mine standards.” Billy’s view was shared by Alfred, winch operator: “Planisa is not legal. Planisa is out of standards.” Planisa was only appealing to mine management if it did not culminate in injuries and accidents. Shift-bosses and mine captains praised their charges. However, in the event of injury or accident, the stope workers were blamed by their bosses. The causes of occupational injuries and accidents are attributed or reduced to worker behaviour rather than to a variety of organisational, managerial and human factors pertaining to the labour process of gold mining. The “culture of blame” consequently persists as infringements of rules and regulations are met with institutionalised sanctioned penalisation. “Victim blaming” dominates explanations of occupational injuries and accidents in South African gold mines. As a result, management tends to “get away with murder” at the expense of production workers (see Hopkins & Palser 1984; Nichols 1975, 1997; Quinlan 1988).

Therefore, planisa constituted two sides of the same coin – admiration on the one side and condemnation on the other side. The words of Dave, a stope worker, emphasise the point:
“Making or trying a plan is only good when it does not result in accident. But if your plan was successful you are good men [madoda]. You can make a plan [planisa], but once there is a mistake, you are in trouble.” In this sense, workers’ ability to make a plan at the rock-face entailed occupational prestige and affirmation of occupational and masculine identity; power, strength and pride in doing a tough job, surviving and adapting to dangerous working conditions in deep-level gold mining (see Dennis et al. 1956; Salaman 1974, 1986; Burawoy 1979; Willis 1979; Yarrow 1979, 1992; Fitzpatrick 1980; Douglas & Krieger 1983; Vallas 1987; Hodson & Sullivan 2002; Perry 2003).

Ironically, in the event of injury or accident resulting from making a plan, the role of mine management, especially the shift-bosses and mine captains was overlooked. As the President of the NUM commented in one of the major South African Sunday newspapers:

Mine bosses tend to blame the miners for recklessness and a failure to apply the safety training they get. We are familiar with that accusation and our approach is simple. We will not change safety by counting who was wrong when. We can change it by stopping the blame game. You must remember that most of our members work in the lower ranks of the industry. They don’t take decisions, therefore, on how they should blast. Earlier this year, a [rank-and-file] member stopped blasting work on a section because he believed it was unsafe, only to be overruled by his overseer. That day, two workers were caught in a rock fall and one lost his life. Wouldn’t you call that recklessness? (Sunday Times Business Report, 31 August 2008).

The President of the NUM pointed out further in the interview:

The very drive for high profits means that in some areas [working] conditions are not as good as they would be. I remember recently there was a fatal accident in one of the mines here in Carletonville [a gold mining town in South Africa]. There was a warning before a major [seismic] event happened – that there was a bump [shake of the ground], but the workers were not informed to leave the [working] area and they remained. The second bump was too big for them to survive. And they were killed.

In the event of injuries or accidents, mine managers tended to be narrow-minded and easily blamed workers for taking shortcuts: “When workers get injured, they are asked what were they doing ... The problem is with middle management [shift-bosses and mine captains] ...
Pressure to reach their [production] targets”, Dee, the NUM shop steward, said. Mine management often failed to consider a host of factors that compelled workers to take shortcuts. Most important of all, was the perpetuation of the work practice of planisa by shift-bosses and mine captains. Nevertheless, Pat, the Rock Engineering Manager at GoldCo, admitted that the blame cannot be attributed solely to the worker at the rock-face: “It is just not the poor guy, but probably, it is a broken winch that could not be fixed on time. The shift-boss did not plan for it and the mine captain did not do his part.” It is for this reason that it is:

Misleading to investigate accidents solely as individual cases: the foremen’s involvement and the complicity of management which is behind it, is often too diffuse, to be revealed by such an approach ... More often their involvement is of such a diffuse nature that it evades the procedures used to investigate particular cases. In this way the safety rules misfires badly. They not only fail to prevent dangerous practices, they also ensure that the men are blamed for any accidents they have, and they are used, to boot, to exonerate the foremen and the firm (Nichols 1997:57-8).

It is important to note that although the gold miners’ underground practice of planisa entails an element of safety, the focus of this paper is not on safety per se but on the significance of making a plan in the day-to-day conduct of work at the rock-face as far as formal and informal work methods and management initiatives are concerned.

I would like to reiterate that shift-bosses and mine captains as part of mine management do not only recognise planisa, but they constantly instruct workers to create their counter-plans to get things done at the point of production. This occurs particularly in circumstances of organisational dysfunctions such as lack of supplies and in the event of unforeseen blockages endemic to mining. It is the informal rules and norms of mining such as the gold miners’ informal working practice of planisa that constitutes the central organising principles of the workplace without which gold mining would not take place. Let alone its unsafe aspects, what does the informal work practice of planisa down the mine tell us about the efficiency, precision and reliability of the formal, official or bureaucratic methods of work organisation? The section that follows seeks to respond to this question.
Making a Plan (planisa) and the Limitations of Standardised Work Methods

Making a plan down the mine reveals that formal or bureaucratic work methods “may be efficient but also have many drawbacks and limitations” (Hodson & Sullivan 2002:190). At the heart of limitations of formal work methods is over-conformity to official rules even in work situations which requires deviation from formalised procedures (Izatt-White 2007; Lopez 2007). For this reason, it is argued that at times over-conformance to rules and regulations leads to bureaucratic rigidity and reduces innovation and creativity (Merton 1949; Lindblom 1959; Hodson & Sullivan 2002). The following comment from a shop-floor worker cited in Terkel (1974:448-9) highlights the shortcomings of rigid formal work methods and significance of informal workplace practices such as making a plan down the mine:

I’ll run into one administrator and try to institute a change and then I’ll go to someone else and connive to get the change. Gradually your effectiveness wears down. Pretty soon you no longer identify as the bright guy with the ideas. You become the fly in the ointment. You’re criticised by your supervisors and subordinates. Not in a direct manner. Indirectly, by being ignored, they say I’m unrealistic. My suggestions go through administrative channels. Ninety nine percent of it is filtered out by my immediate superior. I have been less than successful in terms of getting things I believe need to be done. It took me six months to convince my boss to make one obvious administrative change. It took her two days to deny that she had ever opposed the change.

By making a plan, the stope workers were able to improvise production in spite of organisational dysfunctions and managerial inefficiencies. The stope workers were not responsible for making requisitions and the purchasing of material. It is the responsibility of production supervisors (miners and shift-bosses) and mine management to ensure that the production crews are provided with sufficient material to run the production process efficiently. As discussed above, in response to production constraints, the stope workers reacted positively by making a plan to ensure that they produce. By making a plan, the stope workers resolved the problems and inefficiencies associated with the formal organisation and management of the production process.
Owing to their tacit knowledge, the stope workers usually succeeded when they “got on and got by” or “muddled through” (see Lindblom 1959) at the point of production through the work practice of planisa. In practice, making a plan embodies tacit knowledge, creativity, meaning and pride at work. Tacit knowledge or skill is a type of skill that is neither acquired through training nor formal job descriptions but through work experience. Lubit (2001:166) defines tacit knowledge as follows:

Tacit knowledge entails information that is difficult to express, formalise or share. It stands in contrast to explicit knowledge, which is conscious and can be put into words. An individual experiences tacit knowledge as intuition rather than as a body of facts or instruction set he is conscious of having and can explain to others. Tacit knowledge is ‘knowing how’ while explicit knowledge is ‘knowing that.’ Tacit knowledge is unconsciously acquired from the experiences one has while immersed in an environment. Tacit knowledge develops when unconscious, inductive mental processes create a representation of the structure of the environment showing the relationship between important variables. In other words, people can have unconscious abstractions, that is, people can learn about the underlying complex structure of systems without being conscious of doing so or being able to articulate their understanding.

Making a plan inside the pit reveals that underground gold miners possess and exhibit a host of tacit skills beyond the pit sense with which they deal with workplace hazards and get underground work done. The pit sense is the ability of underground gold miners to detect, intuitively, loose rocks and potential rock fall accidents (Leger 1992). Making a plan down the mine affirms Leger’s (1992:60) finding that “once drillers had developed some skill at estimating the location of holes, they would simply sight their holes by personal judgement rather than bother with a director.” This is therefore contrary to the view that standardised work methods are inevitably more efficient than other forms of work methods.

It can be argued that by making a plan, the stope workers exhibited some form of worker citizenship behaviour. Hodson (2001:45) defines worker citizenship behaviour:

As positive actions on the part of employees to improve productivity and cohesion in the workplace, which are above and beyond organisational requirements. The implicit model of organisational productivity and effectiveness in studies that highlight worker citizenship is one which technical factors of production and organisational leadership must be supplemented by worker effort and enthusiasm in order to reach optimal or even competitive levels (see also Organ 1988 and Drucker 1993).
The informal work practice of planisa therefore disputes Taylorism’s notion that the planning or conception of production must be removed from workers to management. As discussed earlier on, in such a system of management, workers are not expected to conceptualise production but follow managerial rules and regulations (Taylor 1911, 1947; Burawoy 1979; Edwards 1979; Thompson & McHugh 2002). Contrary to Taylorism’s formula, the evidence provided in this chapter shows that, on the basis of their day-to-day lived experiences, underground gold miners tended to circumvent the standard work rules in circumstances of organisational dysfunctions and management inefficiencies.

Through planisa, the stope workers did not only increase their bonus earnings but also contributed significantly to the profitability of the mine. In other words, both workers and mine management benefit from this alternative work practice (planisa) of offsetting production bottlenecks at the rock-face. Without such an informal plan stope workers would not have completed their production tasks. Once more, the gold miners’ coping strategy of planisa refutes, to some extent, Taylorism’s notion of “soldiering” (see Taylor 1911, 1947; Kanigel 1997) – that is workers’ tendency to restrict output. Down a deep-level gold mining workplace, the coping strategy of planisa is about improvising rather than restricting output.

The miners’ informal working practice of planisa can be likened to Burawoy’s (1979) workplace study of a shop-floor game of “making out” workers played in an engineering factory in Chicago in the US. In this study, Burawoy (1979) shows the manner in which machine operators unconsciously manufactured consent to the rules of the company and ethos of capitalism. As much as planisa entails conflict on the one side of the coin (in the event of injury or accident) it does entail worker consent on the other side. This is to say that as teams of stope workers “get on and get by” or “muddle through” in response to production bottlenecks and to increase their bonus earnings, they reproduce gold mining capitalism. They exhibit commitment or consent to improving the productivity and profitability of the mine. In this instance, they, by default, harmonise and integrate their interests with those of mine management. By doing so, the stope workers were not resisting but complying with the goals of the capitalist labour process in ways that make sense to them (see Burawoy 1979;
Moreover, the informal mining practice of making a plan refutes Braverman’s (1974) 
*degradation-of-work or deskilling thesis* that capitalist forms of production have fragmented 
complex work processes into smaller, simpler and unskilled tasks (see Burawoy 1979; 
Edwards 1979; Thompson 1989; Finlay 1988). As noted earlier, planisa entails informal, 
experiential or tacit skills and knowledge gold miners develop and acquire in the day-to-day 
running of the production process down the mine. 
The miners’ work practice of making a plan highlights the significance of workers’ tacit skills 
and knowledge in the enhancement of workplace efficiency. As noted earlier, tacit knowledge 
consists of the experience that the employees across the occupational spectrum have acquired 
through years of employment in a given enterprise – that is:

Their knowledge of the production environment, their ability to identify the flaws in 
the production process and quality defects in the final product, their learning-by-doing and sharing in the shop-floor wisdom. In general, it is their creative potential locked away in the personal realm and volunteered only at their discretion. It bears a critical relationship with the capacity to reconfigure existing production information, technological knowledge and expertise to yield new designs, new products and increased market share (Kraak 1997:3).

Kraak (1997) asserts further that the merging of formal knowledge and experiential knowledge can accrue benefits to organisations competing in the international market. The essence of the argument is that the latter gives the company a comparative advantage over other companies in that it cannot be easily emulated and reproduced. As the miners’ work practice of planisa clearly shows, tacit knowledge is company-specific, and this is precisely what gives organisations a competitive edge in the “rat-race” global economy. Kraak (1997:6) enunciates the point further: “… unlike formal knowledge which is coded and migratory (eventually available to all users), tacit knowledge is embedded in workers themselves and implicit in the professional and institutional culture of the firm. It is therefore not freely available nor can it be easily mimicked.”
Ironically, firms tend to gloss over the merits of tacit knowledge in workplace change and productivity-enhancing initiatives. The reason for this partly lies in Finlay’s (1988) assertion that:

Workers’ skills do not come wrapped in a neat and easily disposable package. Skill is a complex, many-sided phenomenon. In some cases workers themselves may not be able to articulate how much they know and do. Many of their habits and practices have become so largely second nature that they are unaware of the extent of their skills. In other cases managers may fail to recognise how much workers know and do. Further, a single may possess different kinds of skill; the elimination of the need for one type of skill may not only eliminate the other types but may even make them more important.

Moreover, the miners’ coping strategy of making a plan points to the social construction and contestation of skill by capital and labour in that:

... the identification of subjective tacit or gendered skills indicates a problem with the objective conception of skill. Many skills may be realisable or objective yet remain indeterminate and/or unacknowledged, since they are acquired through the process of job or life experience. They typically pass unrecognised and unrewarded, yet they are of vital importance, exposing the limits of direct management control and highlighting the irremediable dependence of capital upon labour (Sturdy et al. 1992:4).

As the stope workers’ remarks indicated above, in each and every job category, a worker develops and possesses a certain degree of on-the-job skill that exists between manual dexterity and formal knowledge (see Shaiken 1986; Finlay 1988; Sturdy et al. 1992). According to Webster and Leger (1992:54) “manual skill or dexterity is the ability to perform quickly and effectively complex actions which necessitate the co-ordination of perceptual and motor activity. An example is the ability of a carpenter to saw a straight edge.”

Apart from its unsafe aspects, the informal organisation of work through planisa is innovative and efficient. Making workers’ tacit skills explicit is vitally important in the creation of a high-performance and safety culture in the post-apartheid South African gold mining industry where skill was previously defined along racial lines (see Webster & Leger 1992). In other words, there is a need to recognise the existing informal skills of underground work teams
and transform the current workplace in such a way that it corresponds with the implementation of the newly instituted forms of workplace organisation which value high levels of employee commitment.

While making a plan is a *sine qua non* of mining practice, the challenge is to harness the capacities of miners to exercise these occupationally learned skills, while eliminating its unsafe aspects. As stated earlier, it should be noted that planisa disperses responsibility, accountability and conflict from management to the work teams in the event of injuries and accidents. To put it differently, the policy of planisa harmonises and integrates the interests of management and workers only if does not result in injuries and accidents. This is where the occupational, tacit skill, experiential and practical knowledge of mining becomes significant. Planisa only works on the assumption that workers possess a rich occupational culture and deploy well-developed tacit skills. Mineworkers consistently claim that mining is easy, but that it is not easy to get it right. This points to the continuous need to be able to take the uncertainties endemic in mining into consideration and find ways of dealing with them efficiently.

**Making a Plan and Workplace Efficiency**

The gold miners’ informal coping strategy of planisa questions the efficiency, precision and reliability of the formal, administrative or bureaucratic principles (rules) in certain work situations (see Merton 1949; Roethlisberger & Dickson 1952; Gouldner 1954; Lindblom 1959; Terkel 1974; Burawoy 1979; Watson 1980; Hodson & Sullivan 2002; Iszatt-White 2007). What the perspectives from the rock-face has revealed is that often these same formalised rules and regulations may prevent work from taking place and informal practices by workers outside the rules may actually enhance efficiency.

This paper has shown the manner in which underground gold miners bypass work standards blocking production by taking shortcuts in the form of making a plan. Therefore, planisa as a particular type of informal work organisation shows that formal or standardised methods of
work organisation are not necessarily more efficient at achieving certain goals than other methods of work organisation (Thompson & McHugh 2002; Webster et al. 2003).

The miners’ informal coping strategy of planisa highlights “the gap between rules and reality and the tensions which arise over rule compliance and violation” (Iszatt-White 2007:460). Iszatt-White’s (2007) ethnographic study of rule violation in a British road construction and maintenance firm revealed that operators could only deal with uncontrollable risks and get the job done by violating prescribed safety procedures – what she refers calls heedfulness5 (see also Lawton 1998; Vaughan 1999, 2004; Harley 2003). It can be argued that making a plan down the mine is an act of heedfulness – a calculated risk of “knowing how to get on” (Lindblom 1959; Weick & Roberts 1993; Iszatt-White 2007) in adverse working conditions. As much as making a plan entails breach of safety rules, it would be wrong to suggest this “unofficial” work practice is by all means geared at endangering the lives of mineworkers. This point relates to Hopkins’ (1984) finding in New South Wales underground coal mines that the miners’ violation of government-imposed safety standards was not an act of carelessness but:

Represents not only a response to managerial pressure to violate codes but also an attempt to assert the miners’ own informally agreed safety standards ... a struggle for job control as miners try to circumvent attempts to reduce their autonomy by using their considerable, if imperfect knowledge to develop their own experience-based standards (Hopkins 1984:2-17 cited in Quinlan 1988:203).

Although miners chiefly make a plan in order to the job done, they cannot get the job done having not first made the workplace safe. In other words, owing to managerial inefficiencies, underground gold miners steal or borrow material from other gangs and search for material such as timber packs or props in previously mined underground sites not only to produce but to first ensure safety in the stope. Leaving the stope hanging or unsupported by timber packs

5 Iszatt-White (2007:455) notes that at the road construction and maintenance site she studied “an institutionalised example of heedfulness was the required practice of having banksman take charge of the manouvrering of vehicles and lifting gear on busy construction sites: his role was to ensure that sufficient clearance existed between the moving vehicle and any obstacles, including people needing to move about the site. The colour of his hard hat clearly marked him out as the person directing operations, and everyone on the gang looked on him for signals indicating when and where they could safely move. The complexity of the operations being undertaken meant that this active heedfulness and coordination of movement was a necessary addition to the known rules about site safety.”
or props is an unsafe practice. Therefore, making a plan is a response aimed at both improvising production and safety at the rock-face.

Furthermore, the work practice of planisa augments Watson’s (1980) assertion that work design has to be viewed in the light of the interplay between “official” and “unofficial” aspects of work design. While the official aspects of work design help us understand the administrative part of the organisation, they do not tell us much about the actual behaviour of organisational actors. We therefore need to incorporate the “unofficial” devices, such as planisa down the mine, when conceptualising work organisations. The miners’ day-to-day work practice of making a plan shows that “unofficial” devices are part and parcel of the day-to-day running, particularly in circumstances whereby workers find the “official” or administrative work procedures less helpful in achieving production goals. Watson (1980:192-3) elucidates the point:

We find work groups setting up norms in opposition to managerial efforts to increase outputs, we find individuals and trade union groups acting in pursuit of increases in reward, which puts up the organisation’s costs, and we find supervisors holding back information from subordinates or administrators to safeguard their jobs, even at the expense of their department’s efficiency ... alongside these ‘negative’ unofficial activities we may equally well find unofficial relationships existing between departmental heads which, in effect, speed up performance by by-passing ‘correct’ procedures, we may find trade union intervention resulting in simpler management through the establishment of formal bargaining procedures and we will almost inevitably see example after example of rule-breaking and circumvention of rules helping to keep the job running (witness the paradoxical destructiveness of ‘working to rule’ as an oppositional strategy). By the same token, we may find off-the-record arrangements and payments of ‘backhanders’ vitally necessary to the success of organisational policies whose initiators and beneficiaries have made such activities officially illegal.

As discussed earlier, Watson (1980:193) points out further that:

A payment system devised by officials to increase output may invite unofficial strategies among work groups who choose to resist pressure to speed up their work, for example. But this, at the same time, may lead to some redesign of the official structure in the form of changes in the supervisory arrangements, modifications to the work study department or even the introduction of a plant industrial relations or personnel officer.
Given its effectiveness in the achievement of production goals down the mine, it would be unwise not to recognise the miners’ informal coping strategy of making a plan, as a significant, albeit “unofficial”, productivity-enhancing initiative. The stope workers gained both economic and social incentives when they made a plan underground (see Collins et al. 1946; Olson 1965). By making a plan, stope workers avoided production delays and completed their production tasks within the allocated hours of the shift. This did not only increase stope workers’ capacity to earn their production bonuses but gave them enough time to rest, attend to urgent family issues and run errands after their underground shift. Completing the day’s work within the allocated time of the shift somewhat reduced worker fatigue as Roy (1958) and Burawoy (1979) discovered in the machine operators’ shop-floor game of making out. Moreover, making a plan down the mine demonstrates mineworkers’ autonomy over their working day. By making a plan, stope workers escaped the drudgery and boredom associated with industrial work. This refutes Marx’s theory of worker alienation in the capitalist labour process. Making a plan down the mine indicates that workers are creative beings capable of overcoming alienation in the capitalist system of production (see Blauner 1964).

Conclusion

This paper has discussed the informal work practice of making a plan (planisa) down the mine in relation to formal methods of work organisation. The work practice of making a plan suggests that in unpredictable and complex conditions formal methods of operation are not necessarily more efficient than other forms of operation (Merton 1949; Roethlisberger & Dickson 1952; Gouldner 1954; Lindblom 1959; Terkel 1974; Watson 1980). Therefore, Weber’s conception of the efficiency of bureaucratic or administrative methods and Taylorism’s “one best way” hypothesis are nullified (Kanigel 1997; Thompson & McHugh 2002).

The informal work practice of planisa reveals the manner in which underground gold miners resolved complex production blockages which administrative or formal methods of
management could not resolve. Apart from its unsafe aspects, the work practice of “getting by” underground is actually an innovative work practice in that it enhances worker productivity. It is a “science of management” to use Lindblom’s (1959) words – a science of “muddling through” in the daily running of the production process down the mine. In fact, in response to the failure of the formal system of management to resolve production bottlenecks, the stope workers resorted to an alternative or “unofficial” work practice of planisa with which they restored production at the rock-face down the mine. To borrow from Lindblom’s (1959) work, it can be concluded that planisa is a science of “muddling through” with which underground gold miners improvise the day-to-day running of the production process.

As Human Relations researchers discovered at Hawthorne plants (Roethlisberger & Dickson 1939), the neglect of the human factor has led writers such as Hoxie (1915) to denounce certain elements of Taylorism as unscientific for the following reasons, amongst others:

• It does not take all the elements into consideration but deals with human beings as it does inanimate machines.
• It violates the fundamental principles of human nature by ignoring habits, temperament and traditions of work and tends to minimise the acquired skill of the workers.
• It concerns itself almost wholly with the problem of production, disregarding in general the vital problem of distribution, and violates and indefinitely postpones the application of the fundamental principle of justice to distribution.
• It is based on the principle of the survival of the fittest and tends to disregard the physical welfare of the workers.

As stated earlier, planisa comprises consent and conflict between workers and management depending on whether it culminates in injuries or not. The fact of the matter is that management is to blame for production blockages such a material shortages, mechanical breakdowns and budgetary constraints. In response, owing to their tacit skills, the stope workers improvised production by making a plan. Mine management also evaded rules and regulations as shift-bosses and mine captains not only recognise planisa, but consistently order workers to make a plan, effectively instructing workers to create their counter-plans to get things done. This is to say, like the workers, mine management and supervisors participated and had vested interest in what may also be called the miners’ game of making a
plan at the rock-face. This argument is consistent with Burawoy’s (1979:85) assertion in his study of the shop-floor game of “making out” that “it is not so much the monetary incentive that concretely coordinates the interests of management and worker but rather the play of the game itself, which generates a common interest in the outcome and the game’s continuity.” In other words, planisa erodes the “us versus them” syndrome (Jonas 2000) in the gold mining workplace, as workers unconsciously, in subtle ways, consent to production goals.

Making a plan embodies consent, conflict, skill, creativity, identity, autonomy, pride and prestige on the shop-floor. This highlights the activeness rather than the passiveness of gold miners over the capitalist mining labour process (see Burawoy 1979; Edwards 1979; Willis 1979; Yarrow 1992; Noon & Blyton 2007; Allsop & Calveley 2009). While making a plan (planisa) is an essential part of mining practice, the challenge is to harness the miners’ capacity to exercise these occupationally learned skills, while eliminating its unsafe aspect. Any strategy to improve the safety and productivity of mineworkers must draw on these experiences.

References


