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

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The non-formal behaviour system permits the individual to do his work as well [as] or better than the company expects, but to do it unofficial ways ... orients the individual with respect to his specific work goals. It also permits the individual to achieve these work goals in ways that may be either unique to himself, or shared only with colleagues. We can see, then, that the non-formal behaviour systems of work are the systematic ways in which corners are cut in getting work done. The non-formal behaviour systems represent the constant inventiveness of people at work. They discover new and better ways of doing their work or discover different means for achieving the same work objectives. Non-formal behaviour systems always tend to be invisible to strangers observing work group. For the newcomer to work, one of his most difficult learning tasks is to discover the non-formal behaviour system surrounding his particular job. This discovery usually takes the form of being told by colleagues that “if you really want to get the job done, this is the way you do it” (Dubin 1958:68).

Abstract
This paper discusses the interaction between formal and informal organisation of work inside the pit. The paper examines the informal working or coping strategy of “making a plan” (planisa) the gold miners engaged in to offset the production bottlenecks that disrupted the smooth running of the production process and which affected their capacity to achieve their production targets and increase their bonus earnings. 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. They “get on and get by” underground in order to cope with these organisational constraints and inefficiencies. The paper highlights the limits of formal organisation of work and the significance of gold miners’ informal work strategy of making a plan (planisa) as an existing and alternative working practice that shapes their subjective orientation, agency and resilience to work structures and managerial strategies. 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 health, safety and productivity 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, stope workers
Introduction

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.

A number of labour process studies have shown the interaction between formal (official) and informal (unofficial) work arrangements. Workers do not always achieve production goals through formal work strategies. Where formal or bureaucratised work methods fail to overcome production bottlenecks, shop-floor workers bypass work standards and adopt informal work strategies in order to
maintain control over the production process. This then raises questions about the efficiency of formal or bureaucratic methods of work organisation in certain work situations (Ackroyd & Thompson 1999; Burawoy 1979; Gouldner 1954; Merton 1949; Roethlisberger & Dickinson 1952, 1984).

The miners’ informal working practice or coping strategy 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 (Blauner 1964; Webb & Palmer 1998).

This paper draws on the author’s ethnographic doctoral study of worker responses to production goals and management policies in a deep-level gold mining workplace (Phakathi 2011). 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, entreating miners to deploy their skills and ingenuity to tackle the day-to-day problems posed by the endemic uncertainties and organisational dysfunctions of mining.

The paper is divided into six sections: The section that follows discusses 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 provides a discussion of formal and informal work strategies in industrial organisations, while section four discusses the work practice of *planisa* as an informal mode of work.
organisation at the rock-face down the mine. Section five discusses the limits of formalised methods (rules and regulations) as promulgated by Max Weber (1946, 1958, 1968) and Frederick Winslow Taylor (1911, 1947). In section six, the implications this underground gold miners’ informal work practice has for management policies are discussed and worker autonomy in the daily running of the production process down the mine, given the innovativeness of planisa in resolving production blockages. Rules and regulations may be counter-productive in unpredictable conditions such as those encountered by underground mineworkers in South African gold mines.

**Research Methodology**

To understand the gold-miners’ day-to-day lived and subjective experiences of the mining labour process and their responses to work reorganisation, I immersed myself in the daily working lives of mineworkers for an extended period of time at GoldCo – a pseudonym of a deep-level gold mines situated approximately hundred and fifty kilometres southwest of Johannesburg in South Africa. The research was ethnographic in nature and the participant observation was the main research technique used in the field. According to Hammersley and Atkinson (1995:1-2):

> 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.

I adopted the role of participant observer (Burgess 1984; McCall & Simmons 1969; McNeill 1990), living with mineworkers in the mine hostel, participating in their
production tasks and observing the manner in which they performed those tasks inside the pit. For six months\textsuperscript{2}, I spent nearly all my time in the mine hostel and inside the pit with male underground workers.

The underground work teams studied were sampled on the basis of their performance over a twelve-month period. Assisted by the mine’s human resource department, the production results of all underground work teams were used to identify high-performing and low-performing teams. A high-performing team under the supervision of Jimmy and a low-performing team under the supervision of Lee were sampled as case studies. A typical gold mine consists of a number of production sections.

Within each section there are a number of work teams or production gangs (that is, stope workers and their team leaders), foremen (shift-bosses) and middle managers (mine captains or mine overseers). The mine captains were briefed about the study by Gert, the human resource manager at GoldCo. The mine captains introduced me to the shift-bosses (Jimmy and Lee) of the underground work teams studied.\textsuperscript{3} Jimmy and Lee introduced me to their production teams when I started my participant observation research inside the pit.

At the time of fieldwork, the underground teams studied were mining gold at depths of 2 000 to 2 500 metres below the surface. I went underground every morning with the underground work teams and, occasionally, with their shift-bosses. I ensured that the majority of the time was spent with the underground gold miners, as the focus of
the study was on their responses to the reorganisation of work through management initiatives such as the production bonus schemes, their attitudes towards workplace supervision, and their views and experiences of the interaction between formal and informal organisation of work.

Underground work teams varied greatly in their constitution and strength depending on the size of the stope. A stope is any excavation underground to remove ore (the gold-bearing rock). A development-end team would comprise anything from six to eight members, while a full-strength stope team might comprise ten to eighteen members with a team leader. Each team member would invariably perform the tasks of barring, drilling, backfilling, supporting (with timber or cement packs and pressurised elongates with headboards), and sweeping or removing the broken ore (gold-bearing rock), whether the worker was formally trained or not.

The production tasks I performed inside the pit entailed assisting team members in offloading production material such as timber packs from the locomotive and transporting the packs 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. These production tasks were less dangerous and did not require much on-the-job knowledge and experience as 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 I had to bear in mind during the course of the 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 life insurance cover as a precautionary measure for the entire duration of my fieldwork.

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 formal and informal organisation of work, workplace supervision, management practices, occupational health and safety, production targets, production bonuses, training and skills development. Given the diversity of the culture of the workforce, as a researcher, I interacted and communicated with the informants in their choice of seven South African languages, namely English, isiZulu, isiXhosa, Sesotho, Setswana, Xitsonga and the mining workplace lingua franca, Fanakalo. Being a South African, I could speak and understood these languages including the mining pidgin of Fanakalo.

In the mine hostel (above the ground), I shared a room with underground workers and ate with them at the hostel’s communal kitchen. On certain afternoons and during weekends, I played football with the informants. I spent time with them in the pub drinking a soft drink or beer, playing pool and watching television. I also spent time in the mine’s training and development centre where induction and training are
given to mine employees. These interactions facilitated a dialogue and strengthened the rapport between the researcher and the researched.

The role of observer-as-participant (Burgess 1984) was employed when I attended various mine management meetings, shop stewards’ and union mass meetings, organised weekly or monthly. These meetings supplemented data gleaned through my interactions with the rank-and-file employees and enabled me to understand the organisation of the mine from a managerial point of view. My interactions with mine supervisors, managers and union leaders tended to be brief and formal. As stated earlier, much of the time was spent underground and in the mine hostel with the work teams. This reassured the informants that I was not the “mine-bosses man” nor a “trade union man” but the “sociologist-of-work” researching the mining labour process and the working lives of underground gold miners.

**Formal versus informal workplace practices**

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 Frederick 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 … 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).

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? Thirdly, 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 [he] was not compelled to distinguish them from each other. This appears to have derived partly from his use of the seemingly 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 reinterpret and 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 (Devinatz 1993, 2007; Gouldner 1954; Iszatt-White 2007; Lindblom 1959; Thompson 1983; Watson 1980).

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 emphasise 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.

Management and supervisors break work rules and regulations as much as workers do (Ackroyd & Thompson 1999; Ditton 1977a, 1977b; MacLean 2001; Mars 1982, 1985). For instance, Gouldner (1954) discovered a number of instances where the
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).

Burawoy (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. 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. Clawson’s (1980) study of scientific management (Taylorism) at the Watertown Arsenal in the early twentieth century revealed that arsenal workers could get the job done only if they relinquished the “scientific” approach and relied instead on their own expertise and judgement. In similar vein, Juravich (1985) points out that at:

National [name of the factory he studied], faulty materials and equipment failures constantly prevented the smooth running of the production process and could be offset only by experienced and informed operators.

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.

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 but also the existence of official safety rules side-by-side with unofficial safety rules in the underground mining workplace (Collinson 1999; Fitzpatrick 1980; Gouldner 1954; Hopkins 1984; Nash 1993).

Having discussed the theory of bureaucratic and scientific management of production, the paper now proceeds to discuss the meat of this paper – the gold miners’ informal work practice of planisa. This unofficial work practice of making a plan (planisa) is the litmus test for the effectiveness of the official methods of work organisation in a deep-level underground gold mining workplace.

Making a plan (planisa) inside the pit

In the gold 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 coping work practice of planisa (making a plan). A combination of factors compelled underground workers to make a plan (planisa) or improvise in the production process either as a result of an instruction or out of the work team’s self-
initiated action. The following organisational factors compelled underground gold miners to engage in the shop-floor tactic of making a plan:

- Material shortages and mechanical breakdowns
- Production pressure
- Production bonuses
- Budgetary constraints
- Imposition of standards

**Material shortages and mechanical breakdowns**

Material shortages were a frequent blockage to production down the mine and adversely affected the capacity of stope workers to meet their production targets and earn their bonuses. 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 …

For safety reasons, unauthorised entry to such an underground site is prohibited by law and is considered a hazardous act. Nonetheless, as the above-mentioned stope worker’s remarks indicate, I observed stope workers going to the *madala* site to search for materials with which they could improvise. The miners searched for a host of material including timber packs, unused props, bolts and nuts or pieces of wire with which 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 went 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 (Lindblom 1959; Merton 1949; Merton et al. 1952; Watson 1980). 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.

In addition, 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-winch is out of order for seven months and where there are only a few locos to transport people. But you regard these problems as temporary.
Broken winches and shortages of winches prevented stope workers from removing the broken ore from the gully to the ore-bins and caused the broken ore to pile up in stopes and gullies. According to work standards, it is illegal not to remove the broken ore from the stopes and gullies because it leads to the reduction of the content of gold in the broken material.

This finding of material shortages and equipment failures that 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 gold mine studied was – from the mine manager at the top to the stope worker at the bottom of the organisational hierarchy – under pressure to produce gold. 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 embodied an occupational culture of brotherhood (Gordon 1977).

Contrary to Gordon’s (1977) observation regarding the miner’s tendency to use the covert strategy of brotherhood to resist autocratic supervisors and restrict output, the gold miners whom I studied collectively employed the brotherhood tactic: not to restrict output *per se* but as an adaptive, coping, defensive or oppositional tactic (Allsop & Calveley 2009; Foner 1993; Prasad & Prasad 1998, 2000) that they engaged in to shield fellow workers from the production pressure exerted by their shift-bosses and mine captains. The team workers understood the harsh treatment their team leaders and miners were faced with if they failed to impress their superiors. This somewhat highlights the autonomy of gold miners by the manner in
which they resented management control and maintained control over their working day.

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 was a response to managerial 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 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’ unofficial work practice of making a plan affirms the notion of the involvement of management in workplace fiddles (Ackroyd & Thompson 1999; Nichols 1997; Richards 2008).

**Production bonuses**

This section of the paper seeks to highlight the influence of the production bonus on the gold miners’ informal coping strategy of making a plan. Watson (1980:193) points out 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 ...” The desire to increase bonus earnings by all means perpetuated the work practice of *planisa* underground. Manolo, the winch operator, commented that to meet the production target and qualify for the bonus:

Workers make a plan in order to blast and get a productivity bonus …

Jay, a rock-drill operator, shared the same view:

The miners and shift-bosses do make a plan in order to get the bonus.

The miners and shift-bosses also improvised production through *planisa* because they, too, were 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* (Burawoy 1979; Lindblom 1959; Lupton 1963; Roethlisberger 1952; Roy 1952, 1954).

**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 and supervisor levels. Miners, shift-bosses and mine captains were also under pressure to produce not only in terms of meeting production targets but also in saving operating costs. The pressure exerted by top management to supervisors does not apply only 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, at the same time struggling against the costing department, which attempts 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, especially supports, 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 fewer materials and less equipment than they in fact need. Workers at the rock-face end-up bearing the brunt of attempts at controlling the production costs 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 reinterpreted and made sense of top management’s stringent or tight budgetary allocations (Balogun & Johnson 2004; Conway & Monks 2011; Turnbull 2001) by making a plan among themselves. One day, Lee, the shift-boss, remarked to me while we were 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]. 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 … 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.
Jimmy’s remarks show further that supervisors or people with authority also cut corners and bend workplace rules to facilitate production. In a nutshell, they engage in management misbehaviour (Ackroyd & Thompson 1999; Deery et al. 2010; Richards 2008).

**Imposition of standards**

Hodson (1995:95) points out that:

> Under the craft organisation of work, many production norms are collectively devised and implemented by workers. Management enters such systems primarily as a contractor or purchaser of completed goods or services. When management attempts to take a more active role in production through the imposition of bureaucratic rules, it is generally perceived by workers as an interloper, a parasite.

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 that 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 when 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 for the creation of a healthy, safe and productive deep-level mining workplace. This has to some extent to do with the production pressures that the top managers of the mine studied were under, which left the responsibility of cutting corners with the miners themselves and their supervisors (Delbridge & Lowe 1997; Hopkins 1984, 1988; 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 appealing to mine management only if it did not result 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 (Hopkins 1984, 1988; Nichols 1975, 1997; Quinlan 1988). The drawback of this worker-centred blame-seeking approach to incident investigation is that the only errors of interest are those of the worker or operator. As Sundstrom-Frisk (1997:31) argues:

Someone’s behaviour is the root of every workplace accident, but when an operator makes a mistake he is picked out personally. When a constructor or a systems manager shows improper behaviour by taking decisions neglecting safety concerns, the responsibility is depersonalised and becomes a technical or organisational failure.

According to Lamm (1994:71), reducing the causes of occupational accidents to the “careless worker” syndrome

diverts attention from the underlying factors that cause occupational accidents and illnesses. The reliance by managers on the “careless worker” to explain accidents in the workplace by managers has meant a great of the safety training in [mining] industry is aimed at reducing human error by changing attitudes and behaviour.

In Hopkins’ (1984) view, management ought to take responsibility not only by hiding behind the “careless worker” explanations of unsafe practices but by improving the design of machinery and organisation of work in ways that do not prompt workers to engage in unsafe work practices.

As much as the gold miners’ underground work practice of making a plan entailed violation of known rules, the miners engaged in *planisa* to rationalise organisational dysfunctions and management inefficiencies at the point of production. The miners’
coping strategy of making a plan resonates with the findings of the study conducted in the Hong Kong construction industry, where deliberate violation of work rules was found to be a result of poor management of the construction project (Lingard & Rowling 1998; see also Iszatt-White 2007). The researchers concluded that workers’ failure to behave safely can be regarded as a reasonable response to prevailing conditions. Unsafe behaviour should be expected where unsafe but speedy construction work is financially rewarding for both individual and contractors or where adequate and appropriate materials are not provided (Lingard & Rowling 1998:255).

In the gold mine studied, planisa constituted two sides of the same coin – admiration on the one side and condemnation on the other. The words of Dave, a stope worker, emphasise the point:

Making or trying a plan is … good [only] 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 (Douglass & Krieger 1983; Fitzpatrick 1980; Iacuone 2005; Yarrow 1979, 1992).

The miners’ shop-floor culture, survival tactic or knowledge (Devinatz 1993, 2007) of making a plan embodies an element of pride in overcoming production bottlenecks. Underground, men were often praised by their foremen and mine management (in mining lingua franca, Fanakalo), calling them “Yena Madoda” (You are Real Men), for outstanding production results for which they had to make a plan
to achieve. This finding is in line with the assertion of Dennis et al. (1956:33) that the Ashton coal miner’s pride in being a worker and his solidarity with other workers is a pride in the fact that they are real men who work hard for their living, and without whom nothing in society could function.

It is important to note that the miners’ pride in making a plan (planisa) is that it is not, as Yarrow (1979) argues, a management dictation per se but a collective initiative and cooperation from which underground gold miners get satisfaction.

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 National Union of Mineworkers (NUM) commented in one of the leading 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 [instructed] to leave the [working] area and they remained. The second bump was too big for them to survive. And they were killed.
As stated earlier, in the event of injuries or accidents, mine managers tended to be narrow-minded and easily blamed the workers for taking shortcuts. They 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, Stefan, 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 Nichols (1997:57-8) points out 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 misfire 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.

It is important to note that although the gold miners’ underground practice of planisa affects the element of safety, the focus of this thesis 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 work methods and management initiatives are concerned.

I would like to reiterate that shift-bosses and mine captains as part of mine management not only recognise planisa, but 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 a 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 work practice of *planisa* that constitute the central organising principles of the workplace, without which gold mining would not take place. Apart from 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 the limitations of formal work methods is over-conformity to official rules even in work situations which require deviation from formalised procedures (Iszatt-White 2007; Lindblom 1959; Lopez 2007; MacLean 2001) – and this is where Goffman’s (1961) “contained secondary adjustment” comes into play. For this reason it is argued that at times, over-conformance to rules and regulations leads to bureaucratic rigidity and reduces innovation and creativity (Hodson & Sullivan 2002; Lindblom 1959; Merton 1949). The following account, cited in Terkel (1974:448-9), highlights the shortcomings of rigidly formal work methods and the 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” (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 acquired not through training or formal job descriptions, but through work experience (Finlay 1988; Juravich 1985; Kim & Gong 2009; Shaiken 1986; Sturdy et al. 1992). 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 in 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 [in] 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 Drucker 1993; Kim & Gong 2009; Organ 1988).
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. In such a system of management, workers are not expected to conceptualise production but follow managerial rules and regulations (Burawoy 1979; Edwards 1979; Taylor 1911, 1947; 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 dysfunction and management inefficiencies.

Through *planisa*, the stope workers not only increased 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*) or – to use Goffman’s (1961) words – “contained secondary adjustment strategy”, for 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* rebuts, to some extent, Taylorism’s notion of “soldiering” (Kanigel 1997; Taylor 1911, 1947) – that is workers’ tendency to restrict output. Down the deep-level gold mining workplace, the coping strategy of *planisa* is about facilitating rather than restricting production.

The miners’ informal work practice of *planisa* can be likened to Burawoy’s (1979) workplace study of a shop-floor game of making out that workers played in an engineering factory in Chicago. 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. Although 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 manufacture consent (Burawoy 1979) and exhibit commitment 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 a capitalist mining labour process in ways that made sense to them (Bolton & Houlihan 2009; Burawoy 1979; Lupton 1963; Carls 2009; Collinson 1992, 2003).

Moreover, the informal mining practice of making a plan negates 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 (Burawoy 1979; Edwards 1979; Finlay 1988; Thompson 1983). As noted earlier, planisa entails informal, experiential or tacit skills and knowledge that gold miners develop and acquire in the day-to-day running of the production process.

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’ shop-floor practice of \( \text{planisa} \) 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 lies partly 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 worker 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 (Littler 1982) 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 quoted above indicated, in each and every job category, a worker develops and possesses a certain degree of on-the-job skill that falls somewhere between manual dexterity and formal knowledge (Finlay 1988; Shaiken 1986; 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 transformation of mining work culture towards a healthy, safe and productive mining industry where skill was previously defined along racial lines (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 to the implementation of the newly instituted forms of workplace
organisation that value workplace-based learning, knowledgeable and committed shop-floor employees to organisational goals (Billett 2001; Gee et al. 1996).

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 their 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 or survival knowledge of *planisa* questions the efficiency, precision and reliability of the formal, administrative or bureaucratic principles (rules) in certain work situations (Burawoy 1979; Iszatt-White 2007; Lindblom 1959; Strauss 1978; Terkel 1974). What the perspectives from the rock-face discussed in this chapter have revealed is that often these same formalised rules and regulations may prevent work from taking place, and informal

This paper has shown the manner in which underground gold miners bypass work standards that block 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 deal with uncontrollable risks and get the job done *only* by violating prescribed safety procedures – what she calls heedfulness5 or a second-order focus (see also Goffman 1961; Lawton 1998; Vaughan 1999).

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 and get by” (Lindblom 1959; Iszatt-White 2007; Weick & Roberts 1993) in adverse working conditions. As much as making a plan entails a 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 (Dennis et al. 1956; Douglass & Krieger 1983; Fitzpatrick 1980; Gouldner 1954;
This point relates to a research 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 get the job done, they cannot get it done without having 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 primarily to ensure safety in the stope. Leaving the stope hanging or unsupported by timber packs or props is an unsafe practice. Therefore, making a plan is a response aimed at improvising both 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 (see also Nichols 1997). While the official aspects of work design help us to understand the administrative part of the organisation of work, 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 of the production process, 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.

Given its effectiveness in the achievement of production goals down the mine, it would be unwise not to recognise the miners’ informal coping strategy or survival knowledge of making a plan as a significant, albeit “unofficial”, productivity-enhancing initiative. The stope workers gained both economic and social advantage when they made a plan underground (Collins et al. 1946; Olson 1965; Roy 1958). For instance, Hopkins (1984:45) discovered that the New South Wales underground coal miners engaged in unofficial work practices “not for the sake of bonus, but for a number of reasons, the most prominent being the desire to make a dirty, boring, physically demanding job a little easier than it would otherwise be.”
By making a plan, stope workers avoided production delays and completed their production tasks within the allocated hours of the shift. This not only increased stope workers’ capacity to earn their production bonuses but also 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 (Noon & Blyton 2007). This contradicts 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 (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 (Gouldner 1954; Iszatt-White 2007; Merton 1949; Roethlisberger & Dickson 1952; Watson 1980). Therefore, Weber’s concept 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. Despite its unsafe aspects, the miners’ shop-floor work practice of “getting on and 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 inside the pit. 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 in the day-to-day running of the production process.

As has been discussed in this paper, the gold miners’ informal working practice of making a plan underground entails decision-making in the midst of organisational constraints or dysfunctions such as material shortages and mechanical breakdowns. This gold miners’ “survival knowledge” of making a plan facilitates production. It therefore repudiates Braverman’s deskilling thesis and Taylorism’s notion of workers as recipients of management stipulation in that the mineworkers’ decision-making to improvise production through the informal or unofficial work practice of plan-making is influenced by their tacit skills and knowledge acquired on the job (Allsop & Calveley 2009; Iszatt-White 2007; Juravich 1985; Kusterer 1978; Pfeffer 1979).
As human relations researchers discovered at Hawthorne plants (Roethlisberger & Dickson 1939), the neglect of the human factor has led writers such as Hoxie (1915), quoted in Hollway (1991:26), to denounce certain elements of Taylorism as unscientific for the following reasons, among others:

- It does not take all the elements into consideration but deals with human beings in the same manner 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* implies both 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 as material shortages, mechanical breakdowns and budgetary constraints. In response, owing to their tacit skills, the stope workers improvise production by making a plan. Mine management also evade 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 counterplans to get things done. This is to say, like
workers, mine supervisors and management misbehave by virtue of their participation and vested interest in what may also be called the miners’ game of making a plan at the rock-face, or what Richards (2008) calls functional misbehaviour.

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 in the gold mining workplace, as workers unconsciously, in subtle ways, consent to production goals.

Making a plan down the mine highlights the diversity of worker responses or behaviour towards management initiatives (Hodson 1991; Prasad & Prasad 1998, 2000; Rosenthal 2004; Thompson & Ackroyd 1995; Vallas 2006; Willmott 1993), inasmuch as it embodies consent, resistance, conflict, skill, creativity, identity, pride and prestige “based on their ‘functional autonomy’ – their control of the skills necessary for production to proceed efficiently” (Hodson 1995:95). This highlights the activeness (worker agency) rather than the passivity of underground gold miners over a capitalist mining labour process.

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 managerial strategy designed to improve the health, safety and productivity of underground gold miners must recognise, elaborate and systematically articulate the gold miners’ work culture of planisa as an existing and alternative work practice in the daily running of the production process. This is especially important if we are to fully understand the limits of new managerial regimes and workers’ orientations, agency and resilience to work structures and managerial strategies.

Notes

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2 Excluding time spent negotiating access to the field site – which took about three months.

3 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.

4 It is quite a physical job. I took the participants by surprise in that they did not expect a sociologist-of-work (a makhulu skop a Fanakalo term denoting an educated person) to handle such a strenuous job. I viewed myself as a novice in deep-level gold mining prepared to learn from the miners with immense experience in underground work. This is in line with Burawoy et al. (1991:x) that “working alongside those we study necessitates a dialogue between the observer and the observed.”

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 a banksman take charge of the manoeuvering 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.”
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